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<td>07/01/2006</td>
<td>1.1</td>
<td>Guide layout, addition of billing instructions</td>
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<td>03/09/2007</td>
<td>1.2</td>
<td>Update to billing forms and instructions, addition of Patient Education Handouts</td>
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<td>07/13/2007</td>
<td>1.3</td>
<td>Update to Polypharmacy Patient Counseling and AOT, IMIE, and C&amp;P Recommendation and Talking Points</td>
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<td>06/25/2008</td>
<td>1.4</td>
<td>Update to billing forms and instructions. Addition of Patient Education Handouts and new AOT opportunity categories.</td>
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Introduction

Section A
## Abbreviations Guide

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<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AOT</td>
<td>Appropriateness of Therapy</td>
</tr>
<tr>
<td>C &amp; P Type 1</td>
<td>Compliance and Persistency – New to Therapy</td>
</tr>
<tr>
<td>C &amp; P Type 2</td>
<td>Compliance and Persistency – Late Refill</td>
</tr>
<tr>
<td>IMIE</td>
<td>Inappropriate Medication in the Elderly</td>
</tr>
<tr>
<td>MAI</td>
<td>Medication Appropriateness Index</td>
</tr>
<tr>
<td>MAP</td>
<td>Medication Action Plan</td>
</tr>
<tr>
<td>MTM</td>
<td>Medication Therapy Management</td>
</tr>
<tr>
<td>MTMCCC</td>
<td>MTM Clinical Care Center</td>
</tr>
<tr>
<td>PMR</td>
<td>Personalized Medication Record</td>
</tr>
<tr>
<td>RCT</td>
<td>Randomized Controlled Trial</td>
</tr>
<tr>
<td>UTM</td>
<td>Utilization Therapy Management</td>
</tr>
<tr>
<td>WCCC</td>
<td>Walgreens Customer Care Center</td>
</tr>
<tr>
<td>WHS</td>
<td>Walgreens Health Services</td>
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Medication Therapy Management
Service Overview

Overview
Medication Therapy Management (MTM) seeks to optimize therapeutic outcomes and help reduce the risk of adverse drug events through ongoing review of patient medication records and consultation through patient interviews. In recognition of the value that MTM provides in improving member outcomes and managing overall health costs, the Centers for Medicare & Medicaid Services (CMS) has mandated the delivery of these services since 2006. Although pharmacists routinely perform some of these functions to a degree, this mandate provides them with the structure to more fully optimize MTM and have a more proactive and direct role in the health and well being of their patients. Along with the required MTM services provided for Medicare Part D clients, Walgreens Health Services has also successfully implemented the program for commercial clients to a high grade of success. These services require unique decision support systems, outcomes tracking, service claims processing and customer support.

Benefits
MTM therapy seeks to optimize member treatment by monitoring medication records, identifying potential issues and, when necessary, providing interventions. A successful MTM program is intended to optimize member outcomes by reducing:

- the use of duplicative medications
- the use of medications without indication
- the use of multiple drugs where a combination product can be used
- the instances of complex regimens, if appropriate
- the instances of members with a chronic disease state not on medications recommended by national practice guidelines
- the dispensing of inappropriate medications to the elderly
- the instances of members not adhering to a medication regimen as prescribed by their doctor
- the instances of members incorrectly taking drug therapies that are new to them

Walgreens Health Services’ MTM program (MedMonitorXR) complies with the guidelines set by CMS. Our comprehensive program is supported by custom-designed technology solutions; in-store, face-to-face interventions with pharmacists and telephone interventions with pharmacists in our clinical care center. Although discouraged, both prescribers and patients are given the option to decline MTM services.

The goals of MedMonitorXR are to:

- help patients understand their medications
- avoid inappropriate or potentially dangerous medications
- increase compliance with medication regimens
- optimize patient therapy

By working to achieve these goals, patient care increases while overall healthcare costs may decrease.
Program Design and Components
MedMonitorXR offers the following components:

- **Appropriateness of Therapy (AOT):** Pharmacists are notified when therapeutic additions are recommended to optimize treatment. This notification is based on the member’s disease state and nationally recognized guidelines (e.g., a patient with diabetes not on an ACE inhibitor or a lipid-lowering agent). When required, the pharmacist will contact the prescribing prescriber regarding the rationale and benefits of the intervention. If approved by the prescriber, the pharmacist will make the change and dispense the new medication. The pharmacist will then discuss the medication addition with the member and explain the health benefits associated with the therapy change.

- **Inappropriate Medication in the Elderly (IMIE):** With age, a person’s metabolism of medications slows. Our MTM Clinical Pharmacists have developed a list of drugs based off of the Beers’, Zhan’s and McLeod’s lists which outline medications with the highest risk of potential harm to the member (e.g., dicyclomine – this medication has uncertain effectiveness and strong anticholinergic properties, which are poorly tolerated in the elderly). The IMIE intervention will notify pharmacists that one of their patients is currently taking one of these high risk drugs and prompt them to call or fax the prescriber to request a safer prescription medication.

- **Compliance and Persistency (C&P):** These interventions are designed to promote patient adherence to his/her medication regimen as prescribed by his/her prescriber. There are two types of compliance and persistency interventions:
  - Type 1 – Pharmacists are notified after a prescription is processed for a patient who is new to therapy (NTT) for that particular drug. The pharmacist contacts the patient and provides NTT compliance counseling.
  - Type 2 – Patients who are 14 days late requesting refills of a medication are contacted with reminders and counseled on the importance of being compliant.

- **Polypharmacy:** Pharmacists at our MTM clinical care center utilize the Medication Appropriateness Index (MAI) developed by Fitzgerald, et al., a widely recognized tool used to guide the evaluation of a patient’s medication therapy. Pharmacists use the MAI to review the member’s medication regimen to identify opportunities for possible interventions. Pharmacists then contact the appropriate prescriber(s) with the proposed changes to therapy. After approval by the prescriber, the primary pharmacy is notified, and the local community pharmacist sets up an appointment with the member to review his/her medications. If the prescriber does not approve the intervention, the pharmacist will indicate such in the patient’s record, and not intervene. To support the consultation, all members in a polypharmacy review are provided with a Personal Medication Record (PMR) as well as a Medication Action Plan (MAP) that includes a full description of their medications, including appearance (e.g., color, shape, dosage form) and directions on how best to take the medications (e.g., time of day, with or without food).
MTM Pharmacy Consultation Opportunities
MTM consultation opportunities are generated through prescription claim analytics and are sent to community pharmacies via a faxed “MTM Outstanding Opportunities Report.” The report is sent twice weekly (every Tuesday and Thursday) and contains a description of the MTM consultation opportunity used to submit a service bill to WHS for payment. The “MTM Outstanding Opportunities Report” contains all necessary information to allow the pharmacist to contact and consult the patient and gives due dates that must be met in order to receive payment.

Member Access to MTM Services
When they become eligible for MTM services, members may receive a telephone call from their local pharmacist to participate in a one-on-one review and discussion of their medications at their local pharmacy.

Anytime during the MTM process, a patient may decide to opt-out of the MTM program. A form is provided later in the community pharmacist guide instructing the pharmacist on how to opt-out a patient.

During Polypharmacy interventions, the pharmacist will talk with the member face-to-face and provide them with
- a medication list—noting all of the member’s medications, their names, strengths, and purpose
- a dosing calendar—noting when the member should take the medications
Appropriateness of Therapy

Section B
Appropriateness of Therapy Section Overview

This section of the guide provides pharmacists at MedMonitor XR-contracted community pharmacies with the tools needed to provide Appropriateness of Therapy (AOT) services.

Program Summary. Read this section first for background and introduction information about AOT services, program goals, and an overall description of the program.

Network Community Pharmacy Workflow. This flow chart illustrates the procedures involved in performing AOT interventions, step-by-step.

Recommendation and Talking Points. This section provides the rationale behind each AOT intervention, suggested additions or changes to medication therapies, and talking points that may be helpful during conversations with prescribers and patients. This section is comprised of intervention-specific information for the interventions that are included in the Appropriateness of Therapy program:

- Patients with diabetes not on lipid-lowering therapy
- Patients with diabetes not on an angiotensin-converting enzyme inhibitor or an angiotensin receptor blocker
- Patients taking long-term glucocorticoid therapy not on a prophylactic antiresorptive agent
- Patients with asthma not on or adequately treated with a medication for long-term control
- Heart failure patients not on an angiotensin-converting enzyme inhibitor or an angiotensin receptor blocker
- Heart failure patients not on a beta-blocker
- Patients with atrial fibrillation not on an anticoagulant
- Patients post myocardial infarction not on a beta-blocker
- Patients post myocardial infarction not on a lipid-lowering agent
- Patients with COPD over utilizing bronchodilators
- Patients taking a chronic NSAID not on ulcer prophylaxis
- Patients over utilizing acute migraine medications not on preventive therapy

Due to the number of formulary plans, recommendations provided are independent of preferred formulary choices, step-care programs, and prior authorizations.

Service Bill and Intervention Assessment Feedback Form. This section provides a sample of the AOT billing form. This form is used for submitting bills for AOT services and collecting prescriber, pharmacist, and patient feedback to provide a better picture of the patient’s medication therapies, secure reimbursement, document the outcome of the intervention, and to help ensure that the consultation is provided correctly. A printable copy of the Service Bill and Intervention Assessment Feedback Form for AOT is provided in Section I.
Appropriateness of Therapy Program Summary

**Introduction**

Evidence supports the use of specific medication regimens in certain disease states, such as diabetes or asthma, to help prevent disease progression or reduce future complications. Patients not on standard-of-care medication regimens may have profound medical and safety consequences that economically affect the healthcare system. Walgreens Health Services is providing Medication Therapy Management (MTM) services through a nationwide delivery system of contracted community pharmacies. This summary provides an overview of the Appropriateness of Therapy (AOT) program.

**Background**

Many medications maintain health, prevent complications, or treat conditions in the elderly with multiple health conditions. When the potential benefits outweigh the potential risks, clinically recognized medical guidelines should guide pharmacotherapy.

AOT is defined as how acceptable a patient’s treatment regimen is respective to his or her disease states based on a combination of practice standards, published national guidelines, and evidence-based medicine.

**Program Goals**

The goals of the AOT program are to:
- educate both physicians and participants on medication use according to national guidelines
- improve participants’ quality of life in terms of symptom relief, slowing functional decline, and disease prevention
- improve drug therapy outcomes by minimizing adverse events
- control overall healthcare costs
- reduce participant morbidity and mortality

The AOT program is designed to accomplish these goals by providing the following interventions:
- patients with diabetes not on an angiotensin converting enzyme inhibitor or an angiotensin receptor blocker
- patients with diabetes not on lipid-lowering therapy
- heart failure patients not on an angiotensin converting enzyme inhibitor or an angiotensin receptor blocker
- heart failure patients not treated with appropriate beta-blocker therapy
- patients taking long-term glucocorticoid therapy not on a prophylactic antiresorptive agent
- patients with asthma not on or adequately treated with a medication for long-term control
- Patients with atrial fibrillation not on an anticoagulant
- Patients post myocardial infarction not on a beta-blocker
- Patients post myocardial infarction not on a lipid-lowering agent
- Patients with COPD over-utilizing bronchodilators
- Patients taking a chronic NSAID not on ulcer prophylaxis
- Patients over utilizing acute migraine medications not on preventive therapy
Program Description
The AOT program identifies participants who meet specific MTM eligibility conditions and potentially are not on the appropriate therapy for a specified disease state as determined by the above criteria. All targeted medication profiles will be reviewed by a MTM clinical care center pharmacist after a threshold of missed intervention opportunities will have been surpassed. The pharmacist will contact the prescribing physician, if necessary, to discuss the identified AOT opportunity and document the results of the clinical intervention.

All respective healthcare providers associated with the identified participants will be provided with reference tools designed to enhance appropriate clinical decision making, facilitate communication with patients and with other physicians, and shift physician behavior toward recommended best-practice prescribing parameters. Pharmacists will have available to them general and disease specific clinical counseling points.

Participants will have the opportunity to discuss details of the intervention face-to-face with their pharmacist.

References
MedMonitor XR Network Community Pharmacy Workflow

Scenario: Appropriateness of Therapy (AOT)
(Patients with Diabetes Not on Lipid-Lowering Therapy)

Pharmacy receives an AOT Service Bill via fax/web portal indicating that an AOT “patients with diabetes not on lipid-lowering therapy” intervention opportunity has been identified for one of their patients.

Pharmacist contacts prescriber to discuss potential addition to patient’s medication therapy, using the “Key Message to Prescriber” provided on the service bill as reference when discussing the intervention. Prescriber Talking Points are also provided in this guide to use as a reference.

If prescriber agrees to add a lipid-lowering agent, the pharmacist obtains the new prescription. If the prescriber does not agree to add a lipid-lowering agent, the pharmacist still completes the AOT Service Bill and submits via fax/mail/web portal to WHS MTM Department (both scenarios result in payment for service).

---

**Key Message to Prescriber**

Based on your patient’s claim history, it appears the patient may have diabetes. According to the NCEP guidelines, patients with diabetes at risk equivalent coronary heart disease (CHD), should have an LDL < 100mg/dL. Recent clinical trials have also shown that the reduction of LDL to <70mg/dL is a therapeutic option for very high-risk patients (cardiovascular disease plus any of the following: diabetes, cigarette smoking, uncontrolled hypertension, obesity or those with recent MI). Aggressive lipid-lowering may significantly reduce cardiovascular morbidity and mortality in high-risk patients. Unless contraindicated consider initiating LDL-lowering drug therapy, preferably a statin, in addition to lifestyle modifications (e.g. diet, exercise).

-as displayed in the AOT Service Bill

**Pharmacist to Prescriber Talking Points**

- According to the NCEP guidelines, diabetes alone is a risk equivalent of CHD.
- Recent clinical trials have shown that intensive lipid-lowering of LDL < 70 mg/dL is a therapeutic option for patients with CVD plus diabetes or other high-risk factors for CHD (e.g., recent myocardial infarction, uncontrolled hypertension.)
- Aggressive lipid-lowering may significantly reduce cardiovascular morbidity and mortality in high-risk patients.
- Unless contraindicated, consider initiating LDL-lowering drug therapy, preferably a statin, in addition to lifestyle modifications (e.g., diet, exercise).

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<tr>
<th>Drug Class</th>
<th>LDL</th>
<th>HDL</th>
<th>TG</th>
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</thead>
<tbody>
<tr>
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<td>↓15–30%</td>
<td>↑3–5%</td>
<td>Increase or no effect</td>
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<tr>
<td>(cholestyramine, colestipol, colesevelam)</td>
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<td></td>
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<tr>
<td>Fibric Acid Derivatives</td>
<td>↓5–20%</td>
<td>↑10–35%</td>
<td>↓20–50%</td>
</tr>
<tr>
<td>(gemfibrozil, fenofibrate, clofibrate)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nicotinic Acids</td>
<td>↓5–25%</td>
<td>↑15–35%</td>
<td>↓20–50%</td>
</tr>
<tr>
<td>(crystalline nicotinic acid, sustained release and extended release nicotinic acid)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statins</td>
<td>↓18–55%</td>
<td>↑5–15%</td>
<td>↓7–30%</td>
</tr>
<tr>
<td>(atorvastatin, fluvastatin, lovastatin, pravastatin, rosuvastatin, simvastatin)</td>
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</table>

LDL – Low density lipoprotein   HDL – High density lipoprotein   TG - Triglycerides
Scenario (Cont.): Appropriateness of Therapy (AOT) (Patients with Diabetes Not on Lipid-Lowering Therapy)

Pharmacist contacts patient to discuss recommended addition to his/her medication therapy. (see talking points below)

Pharmacist performs standard prescription fill procedure for the lipid-lowering agent (if applicable).

Pharmacist discusses benefits of taking a lipid-lowering agent and educates patient on importance of compliance when he/she picks up prescription (if applicable). Pharmacist completes AOT Service Bill.

Pharmacist submits completed AOT Service Bill to WHS MTM Department via fax/mail/web portal.

---

**Pharmacist-to-Patient Talking Points**

- **Benefits** – Diabetes puts you in the same risk category for heart disease as someone who has already had a heart attack. Statins have been proven to lower the risk of developing serious heart conditions, including heart attacks, by decreasing your cholesterol.
- You may not necessarily feel any symptoms of high cholesterol, but it is very important that you take this medication consistently to prevent any future complications such as heart disease or blocked arteries.
- Do not eat or drink grapefruit products, especially around the time you take your dose, because it may raise the drug level, increasing the chance of side effects.
- Cholesterol is made in the body, mainly in the evening. Therefore, take the medication at bedtime for it to work best (with the exception of atorvastatin or rosuvastatin).
- Your doctor will monitor your liver and cholesterol closely, especially in the beginning of therapy.
- Diabetes health maintenance – once a year dilated eye exam, regular feet and dental check-ups, continued lifestyle modification of diet and exercise.
- Consult your doctor immediately if you experience side effects such as unexplained muscle pain.
- To further reduce your risk of heart disease, decrease the amount of fat and cholesterol in your diet, increase fruits and vegetable intake, stop smoking, and begin an exercise regimen with your doctor’s approval.
Patients with Diabetes Not On Lipid-Lowering Therapy
Recommendation and Talking Points

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Patients with Diabetes Not On Lipid-Lowering Therapy</th>
</tr>
</thead>
</table>
| **Rationale and Recommendation** | The total annual economic cost of diabetes in 2007 was estimated to be $174 billion, or 1 out of every 10 healthcare dollars spent in the United States. Direct medical expenditures totaled $116 billion and comprised $27 billion for diabetes care, $58 billion for chronic diabetes-related complications, and $31 billion for excess prevalence of general medical costs. Indirect costs resulting from reduced national productivity due to diabetes totaled $58 billion.  

*Based on your patient's claim history, it appears the patient may have diabetes. According to the American Diabetes Association Clinical Practice Recommendations and Joslin Clinical Guideline for Adults with Diabetes, patients with diabetes should have an LDL <100mg/dl. Recent clinical trials have also shown that the reduction of LDL to <70mg/dL is a therapeutic option for high-risk patients (cardiovascular disease plus any of the following: diabetes, smoking, hypertension, albuminuria, or a family history of premature CVD). Aggressive lipid lowering may significantly reduce cardiovascular morbidity and mortality in high-risk patients. Unless contraindicated consider initiating LDL-lowering drug therapy, preferably a statin, in addition to lifestyle modifications (e.g. diet and exercise).*  

**Pharmacist - Consider recommending the addition of lipid-lowering therapy, preferably a statin.**

<table>
<thead>
<tr>
<th>Prescriber Talking Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ According to NCEP guidelines, diabetes alone is a risk equivalent of CHD.</td>
</tr>
<tr>
<td>▪ Patients with diabetes in addition to other risk factors for CHD may benefit from lipid-lowering therapy.</td>
</tr>
<tr>
<td>▪ Clinical trials have shown that intensive lipid-lowering of LDL &lt; 70 mg/dL is a therapeutic option for patients with CVD plus diabetes or other high-risk factors for CHD (e.g., recent myocardial infarction, uncontrolled hypertension).</td>
</tr>
<tr>
<td>▪ Aggressive lipid-lowering may significantly reduce cardiovascular morbidity and mortality in high-risk patients.</td>
</tr>
<tr>
<td>▪ Unless contraindicated, consider initiating LDL-lowering drug therapy, preferably a statin, in patients with diabetes in addition to lifestyle modifications (e.g., diet, exercise).</td>
</tr>
</tbody>
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<thead>
<tr>
<th>Drug Class</th>
<th>LDL</th>
<th>HDL</th>
<th>TG</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMG CoA Reductase Inhibitors (Statins) (atorvastatin, fluvastatin, lovastatin, pravastatin, rosuvastatin, simvastatin)</td>
<td>↓18-55%</td>
<td>↑5-15%</td>
<td>↓7-30%</td>
</tr>
<tr>
<td>Bile Acid Sequelants (cholestyramine, colestipol, colesevelam)</td>
<td>↓15–30%</td>
<td>↑3–5%</td>
<td>Increase or no effect</td>
</tr>
<tr>
<td>Fibric Acid Derivatives (gemfibrozil, fenofibrate)</td>
<td>↓5–20%*</td>
<td>↑10–35%</td>
<td>↓20-50%</td>
</tr>
<tr>
<td>Nicotinic Acids (crystalline nicotinic acid, sustained release and extended release nicotinic acid)</td>
<td>↓5-25%</td>
<td>↑15-35%</td>
<td>↓20-50%</td>
</tr>
<tr>
<td>Cholesterol Absorption Inhibitor (ezetimibe)**</td>
<td>↓18%</td>
<td>↑3.5%</td>
<td>↓5%</td>
</tr>
</tbody>
</table>

*LDL may be increased in patients who have high TGs and are on a fibric acid.  
**Results for ezetimibe are based on one clinical trial.  
***Drug list is not all-inclusive  
LDL – Low density lipoprotein  
HDL – High density lipoprotein  
TG – Triglycerides
Benefits: Diabetes puts you in the same risk category for heart disease as someone who has already had a heart attack. Statins have been proven to lower the risk of developing serious heart conditions, including heart attacks, by decreasing your cholesterol.

- You may not necessarily feel any symptoms of high cholesterol, but it is very important that you take this medication consistently to prevent any future complications such as heart disease or blocked arteries.

- Do not eat or drink grapefruit products, especially around the time you take your dose, because it may raise the drug level, increasing the chance of side effects.

- Cholesterol is made in the body, mainly in the evening. Therefore, take the medication at bedtime for it to work best (with the exception of atorvastatin and rosuvastatin).

- Your doctor will monitor your liver and cholesterol closely, especially in the beginning of therapy.

- Diabetes health maintenance: once a year dilated eye exam, regular feet and dental check-ups, continued lifestyle modification of diet and exercise.

- Consult your doctor immediately if you experience side effects such as unexplained muscle pain.

- To further reduce your risk of heart disease decrease the amount of fat and cholesterol in your diet, increase fruit and vegetable intake, quit smoking, and begin an exercise regimen with your doctor’s approval.

Drug names are the property of their respective owners.

This information sheet is intended to enhance the pharmacist’s knowledge and aid discussions with prescribers and patients. This information sheet does not replace clinical judgment. Additional patient counseling may be necessary. This information sheet should not be given to patients.

References
Patients with Diabetes Not On an Angiotensin Converting Enzyme Inhibitor or an Angiotensin Receptor Blocker
Recommendation and Talking Points

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Patients with Diabetes Not On an Angiotensin Converting Enzyme Inhibitor or an Angiotensin Receptor Blocker</th>
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</thead>
</table>
| Rationale and Recommendation | The total annual economic cost of diabetes in 2007 was estimated to be $174 billion, or 1 out of every 10 healthcare dollars spent in the United States. Direct medical expenditures totaled $116 billion and comprised $27 billion for diabetes care, $58 billion for chronic diabetes-related complications, and $31 billion for excess prevalence of general medical costs. Indirect costs resulting from reduced national productivity due to diabetes totaled $58 billion.  

*Based on your patient's claim history, it appears the patient may have diabetes and hypertension and is at high risk for cardiovascular complications. Consider adding an ACE-Inhibitor or an ARB, if no contraindications are present. These agents have demonstrated benefits on morbidity and mortality in cardiovascular disease and stroke, with or without hypertension (blood pressure goal for patients with diabetes is <130/80-mmHg and for patients with proteinuria >1gm goal is <125/75-mmHg). In addition, these agents have shown to delay the progression of nephropathy in diabetic patients with microalbuminuria.*  

Pharmacist - Consider recommending the addition of an ACE-I or an ARB such as:  
- ACE-I – enalapril, lisinopril  
- ARB – irbesartan, losartan

<table>
<thead>
<tr>
<th>Prescriber Talking Points</th>
</tr>
</thead>
</table>
| ▪ According to the ADA, CVD is the leading cause of death in patients with diabetes.  
| ▪ Diabetes commonly coexists with hypertension. The JNC 7 states that diabetes and hypertension increase the risk for CVD, stroke, renal disease, and retinopathy.  
| ▪ Clinical studies have demonstrated the benefits of ACE-Is and ARBs on CVD-related morbidity and mortality in certain patients with diabetes with or without hypertension.  
| ▪ In addition, ACE-Is and ARBs have been shown to delay the progression of nephropathy in patients with diabetes and microalbuminuria.  
| ▪ Based on the reduction of cardiovascular events and the protection seen on renal function, clinical practice supports the use of an ACE-I or an ARB in certain patients with diabetes.  
| ▪ According to the JNC 7, the hypertension treatment goal for patients with diabetes is a blood pressure < 130/80 mmHg to reduce the risk of cardiovascular complications.  
| ▪ In order to achieve this goal, multiple antihypertensive agents may be required including an ACE-I or an ARB when no contraindications exist. |
**Patient Talking Points**

- **Benefits:** ACE-Is/ARBs may help decrease the complications associated with diabetes. When taken appropriately, ACE-Is/ARBs work to protect the heart and kidneys. Therefore certain people with diabetes have been shown to benefit from these agents.

- **Take this medication even if you do not have any symptoms.**

- **Common, less serious side effects of ACE-Is/ARBs include a dry tickling cough (more common with ACE-Is), mild dizziness, headache, and unusual tiredness. Contact your doctor if these side effects become too bothersome.**

- **Do not use salt substitutes or potassium supplements while taking this medication.**

- **Diabetes health maintenance: once-a-year dilated eye exam, regular feet and dental check-ups, continued lifestyle modification of diet and exercise.**

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**References**

Patients Taking Long-term Glucocorticoid Therapy
Not On a Prophylactic Antiresorptive Agent
Recommendation and Talking Points

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Patients Taking Long-term Glucocorticoid Therapy Not On a Prophylactic Antiresorptive Agent</th>
</tr>
</thead>
</table>
| **Rationale and Recommendation** | According to the American College of Rheumatology (ACR), more than 30 million Americans may be affected by diseases commonly treated with glucocorticoids, also known as steroids. Osteoporosis is a common complication of long-term glucocorticoid therapy. The estimated national direct expenditure for osteoporosis-related fractures was $17 billion in 2005.

Unless contraindicated, the ACR recommends initiating a bisphosphonate, such as alendronate or risedronate, in most patients, including men and postmenopausal women, when long-term glucocorticoid treatment is started (caution in premenopausal women). Obtain a baseline bone mineral density (BMD) measurement and monitor bone loss thereafter with repeat BMD tests every 6 to 12 months. In patients currently taking a long-term glucocorticoid, including men and postmenopausal women, who have not been prescribed a bisphosphonate, BMD should be measured. If the BMD T-Score at the lumbar spine and/or hip is below -1, the patient should start a bisphosphonate unless contraindicated (caution in premenopausal women). If the BMD T-Score is normal, treatment with a bisphosphonate is not necessary, but repeat BMD measurements are recommended again every 6 to 12 months.

Unless contraindicated, the ACR also recommends that calcium and vitamin D supplementation be initiated in all patients starting or currently taking long-term glucocorticoid therapy (prednisone equivalent ≥ 5 mg/day with expected treatment duration ≥ 3 months) to restore normal calcium levels.

Bisphosphonates should not be used alone without calcium and vitamin D. Antiresorptive agents other than bisphosphonates may also be considered in appropriate patients (e.g., hormone replacement therapy).

Based on this patient's claim history, it appears this patient has been on corticosteroid therapy for more than 3 months. Long term corticosteroid therapy decreases bone density and may increase the risk for fractures. Unless contraindicated, consider adding an agent for osteoporosis, preferably a bisphosphonate in addition to calcium and vitamin D. Please note: Due to the OTC status of calcium we may be unable to see if your patient is already receiving osteoporosis therapy.

**Pharmacist - Consider recommending a prophylactic antiresorptive agent such as a bisphosphonate with the addition of calcium and vitamin D.** |

---

**Prescriber Talking Points**

- Glucocorticoids can impact bone directly by suppressing bone formation (osteoblastic activity) leading to glucocorticoid-induced osteoporosis.
- Unless contraindicated, the ACR recommends initiating a bisphosphonate, such as alendronate or risedronate, in most patients, including men and postmenopausal women, when long-term glucocorticoid treatment is started (caution in premenopausal women).
- In patients currently taking a long-term glucocorticoid, including men and postmenopausal women, who have not been prescribed a bisphosphonate, BMD should be measured.
- Unless contraindicated, the ACR also recommends that calcium and vitamin D supplementation be initiated in all patients starting or currently taking long-term glucocorticoid therapy (prednisone equivalent ≥ 5 mg/day with expected treatment duration ≥ 3 months) to restore normal calcium levels.
- To prevent glucocorticoid-induced osteoporosis, the ACR recommends a minimum daily
### Prescriber Talking Points (ctd)

- Antiresorptive agents other than bisphosphonates may also be considered in appropriate patients (e.g., hormone replacement therapy).

### Patient Talking Points

- Glucocorticoids can impact bone directly by slowing bone formation, increasing bone breakdown, and altering calcium absorption from the intestines. This may lead to brittle bones (osteoporosis). Your doctor has instructed you to take a bisphosphonate, calcium, and vitamin D supplement to help prevent your bones from weakening.

- For best absorption of your bisphosphonate, take this medication on an empty stomach first thing in the morning with eight ounces of water. Do not eat, drink, or lie down for at least 30 minutes.

- Some side effects of bisphosphonates may include stomach upset, stomach pain, nausea, heartburn, or irritation of the esophagus. Report these side effects to your doctor if they occur.

- Calcium is an important mineral used to maintain strong, healthy bones and vitamin D helps the body absorb calcium. Calcium can be found in dairy products (e.g., milk), tofu, soymilk, greens (e.g., mustard), salmon, and fortified cereals, juices, and breads.

- To prevent glucocorticoid-induced osteoporosis, the recommended minimum daily intake is 1000 mg to 1500 mg of calcium in divided doses and 400 IU to 800 IU of vitamin D.

- Most supplements contain 500 mg of calcium per tablet. You may need two to three tablets per day, depending on your dietary calcium intake, to meet your daily requirement. Your body can only absorb 500 mg of calcium at one time, whether from food or supplements. Therefore it is best to split the supplement doses (e.g., 500 mg in the morning and 500 mg at night).

- It is best to avoid calcium from bone meal, dolomite, or unrefined oyster shells as these may contain lead or other toxic metals.

- A highly acidic environment is required for calcium carbonate absorption. Therefore patients taking stomach acid reducers should consider calcium citrate since its absorption is not as dependent on stomach pH.

- For better bone health and to prevent glucocorticoid-induced osteoporosis: get your daily recommended amounts of calcium and vitamin D, engage in regular weight-bearing exercise, avoid smoking and excessive alcohol consumption, and see your doctor for a bone density test.

- Do not stop taking your glucocorticoid or other prescribed medications without first speaking to your doctor.

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**References**


### Inappropriately Treated Asthma
#### Recommendation and Talking Points

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Asthma Patients Not On / Inadequately Treated with a Medication For Long-term Control</th>
<th>Asthma Patients Not On a Short-Acting Beta-Agonist (SABA)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rationale and Recommendation</strong></td>
<td>Based on your patient's prescription claim history, it appears that your patient may be overutilizing their inhaled short-acting beta2-agonist (SABA) medication even though the patient is on a long-term asthma control medication. Based on the 2007 National Asthma Education and Prevention Program (NAEPP) Guidelines, chronic, regularly scheduled or daily use of SABAs is not recommended. Furthermore, increasing use of SABA treatment or using SABA &gt; 2 days a week for symptom relief (not prevention of exercise-induced bronchospasm) generally indicates inadequate control of asthma and the need for stepping up the current therapy. Attached are the latest published charts for assessing asthma control and a stepwise approach for managing asthma in patients above 12 years of age. You may use these charts to assess your patient’s asthma control and adjust their therapy accordingly.</td>
<td>After reviewing your patient's profile, we did not identify the presence of an inhaled short-acting beta-2 agonist (SABA) in over one year. NAEPP Asthma Guidelines recommend that patients with asthma use inhaled SABAs (albuterol, levalbuterol, pirbuterol) for the immediate relief of acute exacerbations as needed. If appropriate, consider the addition of a SABA to your patient's regimen. If your records indicate that the patient has a prescription for a SABA, consider verifying that the patient has an adequate supply on hand and/or that it has not expired.</td>
</tr>
<tr>
<td><strong>Pharmacist - Consider recommending the addition of a medication for long-term control such as:</strong></td>
<td><strong>Pharmacist - Stress the importance of having a rescue inhaler on hand to treat acute exacerbations of their asthma</strong></td>
<td></td>
</tr>
<tr>
<td>▪ Inhaled corticosteroids (preferred) beclomethasone, budesonide, flunisolide, fluticasone, mometasone, triamcinolone</td>
<td>▪ Albuterol, levalbuterol, and pirbuterol are SABA’s that relax smooth muscle</td>
<td></td>
</tr>
<tr>
<td>▪ Leukotriene modifiers – montelukast, zafirlukast</td>
<td>▪ SABA’s are the therapy of choice for relief of acute symptoms and prevention of Exercise-Induced-Bronchospasm (EIB)</td>
<td></td>
</tr>
<tr>
<td>▪ Methylxanthines – theophylline SR</td>
<td>▪ Patients using SABA’s more than 2 days per week for symptom control (not prevention of EIB) warrant addition of long-term control medications</td>
<td></td>
</tr>
<tr>
<td>▪ Mast cell stabilizers – cromolyn, nedocromil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Systemic corticosteroids (for more severe symptoms) – prednisone, prednisolone</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Refer to Figures 4-5, 4-6, and 4-7 for the NAEPP Guidelines for classifying asthma severity, assessing asthma control, and stepwise approach for managing asthma in youths ≥ 12 years and adults.

**Prescriber Talking Points**

- According to the National Asthma Education Prevention Program (NAEPP) expert panel guidelines for the management of asthma, patients overusing an inhaled short-acting beta-2 agonist (e.g., albuterol > 2 days a week) generally indicates inadequate asthma control and the need for initiating or intensifying anti-inflammatory therapy, preferably with an inhaled corticosteroid.

- Alternative or additional therapies for treating persistent asthma include leukotriene receptor antagonists, theophylline, mast cell stabilizers, long-acting beta-2 agonists (only indicated for use in combination with inhaled corticosteroids), or systemic corticosteroids (for more severe symptoms). Verification of appropriate inhaler technique, proper dosing, and compliance is recommended.

- Refer to Figures 4-5, 4-6, and 4-7 for the NAEPP Guidelines for classifying asthma severity, assessing asthma control, and stepwise approach for managing asthma in youths ≥ 12 years and adults.

**WARNING**

Long-acting beta2-agonists may increase the risk of asthma-related death. Therefore when treating patients with asthma, formoterol or salmeterol should only be used as additional therapy for patients not adequately controlled on other asthma-controller medications (e.g., low- to medium-dose inhaled corticosteroids) or whose disease severity clearly warrants initiation of treatment with two maintenance therapies, including formoterol or salmeterol. Data from a large placebo-controlled US study that compared the safety of salmeterol or placebo added to usual asthma therapy showed an increase in asthma-related deaths in patients receiving salmeterol (13 deaths out of 13,176 patients treated for 28 weeks on salmeterol versus 3 deaths out of 13,179 patients on placebo. This finding with salmeterol may apply to formoterol.

- Levalbuterol is a comparable bronchodilator with similar adverse effects to albuterol at half-the dose of albuterol.

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**Patient Talking Points**

- Take your asthma medications as prescribed. If not taken appropriately, you may experience worsening asthma symptoms and attacks.

- Asthma medications for long-term control, such as inhaled corticosteroids, can reduce emergency room visits and hospitalization and improve asthma control for more symptom-free days. They are used daily to help prevent attacks.

- Quick-relief asthma medications, such as an albuterol inhaler, are rescue medications. They are used to treat sudden symptoms.

- Identify and remove asthma triggers such as:
  - Allergens – dust mites, animal dander, cockroaches, indoor mold
  - Irritants – smoke, pollution, strong odors
  - Occupational exposures – chemicals, plant or animal products
  - Others – certain foods, cold air

- If you have exercise-induced asthma, take one to two puffs of your quick-relief inhaler (e.g., albuterol) approximately 15 to 30 minutes before exercising.

- Review proper inhalation technique with patient (recommend spacer where appropriate)
**Figure 4-5. Stepwise Approach for Managing Asthma in Youths ≥12 Years of Age and Adults**

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 5</th>
<th>Step 6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preferred:</strong> Low-dose ICS + LABA OR Medium-dose ICS + either LTABA, Theophylline, or Zileuton</td>
<td><strong>Preferred:</strong> Low-dose ICS + LABA OR Medium-dose ICS + either LTABA, Theophylline, or Zileuton</td>
<td><strong>Preferred:</strong> Medium-dose ICS + LABA AND Consider Omalizumab for patients who have allergies</td>
<td><strong>Preferred:</strong> High-dose ICS + LABA + oral corticosteroid AND Consider Omalizumab for patients who have allergies</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Assess control</em></td>
<td><em>Step up if needed (first, check adherence, environmental control, and comorbid conditions)</em></td>
<td><em>Step down if possible (and asthma is well controlled at least 3 months)</em></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Key:** Alphabetical order is used when more than one treatment option is listed within either preferred or alternative therapy. EIB, exercise-induced bronchospasm; ICS, inhaled corticosteroid; LABA, long-acting inhaled beta-agonist; LTABA, leukotriene receptor antagonist; SABA, inhaled short-acting beta-agonist.

**Notes:**
- The stepwise approach is meant to assist, not replace, the clinical decisionmaking required to meet individual patient needs.
- If alternative treatment is used and response is inadequate, discontinue it and use the preferred treatment before stepping up.
- Zileuton is a less desirable alternative due to limited studies as adjunctive therapy and the need to monitor liver function. Theophylline requires monitoring of serum concentration levels.
- In step 6, before oral systemic corticosteroids are introduced, a trial of high-dose ICS + LABA + either LTABA, theophylline, or zileuton may be considered, although this approach has not been studied in clinical trials.
- Step 1, 2, and 3 preferred therapies are based on Evidence A; step 3 alternative therapy is based on Evidence A for LTARA, Evidence B for theophylline, and Evidence D for zileuton. Step 4 preferred therapy is based on Evidence B, and alternative therapy is based on Evidence B for LTARA and theophylline and Evidence D for zileuton. Step 5 preferred therapy is based on Evidence B. Step 6 preferred therapy is based on (EPR—2 1997) and Evidence B for omalizumab.
- Immunotherapy for steps 2-4 is based on Evidence B for house-dust mites, animal danders, and pollens; evidence is weak or lacking for molds and cockroaches. Evidence is strongest for immunotherapy with single allergens. The role of allergy in asthma is greater in children than in adults.
- Clinicians who administer immunotherapy or omalizumab should be prepared and equipped to identify and treat anaphylaxis that may occur.


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### FIGURE 4–6. CLASSIFYING ASTHMA SEVERITY AND INITIATING TREATMENT IN YOUTHS ≥12 YEARS OF AGE AND ADULTS

Assessing severity and initiating treatment for patients who are not currently taking long-term control medications.

<table>
<thead>
<tr>
<th>Components of Severity</th>
<th>Classification of Asthma Severity ≥12 years of age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intermittent</td>
</tr>
<tr>
<td></td>
<td>Mild</td>
</tr>
<tr>
<td>Symptons</td>
<td>≤2 days/week</td>
</tr>
<tr>
<td>Nighttime awakenings</td>
<td>≤2x/month</td>
</tr>
<tr>
<td>Short-acting β₂-agonist use for symptom control (not prevention of EIB)</td>
<td>≤2 days/week</td>
</tr>
<tr>
<td>Interference with normal activity</td>
<td>None</td>
</tr>
<tr>
<td>Normal FEV₁/FVC</td>
<td>• Normal FEV₁ between exacerbations</td>
</tr>
<tr>
<td>8–19 yr 85%</td>
<td>• FEV₁/FVC normal</td>
</tr>
<tr>
<td>20–39 yr 80%</td>
<td></td>
</tr>
<tr>
<td>40–59 yr 75%</td>
<td></td>
</tr>
<tr>
<td>60–80 yr 70%</td>
<td></td>
</tr>
</tbody>
</table>

#### Risk
- Exacerbations requiring oral systemic corticosteroids
- 0–1/year (see note)
- 2/year (see note)
- Consider severity and interval since last exacerbation.
- Frequency and severity may fluctuate over time for patients in any severity category.
- Relative annual risk of exacerbations may be related to FEV₁.

#### Recommended Step for Initiating Treatment
(See figure 4–5 for treatment steps.)
- Step 1
- Step 2
- Step 3 and consider short course of oral systemic corticosteroids
- Step 4 or 5

Key: FEV₁, forced expiratory volume in 1 second; FVC, forced vital capacity; ICU, intensive care unit

**Notes:**
- The stepwise approach is meant to assist, not replace, the clinical decisionmaking required to meet individual patient needs.
- Level of severity is determined by assessment of both impairment and risk. Assess impairment domain by patient’s/caregiver’s recall of previous 2–4 weeks and spirometry. Assign severity to the most severe category in which any feature occurs.
- At present, there are inadequate data to correspond frequencies of exacerbations with different levels of asthma severity. In general, more frequent and intense exacerbations (e.g., requiring urgent, unscheduled care, hospitalization, or ICU admission) indicate greater underlying disease severity. For treatment purposes, patients who had ≥2 exacerbations requiring oral systemic corticosteroids in the past year may be considered the same as patients who have persistent asthma, even in the absence of impairment levels consistent with persistent asthma.

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### FIGURE 4–7. ASSESSING ASTHMA CONTROL AND ADJUSTING THERAPY IN YOUTHS ≥12 YEARS OF AGE AND ADULTS

<table>
<thead>
<tr>
<th>Components of Control</th>
<th>Classification of Asthma Control (≥12 years of age)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Well Controlled</td>
</tr>
<tr>
<td>Impairment</td>
<td></td>
</tr>
<tr>
<td>Symptoms</td>
<td>≤2 days/week</td>
</tr>
<tr>
<td>Nighttime awakenings</td>
<td>≤2 times/month</td>
</tr>
<tr>
<td>Interference with normal activity</td>
<td>None</td>
</tr>
<tr>
<td>Short-acting beta-agonist use for symptom control (not prevention of EIB)</td>
<td>≤2 days/week</td>
</tr>
<tr>
<td>FEV&lt;sub&gt;1&lt;/sub&gt; or peak flow</td>
<td>&gt;80% predicted/ personal best</td>
</tr>
<tr>
<td>Validated questionnaires</td>
<td></td>
</tr>
<tr>
<td>ATAAQ^&lt;sup&gt;+&lt;/sup&gt;, ACT^&lt;sup&gt;+&lt;/sup&gt;</td>
<td>0</td>
</tr>
<tr>
<td>ACQ^&lt;sup&gt;+&lt;/sup&gt;, ACT^&lt;sup&gt;+&lt;/sup&gt;</td>
<td>≥0.75*</td>
</tr>
<tr>
<td>Exacerbations requiring oral systemic corticosteroids</td>
<td>0–1/year</td>
</tr>
<tr>
<td>Risk</td>
<td></td>
</tr>
<tr>
<td>Progressive loss of lung function</td>
<td></td>
</tr>
<tr>
<td>Treatment-related adverse effects</td>
<td></td>
</tr>
</tbody>
</table>

#### Recommended Action for Treatment

(see figure 4–5 for treatment steps)

- Maintain current step.
- Regular followup every 1–6 months to maintain control.
- Consider step up if well controlled for at least 3 months.
- Step up 1 step and reevaluate in 2–6 weeks.
- For side effects, consider alternative treatment options.
- Consider short course of oral systemic corticosteroids.
- Step up 1–2 steps, and reevaluate in 2 weeks.
- For side effects, consider alternative treatment options.

**Notes:**

- The stepwise approach is meant to assist, not replace, the clinical decision making required to meet individual patient needs.
- The level of control is based on the most severe impairment or risk category. Assess impairment domain by patient’s recall of previous 2–4 weeks and by spirometry or peak flow measures. Symptom assessment for longer periods should reflect a global assessment, such as inquiring whether the patient’s asthma is better or worse since the last visit.
- At present, there are inadequate data to correspond frequencies of exacerbations with different levels of asthma control. In general, more frequent and intense exacerbations (e.g., requiring urgent, unscheduled care, hospitalization, or ICU admission) indicate poorer disease control. For treatment purposes, patients who had ≥2 exacerbations requiring oral systemic corticosteroids in the past year may be considered the same as patients who have not-well-controlled asthma, even in the absence of impairment levels consistent with not-well-controlled asthma.
- Validated Questionnaires for the impairment domain (the questionnaires do not assess lung function or the risk domain)
  - **ATAAQ = Asthma Therapy Assessment Questionnaire®** (See sample in “Component 1: Measures of Asthma Assessment and Monitoring.”)
  - **ACQ = Asthma Control Questionnaire®** (user package may be obtained at www.qoltech.co.uk or juniper@qoltech.co.uk)
  - **ACT = Asthma Control Test™** (See sample in “Component 1: Measures of Asthma Assessment and Monitoring.”)
- **Minimal Important Difference:** 1.0 for the ATAAQ; 0.5 for the ACQ; not determined for the ACT.
- Before step up in therapy
  - Review adherence to medication, inhaler technique, environmental control, and comorbid conditions.
  - If an alternative treatment option was used in a step, discontinue and use the preferred treatment for that step.


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References
### Rationale and Recommendation

In 2007, medical expenditures related to heart failure in the United States were an estimated $30.2 billion.

*Based on your patient’s claim history, it appears the patient may have heart failure. The American College of Cardiology/American Heart Association recommends that all heart failure (HF) patients, especially with systolic HF, receive an ACE inhibitor or an ARB unless contraindicated. Angiotensin inhibition may slow disease progression, reduce hospitalization and decrease mortality.*

**Pharmacist - Consider recommending the addition of an ACE-I or an ARB such as:**
- **ACE-I** – lisinopril, enalapril
- **ARB** – candesartan, valsartan

### Prescriber Talking Points

- The ACC/AHA guidelines recommend that heart failure patients, especially those with systolic dysfunction, receive an ACE-I or an ARB, unless contraindicated.
- Angiotensin inhibition may slow disease progression, reduce hospitalizations, and decrease mortality. Therefore, an ACE-I or an ARB should be part of chronic therapy.

### Patient Talking Points

- **Benefits:** ACE-Is /ARBs can improve symptoms of heart failure, increase exercise capacity, slow progression of disease, reduce hospitalizations, and decrease the incidence of death.

- Some symptoms of heart failure may include fatigue, shortness of breath, sudden weight gain, and swollen ankles. Consult your doctor if your symptoms worsen.

- Take your medications exactly as prescribed even if you currently do not have any symptoms of heart failure.

- Common, less serious side effects of ACE-Is/ARBs may include dry tickling cough (more common with ACE-I), mild dizziness, headache, unusual tiredness. Contact your doctor if these side effects become too bothersome.

- With your doctor’s approval, follow an active lifestyle including mild exercise like walking, gardening, or running, and limit fluid intake to two liters per day.

- Limit salt intake to 1.5 to 2 grams per day (about a teaspoonful) and reduce fat and cholesterol from your diet.

- Quit smoking and avoid alcohol and caffeine.

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References

Heart Failure Patients Not On Appropriate Beta-Blocker Therapy
Recommendation and Talking Points

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Heart Failure Patients Not On Beta-Blocker Therapy</th>
<th>Heart Failure Patients on an Inappropriate Beta-Blocker</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rationale and Recommendation</strong></td>
<td>In 2007, medical expenditures related to heart failure in the U.S. were an estimated $30.2 billion.</td>
<td>Based on your patient’s claim history, it appears they may have heart failure and are on a beta-blocker that is not recommended by The American College of Cardiology/American Heart Association. Unless contraindicated, consider switching to an agent that has an approved indication for use in heart failure (i.e., carvedilol, sustained-release metoprolol, or bisoprolol). <strong>Pharmacist</strong> - Consider recommending to switch current beta-blocker to bisoprolol, carvedilol, or sustained-release metoprolol.</td>
</tr>
<tr>
<td><strong>Prescriber Talking Points</strong></td>
<td>• The ACC/AHA guidelines recommend that patients with stable heart failure, especially those with systolic dysfunction, receive a BB, unless contraindicated.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• BBs can reduce the symptoms of heart failure, hospitalizations, morbidity, and mortality.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Consider adding a BB, such as bisoprolol, carvedilol, or sustained-release metoprolol to this patient’s therapy.</td>
<td></td>
</tr>
<tr>
<td><strong>Patient Talking Points</strong></td>
<td>• Benefits: BBs can improve symptoms of heart failure, increase exercise capacity, slow progression of disease, reduce hospitalizations, and decrease the incidence of death.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Some symptoms of heart failure may include fatigue, shortness of breath, sudden weight gain, and swollen ankles. Consult your doctor if your symptoms worsen.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Take your medications exactly as prescribed even if you currently do not have any symptoms of heart failure.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Common, less serious side effects of BBs may include mild dizziness, headache, or unusual tiredness. Contact your doctor if these side effects become too bothersome.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• With your doctor’s approval, follow an active lifestyle including mild exercise like walking, gardening, or running, and limit fluid intake to two liters per day.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Limit salt intake to 1.5 to 2 grams per day (about a teaspoonful) and reduce fat and cholesterol from your diet.</td>
<td></td>
</tr>
</tbody>
</table>

Drug names are the property of their respective owners.

This information sheet is intended to enhance the pharmacist’s knowledge and aid discussions with prescribers and patients. This information sheet does not replace clinical judgment. Additional patient counseling may be necessary. This information sheet should not be given to patients.

**References**

### Patients with Atrial Fibrillation Not On Anticoagulant Therapy
#### Recommendation and Talking Points

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Patients with Atrial Fibrillation Not on Anticoagulant Therapy</th>
</tr>
</thead>
</table>
| **Rationale and Recommendation** | - Atrial fibrillation (AF), the most common sustained cardiac rhythm disturbance, is increasing in prevalence as the population ages. Although it is often associated with heart disease, AF occurs in many patients with no detectable disease. AF is associated with an increased long-term risk of stroke, heart failure, and all-cause mortality.  
- The rate of ischemic stroke among patients with nonvalvular AF averages 5 percent per year, two to seven times that of people without AF. One of every six strokes occurs in a patient with AF.  
- Thrombus formation occurs as a result of stasis in the left atrium appendage and represents the main source of disabling cardioembolic ischemic strokes in patients with AF.  
- Antithrombotic therapy to prevent thromboembolism is recommended for all patients with AF, except those with lone AF or contraindications.  
- The administration of warfarin lowers the risk of stroke by 50 percent to 65 percent in intermediate- to high-risk patients, respectively. In patients with an intermediate to high risk of stroke, no other therapy lowers the risk of a stroke as much as warfarin. In patients with low risk of stroke, aspirin may be used instead of warfarin. |

*Based on your patient's claim history, it appears the patient may have atrial fibrillation. ACCPs' guidelines recommend antithrombotic therapy for patients with persistent or paroxysmal (intermittent) atrial fibrillation due to their increased risk for ischemic stroke. If no contraindications are present and the benefits outweigh the risks, consider adding an anticoagulant to your patient's regimen. First-line therapy for these patients with a high-risk factor (e.g., Age > 75 years, history of thromboembolic disorders, mitral valve disease, prosthetic heart valve, hypertension, diabetes, and poor left ventricular function) is warfarin. Patients, age 65 to 75 years, in the absence of other risk factors are candidates for anticoagulation with warfarin or aspirin 325 mg per day. Patients less than 65 years old without any risk factors may be treated with aspirin 325 mg per day. Please note: Due to the OTC status of aspirin we maybe unable to see if your patient is already receiving anticoagulation therapy.*

Pharmacist - Consider recommending the addition of antithrombotic therapy in the form of warfarin for high-risk patients and aspirin therapy for low-risk patients to prevent thromboembolism. (Refer to the Antithrombotic Therapy Table in the Prescriber Talking Points Section below for additional resources.)

<table>
<thead>
<tr>
<th>Prescriber Talking Points</th>
<th>According to the ACC/AHA/ESC 2006 Guidelines, the following are recommendations regarding preventing thromboembolism in AF patients:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Antithrombotic therapy to prevent thromboembolism is recommended for all patients with AF, except those with lone AF or contraindications.</td>
</tr>
<tr>
<td></td>
<td>- Appropriate use of drugs to prevent thromboembolism in patients with AF involves comparing the patient's risk of stroke and risk of hemorrhage.</td>
</tr>
<tr>
<td></td>
<td>- The selection of the antithrombotic agent should be based upon the absolute risks of stroke and bleeding and the relative risk and benefit for a given patient.</td>
</tr>
<tr>
<td></td>
<td>- For patients without mechanical heart valves at high risk of stroke, chronic oral anticoagulant therapy with a vitamin K antagonist is recommended in a dose adjusted to achieve the target intensity international normalized ratio (INR) of 2.0 to 3.0, unless contraindicated. Factors associated with highest risk for stroke in patients with atrial fibrillation are prior thromboembolism (stroke, transient ischemic attack [TIA], or systemic embolism) and rheumatic mitral stenosis.</td>
</tr>
<tr>
<td></td>
<td>- Anticoagulation with a vitamin K antagonist (e.g. warfarin) is recommended for patients with more than one moderate risk factor. Such factors include age 75 years or greater, hypertension, heart failure, impaired left ventricular systolic function (ejection fraction 35 percent or less or fractional shortening less than 25 percent), and diabetes mellitus.</td>
</tr>
<tr>
<td></td>
<td>- INR should be determined at least weekly during initiation of therapy and monthly when anticoagulation is stable.</td>
</tr>
<tr>
<td></td>
<td>- Aspirin, 81 to 325 mg daily, is recommended as an alternative to vitamin K antagonists in low-</td>
</tr>
</tbody>
</table>
Prescriber Talking Points (continued)

- For patients with AF who have mechanical heart valves, the target intensity of anticoagulation should be based on the type of prosthesis, maintaining an INR of at least 2.5.

<table>
<thead>
<tr>
<th>Antithrombotic Therapy for Patients with Atrial Fibrillation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Category</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>No risk factors</td>
</tr>
<tr>
<td>One moderate-risk factor</td>
</tr>
<tr>
<td>Any high-risk factor or more than 1 moderate-risk factor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Less Validated or Weaker Risk Factors</th>
<th>Moderate-Risk Factors</th>
<th>High-Risk Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female gender</td>
<td>Age greater than or equal to 75y</td>
<td>Previous stroke, TIA or embolism</td>
</tr>
<tr>
<td>Age 65 to 74y</td>
<td>Hypertension</td>
<td>Mitral stenosis</td>
</tr>
<tr>
<td>Coronary artery disease</td>
<td>Heart failure</td>
<td>Prosthetic heart valve*</td>
</tr>
<tr>
<td>Thyrotoxicosis</td>
<td>LV ejection fraction 35% or less</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diabetes mellitus</td>
<td></td>
</tr>
</tbody>
</table>

*If mechanical valve, target international normalized ratio (INR) greater than 2.5.
INR indicates international normalized ratio; LV, left ventricular; and TIA, transient ischemic attack

Recommendations for antithrombotic therapy in patients with AF; Excerpt from the ACC/AHA/ESC 2006 Guidelines for the Management of Patients With Atrial Fibrillation - Executive Summary.

Patient Talking Points

- Atrial fibrillation is an abnormal rhythm of the heart. It is relatively common, affecting 2.3 million adults in the United States. Increasing age is an important predictor of risk, as most people with AF are over 65 years of age.

- In atrial fibrillation (sometimes called a-fib), the normal orderly activation in the atria is short-circuited and replaced by many rapidly firing and disorganized impulses. These rapid impulses result in chaotic contractions of the atrial muscle, described as quivering or worm-like. Thus, instead of a forceful single contraction of the atria seen in normal, or sinus rhythm, the rapid contractions of atrial fibrillation are weak, resulting in the ejection of only a small amount of blood. Blood pools in the atria and becomes sluggish, which encourages the formation of blood clots.

- A serious complication associated with AF is stroke, which can lead to permanent brain damage. A stroke can occur if a blood clot forms in the left atrium because of sluggish blood flow and a piece of the clot (also called an embolus) breaks off. The embolus enters the blood circulation and can block a small blood vessel. The most dangerous place for this to occur is the brain, resulting in a stroke, but the embolus may also go to the eye, kidneys, spine, or important arteries of the arms, legs, or abdominal organs.

- Like AF, the risk of stroke increases as people get older. Without preventive treatment (such as blood thinners), stroke occurs in more than 1 out of 100 people with AF aged 50 to 59 years. That rate increases gradually to 1 out of 20 people with AF aged 80 to 89 years.

- Taking a blood thinner (usually warfarin [Coumadin®]) lowers the risk of stroke by 50 percent to 65 percent in people who are at intermediate- to high-risk patients. Warfarin therapy is typically referred to as anticoagulation. In people at intermediate to high risk for stroke, nothing lowers the risk of a stroke as much as warfarin. Some people with low risk may be treated with aspirin instead of warfarin.
\begin{itemize}
\item Long-term warfarin treatment reduces the rate of stroke about 50 percent to 70 percent in people with AF who are at intermediate to high risk. The potential benefit is actually greater because as many as half of strokes in people who are taking warfarin happen because they are not at the ideal level of blood thinning.

\item People taking warfarin must be carefully and continuously monitored with periodic blood tests to make certain that the degree of blood thinning is sufficient to protect against stroke but not too great to promote bleeding. This blood test is called a PT/INR test. The PT/INR test checks to see how fast your blood clots. Your healthcare provider will decide what PT/INR numbers are best for you. Your dose of warfarin will be adjusted to keep your PT/INR in a target range for you. Testing occurs more frequently when you first start therapy and then occurs monthly thereafter.

\item Take warfarin on a schedule. Warfarin should be taken exactly as directed. Do not increase, decrease, or change the dosing schedule unless told to do so by a healthcare provider. If a dose is missed or forgotten, call your healthcare provider for advice.

\item A potential concern with warfarin therapy is that anticoagulation can lead to bleeding. Minor bleeding may include increase in small bruises whereas major bleeding, that should be reported to your doctor immediately, includes coughing up blood, having red or dark brown urine, or red or black stools. However, the risk of bleeding into the brain is much smaller than the benefit of preventing strokes in people who use warfarin.

\item The major complication associated with warfarin is bleeding when the blood gets too thin. Excessive bleeding, or hemorrhage, can occur from any area of the body, and people taking warfarin should report any falls or accidents, as well as any signs or symptoms of bleeding or unusual bruising. Signs of unusual bleeding include bleeding from the gums, blood in the urine, bloody or black stool, a nosebleed, or vomiting blood.

\item If you notice any signs of bleeding, including vomiting blood, nosebleeds, dark red or brown urine, or blood in the stool, you should call your healthcare provider immediately.

\item Prevent falls. Falling may significantly increase the risk of bleeding. Take measures to prevent falls.

\item Some foods and supplements can interfere with warfarin's effectiveness. Talk to your healthcare provider before making major dietary changes (such as starting a diet to lose weight or starting a nutritional supplement or vitamin).

\begin{itemize}
\item Eating an increased amount of foods rich in vitamin K such as leafy green vegetables can make warfarin less effective, and potentially increase the risk of blood clots. Try to eat a relatively similar amount of vitamin K each week.
  \begin{itemize}
  \item Foods high in vitamin K include green leafy vegetables, such as fresh spinach, green lettuce, & collards.
  \item Foods moderately high in vitamin K include brussels sprouts, turnip greens, & broccoli
  \end{itemize}
  \item Chronic abuse of alcohol affects the body's ability to handle warfarin. People who take warfarin therapy should not drink alcohol on a daily basis.
\end{itemize}

\item A number of medications, herbs, and vitamins can interact with warfarin. Please consult your doctor or pharmacist to determine if any interactions may be occurring. Drug interactions may affect the action of warfarin or other medications. If warfarin is affected, the dose may need to be adjusted (up or down) to help the medication stay safe and effective.
\end{itemize}
List of vitamins & herbals that can interact with warfarin therapy:

<table>
<thead>
<tr>
<th>Potential Increase in Risk of Bleeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angelica root</td>
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<tr>
<td>Arnica flower</td>
</tr>
<tr>
<td>Anise</td>
</tr>
<tr>
<td>Asafoetida</td>
</tr>
<tr>
<td>Bogbean</td>
</tr>
<tr>
<td>Borage seed oil</td>
</tr>
<tr>
<td>Bromelain</td>
</tr>
<tr>
<td>Capsicum</td>
</tr>
<tr>
<td>Celery</td>
</tr>
<tr>
<td>Chamomile</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Potential Decrease in Risk of Bleeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coenzyme Q10</td>
</tr>
<tr>
<td>Ginseng</td>
</tr>
<tr>
<td>Green Tea</td>
</tr>
<tr>
<td>St. John’s Wort</td>
</tr>
</tbody>
</table>

- Talk with your healthcare provider before taking any new medication, including over-the-counter (non-prescription) medicines, herbal supplements, vitamins, or any other products. Some of the most common over-the-counter pain relievers, including aspirin, acetaminophen [Tylenol®], non-steroidal anti-inflammatory drugs (such as ibuprofen [Advil®] and naproxen [Aleve®]), increase the risk of serious bleeding for people who are taking warfarin. So can Vitamin E.

- Wear medical identification. If you are taking warfarin long-term, you should wear a bracelet, necklace, or similar alert tag at all times. If an accident occurs and you are too ill to explain your condition, this will help responders provide appropriate care.

References

Patients Post Myocardial Infarction Not On a Beta-Blocker
Recommendation and Talking Points

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Patients Post Myocardial Infarction Not On a Beta-Blocker</th>
</tr>
</thead>
</table>
| **Rationale and Recommendation** | - The American Heart Association/American College of Cardiology (AHA/ACC) Guidelines for Secondary Prevention for Patients With Coronary and Other Atherosclerotic Vascular Disease recommend starting and continuing a beta-blocker indefinitely in all patients who have had myocardial infarction (MI), acute coronary syndrome, or left ventricular dysfunction with or without heart failure symptoms, unless contraindicated. Consider chronic therapy for all other patients with coronary or other vascular disease or diabetes unless contraindicated.  

- The goal of administration of beta-blocker therapy is to prevent recurrent MI and death. Initiation of therapy as early as 24 hours and as late as 28 days after MI is associated with 23 percent and 32 percent reductions in death and recurrent MI, respectively, for at least two to three years.  

*Based on this patient’s claim history, it appears the patient may have had a heart attack/acute myocardial infarction (AMI). The American College of Cardiology/American Heart Association recommends that all patients suffering from an AMI have a beta-blocker (i.e. atenolol, metoprolol, and carvedilol) added to their therapy, unless contraindicated. The addition of a beta-blocker has demonstrated improved cardiac outcomes by reducing the risk of reinfection, infarct size, cardiac rupture, supraventricular/ventricular arrhythmias, and cardiovascular collapse. Beta-blockers have shown to prolong life by decreasing mortality in the range of 23% to 65% following an AMI.*  

**Pharmacist:** Consider recommending the addition of a beta-blocker, such as metoprolol, atenolol, or carvedilol. |

| Prescriber Talking Points | - According to the AHA/ACC Guidelines for Secondary Prevention for Patients With Coronary and Other Atherosclerotic Vascular Disease: 2006 Update Endorsed by the National Heart, Lung, and Blood Institute, it is recommended to start and continue a beta-blocker indefinitely in all patients who have had MI, with or without heart failure symptoms, unless contraindicated. |

| Patient Talking Points | - Beta-blockers reduce the workload on the heart and help it to beat more regularly. This medication is used to treat high blood pressure and to prevent chest pain. It is also used after a heart attack to prevent an additional heart attack from occurring.  

- Side effects that usually do not require medical attention include: change in sex drive or performance, dry skin, headache, nightmares or trouble sleeping, stomach upset or diarrhea, and unusually tiredness. However, you should tell your healthcare provider if these symptoms continue or are bothersome.  

- Encourage patients to regularly monitor their blood pressure and pulse, especially for patients on other concurrent anti-hypertensives, such as ACE inhibitors. |

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**References**

Patients Post Myocardial Infarction Not on a Lipid Lowering Agent  
Recommendation and Talking Points

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Patients Post Myocardial Infarction Not on a Lipid Lowering Agent</th>
</tr>
</thead>
</table>
| **Rationale and Recommendation** | ▪ According to NCEP guidelines, LDL-lowering therapy is recommended for secondary prevention in post MI patients as clinical trials demonstrate that LDL-lowering therapy reduces total mortality, coronary mortality, major coronary events, coronary artery procedures, and stroke in these patients with established coronary heart disease.  

▪ Furthermore, among patients who have recently had an acute coronary syndrome, an intensive lipid-lowering statin regimen provides greater protection against death or major cardiovascular events than a standard regimen. These findings indicate that such patients benefit from early and continued lowering of LDL cholesterol to target levels or lower.  

*Based on this patient's claim history, it appears the patient may have had a heart attack/acute myocardial infarction (AMI). The American College of Cardiology/American Heart Association recommends that all patients suffering from an AMI begin lipid-lowering therapy unless contraindicated. Recent clinical trials have shown that intensive lipid-lowering of LDL < 70 mg/dL is the therapeutic goal for patients with a history of AMI, unstable angina, cardiovascular disease, and/or at high-risk for coronary heart disease (e.g. diabetes, uncontrolled hypertension). Aggressive lipid-lowering may significantly reduce cardiovascular morbidity and mortality in high-risk patients. Unless contraindicated consider initiating LDL-lowering drug therapy, preferably a statin, in addition to lifestyle modifications (e.g. diet, exercise).*  

**Pharmacist - Consider recommending the addition of lipid-lowering therapy, preferably a statin.** |

<table>
<thead>
<tr>
<th>Prescriber Talking Points</th>
<th>The following is an excerpt from the AHA/ACC Guidelines for Secondary Prevention for Patients With Coronary and Other Atherosclerotic Vascular Disease:</th>
</tr>
</thead>
</table>
| **Lipid Management**      | Assess fasting lipid profile in all patients, and within 24 hours of hospitalization for those with an acute cardiovascular or coronary event. For hospitalized patients, initiate lipid-lowering medications as recommended below before discharge according to the following schedule:  

▪ LDL cholesterol should be <100 mg/dL  

▪ Further reduction of LDL cholesterol to <70 mg/dL is reasonable  

▪ If baseline LDL cholesterol is ≥100mg/dL, initiate LDL-lowering drug therapy  

▪ If on treatment and LDL cholesterol is ≥100mg/dL, intensify LDL-lowering drug therapy (may require LDL-lowering drug combination)  

▪ If baseline LDL cholesterol is 70 to 100mg/dL, it is reasonable to treat to LDL cholesterol <70mg/dL  

▪ If triglycerides are 200 to 499 mg/dL, non-HDL cholesterol should be <130mg/dL  

▪ Further reduction of non-HDL cholesterol to <100mg/dL is reasonable  

▪ Therapeutic options to reduce non-HDL cholesterol are:  

  o More intense LDL cholesterol lowering therapy, or  

  o Niacin (after LDL cholesterol lowering therapy), or  

  o Fibrate therapy (after LDL cholesterol lowering therapy)  

▪ If triglycerides are ≥500mg/dL, therapeutic options to prevent pancreatitis are fibrate or niacin before LDL-lowering therapy; and treat LDL cholesterol to goal after triglyceride-lowering therapy. Achieve non-HDL cholesterol <130mg/dL if possible. |
**Prescriber Talking Points (continued)**

<table>
<thead>
<tr>
<th>Drug Class</th>
<th>LDL</th>
<th>HDL</th>
<th>TG</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMG CoA Reductase Inhibitors (statins) (atorvastatin, fluvastatin, lovastatin, pravastatin, rosuvastatin, simvastatin)</td>
<td>↓18-55%</td>
<td>↑5-15%</td>
<td>↓7-30%</td>
</tr>
<tr>
<td>Bile Acid Sequestrants (cholestyramine, colestipol, colesevelam)</td>
<td>↓15–30%</td>
<td>↑3–5%</td>
<td>Increased or no effect</td>
</tr>
<tr>
<td>Fibric Acid Derivatives (gemfibrozil, fenofibrate)</td>
<td>↓5–20%*</td>
<td>↑10–35%</td>
<td>↓20-50%</td>
</tr>
<tr>
<td>Nicotinic Acids (crystalline nicotinic acid, sustained-release and extended-release nicotinic acid)</td>
<td>↓5-25%</td>
<td>↑15-35%</td>
<td>↓20-50%</td>
</tr>
<tr>
<td>Cholesterol Absorption Inhibitor (ezetimibe)**</td>
<td>↓18%</td>
<td>↑3.5%</td>
<td>↓5%</td>
</tr>
</tbody>
</table>

*LDL may be increased in patients who have high TGs and are on a fibric acid.
**Results for ezetimibe are based on one clinical trial.

LDL – Low density lipoprotein    HDL – High density lipoprotein    TG – Triglycerides

**Patient Talking Points**

- Statins have been proven to lower the risk of cardiovascular events, including heart attacks, by decreasing your cholesterol.

- **Side Effects:** Rare myalgia which is described as flu-like muscle pain or weakness throughout the body, must also monitor liver enzymes (rare elevation in liver enzymes possible)

- You may not necessarily feel any symptoms of high cholesterol, but it is very important that you take this medication consistently to prevent any future complications such as heart disease or blocked arteries.

- Do not eat or drink grapefruit products, especially around the time you take your statin medication because it may raise the medication level, increasing the chance of side effects.

- Cholesterol is made in the body, mainly in the evening. With the exception of atorvastatin and rosuvastatin, take the medication at bedtime for it to work best.

- Your doctor will monitor your liver and cholesterol closely, especially when you first start taking it.

- Consult your doctor immediately if you experience side effects, such as unexplained muscle pain.

- To further reduce your risk of cardiovascular events, decrease the amount of fat and cholesterol in your diet, increase your fruit and vegetable intake, quit smoking, and begin an exercise program with your doctor’s approval.

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**References**


## Patients With COPD Overutilizing Bronchodilators
### Recommendation and Talking Points

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Patients With COPD Overutilizing Bronchodilators</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rationale and Recommendation</strong></td>
<td>Based on your patient's claim history, it appears that the patient may have COPD. According to the GOLD guidelines for COPD, patients overusing inhaled short-acting bronchodilators may be more effectively managed with the addition of a long-acting bronchodilator or by switching to the combination of albuterol + Spiriva (tiotropium). Theophylline is also effective in COPD, but due to its potential toxicity, inhaled bronchodilators are preferred. Inhaled glucocorticosteroids may be used in patients who have repeated exacerbations or if their FEV1 &lt; 50% predicted. In more severe cases of COPD (Stage III or Stage IV) use of inhaled glucocorticosteroids may be warranted however, the safety in long term use is unknown. Verification of appropriate inhaler technique, proper dosing, and compliance is recommended.</td>
</tr>
<tr>
<td><strong>Pharmacist:</strong></td>
<td>If patient is overusing an inhaled short-acting bronchodilator - consider adding a long-acting bronchodilator (e.g., long-acting beta-2 agonist such as salmeterol) or switch therapy to the combination of albuterol and tiotropium.</td>
</tr>
</tbody>
</table>

| **Prescriber Talking Points** | ▪ Pharmacologic therapy in COPD patients is used to prevent and control symptoms, reduce the frequency and severity of exacerbations, improve health status, and improve exercise tolerance. None of the existing medications for COPD have been shown to modify the long-term decline in lung function that is the hallmark of this disease. However, this should not preclude efforts to use medications to control symptoms.  
▪ Bronchodilator medications are central to the symptomatic management of COPD. They are given on an as-needed basis or on a regular basis to prevent or reduce symptoms and exacerbations.  
▪ The principal bronchodilator treatments are beta-2 agonists, anticholinergics, and methylxanthines (theophylline) used singly or in combination.  
▪ Regular treatment with long-acting bronchodilators is more effective and convenient than treatment with short-acting bronchodilators.  
▪ Combining bronchodilators may improve efficacy and decrease the risk of side effects compared to increasing the dose of a single bronchodilator.  
▪ Inhaled therapy is preferred.  
▪ The choice between beta-2 agonist, anticholinergic, theophylline, or combination therapy depends on availability and individual response in terms of symptom relief and side effects.  
▪ The addition of regular treatment with inhaled glucocorticosteroids to bronchodilator treatment is appropriate for symptomatic COPD patients with an FEV1 < 50 percent predicted (Stage III: Severe COPD and Stage IV: Very Severe COPD) and repeated exacerbations.  
▪ Inhaled bronchodilators (particularly inhaled beta 2 agonists with or without anticholinergics) and oral glucocorticosteroids are effective treatments for exacerbations of COPD. |
The first and most important part of any treatment plan for COPD is to stop smoking. This is true no matter how long you have had COPD or how severe it is. Studies of patients with COPD show that progression of the disease is slower, in people who stop smoking. If you are still smoking, ask your doctor about smoking cessation programs to help you quit.

Benefits of therapy: COPD medications, if taken regularly, can help reduce or prevent symptoms of COPD

Currently, there is no cure for COPD. However, many treatments are available for the symptoms and complications of this disorder. Most people require ongoing treatment to keep symptoms under control.

Medications that help open the airways are an important part of treatment for COPD. Bronchodilators like are given in an inhaled form using a metered-dose inhaler (MDI) or a dry powder inhaler (DPI). It is important that you understand how to use the inhaler properly to deliver the right dose of medication.

Oxygen therapy is also used in treating people with COPD. Your doctor will determine if you need oxygen therapy. When indicated and used appropriately, oxygen therapy is the only COPD treatment proven to prolong life.

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References

## Patients Taking a Chronic NSAID Not on Ulcer Prophylaxis
### Recommendation and Talking Points

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Patients Taking a Chronic NSAID Not on Ulcer Prophylaxis</th>
</tr>
</thead>
</table>
| **Rationale and Recommendation** | • Approximately 20 million patients in the United States take NSAIDs on a regular basis. The risk for hospitalization for serious gastrointestinal (GI) adverse effects is 1 to 2 percent, resulting in approximately 400,000 hospitalizations per year at an average cost of $4000 per patient, or $1.6 billion dollars annually.  

*Based on your patient's claim history, it appears the patient is on long-term NSAID therapy and at increased risk for GI complications. Factors that can place patients at increased risk of NSAID-related GI complications include age > 60 years old, prior history of gastrointestinal events (i.e., ulcer, hemorrhage), high dosage, or concurrent use of either oral corticosteroids or anticoagulants. Consider adding a PPI to this patient's therapy if no contraindications are present. PPIs may decrease NSAID-induced ulcers (both gastric and duodenal). Due to the OTC status of omeprazole we may be unable to see if your patient is already receiving PPI therapy.*  

**Pharmacist:** For high-risk patients, consider recommending the addition of prophylaxis for NSAID-related ulcers, preferably a PPI (e.g., omeprazole) or misoprostol. |

| Prescriber Talking Points | • The overall risk for serious adverse GI events in patients taking NSAIDs is about three times greater than that of controls. In elderly patients (over 60 years of age), this risk rises to more than five times that of controls.  

• Patients at high risk for hemorrhage and perforation from NSAID-induced ulcers should be considered for prophylaxis with misoprostol or proton pump inhibitors. Factors that have been identified as placing patients at increased risk for NSAID-related GI complications include:  
  1. Prior history of an adverse GI event (ulcer, hemorrhage) increases risk four to five fold  
  2. Age >60 increases risk five to six fold  
  3. High (more than twice normal) dosage of a NSAID increases risk ten fold  
  4. Concurrent use of glucocorticoids increases risk four to five fold  
  5. Concurrent use of anticoagulants increases risk ten to fifteen fold  

• Prophylaxis with prostaglandins or PPIs for all patients taking NSAIDs is unnecessary and cost-prohibitive. However, studies with misoprostol have shown that in high-risk groups, prophylaxis may be cost-effective.  

• Although commonly coadministered with NSAIDs, H2 receptor antagonists (H2RAs) have not been shown to prevent gastric ulcer, the most common NSAID-related lesion, but do prevent duodenal ulcers. |

| Patient Talking Points | • Nonsteroidal anti-inflammatory drugs (NSAIDs) are medications for minor aches and pains, such as headaches and joint pain. Examples include aspirin, ibuprofen and naprosyn. Acetaminophen is not an NSAID.  

• NSAIDs reduce your stomach’s ability to make a protective layer of mucus, which makes it more likely to be damaged by acid. NSAIDS can also affect blood flow to your stomach and your body’s ability to repair cells. |
Patient Talking Points (continued)

- NSAIDs can cause stomach ulcers if they are taken for a long period of time.
- People who need to take an NSAID but are at risk of developing a peptic ulcer, such as the elderly and those with a history of stomach ulcer, may be offered gastro-protection medications. They help prevent the damage caused by stomach acid.
- Medications that can give gastro-protection against NSAIDs include:
  - Proton Pump Inhibitors (PPI). These medications stop your stomach from making too much acid and are most commonly used for gastroprotection. Examples include lansoprazole (Prevacid®) and esomeprazole (Nexium®).
  - Misoprostol helps protect your stomach lining.

Drug names are the property of their respective owners.

This information sheet is intended to enhance the pharmacist’s knowledge and aid discussions with prescribers and patients. This information sheet does not replace clinical judgment. Additional patient counseling may be necessary. This information sheet should not be given to patients.

References

1. Patient Information Leaflet Peptic Ulcer. National Library for Health
   http://cks.library.nhs.uk/patient_information_leaflet/peptic_ulcer
3. NSAIDs (including aspirin): Primary prevention of gastroduodenal toxicity. UpToDate Patient Information
# Patients Over Utilizing Acute Migraine Medications
## Not on Preventive Therapy
### Recommendation and Talking Points

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Patients Over Utilizing Acute Migraine Medications Not on Preventive Therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rationale and Recommendation</strong></td>
<td>According to the National Headache Foundation, most migraines can be effectively treated with various acute headache medications and nonpharmacologic strategies including lifestyle regulation, stimulant reduction, and trigger avoidance. However, the following clinical presentations warrant the introduction of a pharmacologic agent to reduce the frequency, duration, and severity of migraine attacks:</td>
</tr>
<tr>
<td></td>
<td>- Headache frequency more than two days per week (or more than eight days per month)</td>
</tr>
<tr>
<td></td>
<td>- Use of acute medications, successfully or unsuccessfully, more than two days per week</td>
</tr>
<tr>
<td></td>
<td>- Headache attacks that remain disabling despite aggressive acute intervention, as documented by lifestyle interference, ratings on disability scales, or use of rescue medications more than once a month</td>
</tr>
<tr>
<td></td>
<td>- Presence of prolonged aura (&gt; one hour), complex aura (basilar or hemiplegic), or migraine-induced stroke</td>
</tr>
<tr>
<td></td>
<td>- Contraindications to, failure of, overuse of, or adverse events with acute therapies</td>
</tr>
<tr>
<td></td>
<td>- Patient desire to reduce frequency of acute attacks</td>
</tr>
</tbody>
</table>

The overuse of migraine-specific medications (exceeding the recommended dosage and/or taking an agent more than 2 times a week) may result in drug-induced rebound headaches. Unless contraindicated, consider the use of preventive medications such as beta-blockers, tricyclic antidepressants, neurostabilizers, calcium channel blockers, or SSRIs.

### Pharmacist - Consider recommending the addition of a preventive medication such as a beta-blocker, anticonvulsant, tricyclic antidepressant, SSRI, or calcium channel blocker (Refer to the Prescriber Talking Points section below for additional information.)

<table>
<thead>
<tr>
<th>Prescriber Talking Points</th>
<th>Refer to the Rationale and Recommendation section above for clinical presentations that warrant migraine prophylaxis therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The following are specific drugs used to prevent migraine. These guidelines assist clinicians in the selection of appropriate migraine preventive therapy by ranking drugs according to clinical efficacy, adverse events and safety, and clinical experience.</td>
</tr>
</tbody>
</table>

### US Headache Consortium Guidelines for Migraine Prophylaxis

#### Group 1 - Medium to high efficacy, good strength of evidence, mild to moderate side effects:
- amitriptyline (10-150 mg/day)
- divalproex sodium (125-200 mg/day)
- timolol (10-30 mg/day)
- propranolol (20-160 mg/day)
- topiramate (50-150 mg/day)

#### Group 2 - Lower efficacy, limited strength of evidence, mild to moderate side effects:
- aspirin (325 mg/day)
- atenolol (25-100 mg/day)
- fenoprofen (600 mg three times a day[tid])
- flurbiprofen (1,000 mg bid-tid)
- fluoxetine (10-80 mg/day)
- gabapentin (300-2,400 mg/day)
- ketoprofen (75 mg tid)
- metoprolol (50-200 mg/day)
Prescriber Talking Points
(continued)

- nadolol (20-120 mg/day)
- naproxen (200-550 mg two times a day[bid])
- nimodipine (30 mg tid)
- verapamil (120-480 mg/day)
- botulinum toxin type A (25-100 units/3months)

Group 3 - No scientific evidence of efficacy, but clinically efficacious based on consensus of experience
- cyproheptadine
- Antidepressants such as nortriptyline, paroxetine, venlafaxine, doxepin, sertraline, and phenelzine
- methylergonovine

- Preventive medications are considered effective if the frequency of attacks is reduced by more than 50 percent.
- A basic principle of preventive treatment is to start the drug at a low dose and increase the dose slowly. Migraine patients often require a dose of a preventive medication that is lower than would be used for other indications.

Patient Talking Points

- Patients must understand that these therapies may reduce the frequency or severity of attacks, may improve the efficacy of acute medications, and may assist with the management of comorbid conditions but that they rarely result in complete eradication of headaches.

- Preventive medications are considered effective if the frequency of attacks is reduced by more than 50 percent.

- Discuss with the patient the specific side effect profile of the migraine prophylaxis agent chosen as the various drug classes are different and each have unique side effects and special considerations

- To ensure optimal benefit from the prophylactic drug, have patients track their progress with the use of a headache diary and encourage them to avoid using acute headache medications, analgesics, decongestants, and stimulants more than two days per week.

- Preventive medications must be taken on a regular basis

- Often takes titration of the dose of the medicine, trials of different medicines or combination of medicines, and may take several months to see an effect.

Drug names are the property of their respective owners.

This information sheet is intended to enhance the pharmacist’s knowledge and aid discussions with prescribers and patients. This information sheet does not replace clinical judgment. Additional patient counseling may be necessary. This information sheet should not be given to patients.

References

Pharmacy Service Bill for Appropriateness of Therapy (AOT)

Due Date: 02/19/2007

An MTM opportunity has been identified for this patient. This form is used to provide feedback to Walgreens Health Services (WHS) as to how successful the suggested intervention was, as well as to provide information to appropriately reimburse for services rendered. WHS must receive this form by the Due Date printed above to receive full payment for your services. Failure to submit this form by this Due Date will result in a rejected service bill.

You must submit both pages of this form and include your signature on the second page of this form in order to receive payment.

### Patient Info

<table>
<thead>
<tr>
<th>Patient Name: (Last Name, First Name)</th>
<th>DOB: (mm/dd/yyyy)</th>
<th>Gender:</th>
<th>Case #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smith, John</td>
<td>09/15/1939</td>
<td>M</td>
<td>123456</td>
</tr>
</tbody>
</table>

### Rx Info

<table>
<thead>
<tr>
<th>Date of Service</th>
<th>Original Rx #:</th>
<th>NDC Number:</th>
<th>Drug Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/10/2007</td>
<td>123456</td>
<td>00029-3159-13</td>
<td>Avandia 4mg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Auth Code:</th>
<th>Prescriber Name: (Last Name, First Name)</th>
<th>Prescriber DEA / NPI:</th>
<th>Prescriber Phone #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>65432</td>
<td>Smith, Janet</td>
<td>AS1234567</td>
<td>999-999-9999</td>
</tr>
</tbody>
</table>

### Program Info

**Appropriateness of Therapy Review** – This program targets the use of recommended medication regimens in certain disease states identified according to evidence-based medicine and nationally recognized guidelines.

**AOT Conflict:** Diabetes Not on Lipid Lowering (Male)

### Key Message to Prescriber

Based on your patient's claim history, it appears the patient may have diabetes. According to the NCEP guidelines, patients with diabetes, a risk equivalent coronary heart disease (CHD), should have an LDL <100mg/dl. Recent clinical trials have also shown that the reduction of LDL to <70mg/dl is a therapeutic option for very high-risk patients (cardiovascular disease plus any of the following: diabetes, cigarette smoking, uncontrolled hypertension, obesity or those with recent MI). Aggressive lipid-lowering may significantly reduce cardiovascular morbidity and mortality in high-risk patients. Unless contraindicated consider initiating LDL-lowering drug therapy, preferably a statin, in addition to lifestyle modifications (e.g., diet, exercise).

### Secondary Rx Info

Please fill out the following information for medication(s) added to the patient’s profile as a result of the intervention.

<table>
<thead>
<tr>
<th>Secondary Rx Drug Name and Strength:</th>
<th>Qty:</th>
<th>Directions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

### Patient Feedback

Person communicating with the patient:

- [ ] Pharmacist
- [ ] Pharmacist Intern
- [ ] Resident

Patient Contact Status: (Check all that apply)

- [X] Counseled patient regarding clinical compliance
- [ ] Patient is not willing to discuss
- [ ] Patient advised to speak with Physician
- [ ] No response after three attempts

Patient Contact Information:

- [ ] Phone: (_____) _______ - _________________
- [ ] Fax: (_____) _______ - _________________
- [ ] eMail: _____________@____________.____

Best time of day to contact: ___:___ am / ___pm

Also complete Page 2

Confidential Health Information: Health care information is personal information related to a person’s health care. It is being faxed to you after appropriate authorization or under circumstances that don’t require authorization. You are obligated to maintain it in a safe, secure and confidential manner. Re-disclosure of this information is prohibited unless permitted by law or appropriate customer/patient authorization is obtained. Unauthorized re-disclosure or failure to maintain confidentiality could subject you to penalties described in federal and state laws.

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Intervention Assessment Feedback for Appropriateness of Therapy (AOT)

Patient Name: John Smith  
DOB: 09/15/1939  
Case Number: 123456

You must submit both pages of this form and include your signature on the second page of this form in order to receive payment.

**Physician Feedback**

**Physician Response:** (Check one.)

- Physician agrees clinically with pharmacist’s recommendation
- Physician does not agree with clinically pharmacist’s concern
- The patient cannot tolerate the medication or it is contraindicated
- The patient’s diagnosis supports current therapy
- Physician is aware of the concern and Physician is monitoring the patient
- The patient has tried and failed the medication in the past
- The patient is no longer under my care
- No response after three attempts

**Physician Action:** (Check one.)

- Will change the patient’s therapy
- Will NOT change the patient’s therapy
- Will discuss with the patient

**Rx Feedback for Secondary Prescription**

**RX Disposition:**

- Rx Dispensed
- Rx Not Dispensed (Check why not dispensed.)
  - Financial Cost
  - Substituted OTC Product
  - Patient: (Check all that apply.)
    - Believes current medication is working (even though may not be feeling better)
    - Feels better since starting treatment with current medication and is not experiencing any side effects
    - Believes current medication is better than alternative medication
    - Is reluctant to try new medication
    - Has tried the alternative medication in the past without success
    - Has tried the alternative medication in the past, and although it has worked, it caused patient too many side effects
- Patient to talk with Physician
- Patient did not show up to pick up Rx (No Show)
- Do not know

**Pharmacist Contact Time and Signature**

Total time spent on MTM Intervention (including doctor contact, prep work, patient consultation, and form completion): ______ min

- Date of Consult:
- Pharmacy Name and Store Number: Walgreens #01234
- NCPDP or NPI Number: 1234567
- Phone: 999-999-9999
- Fax: 888-888-8888
- Pharmacist Signature: [X]
- Pharmacist Name: (Last Name, First Name) [X]
- Pharmacist ID: (Lic or NPI) [X]

When complete, please fax or mail to:

Fax: (866) 352-5318  
Mail: Walgreens Health Services  
OR 1411 Lake Cook Road MS L415  
Deerfield, IL 60015  
Questions? Phone: (866) 352-5310

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Inappropriate Medications in the Elderly

Section C
Inappropriate Medications in the Elderly Section Overview

This section of the guide provides pharmacists at MTM-contracted community pharmacies with the tools needed to provide Inappropriate Medications in the Elderly (IMIE) services.

Program Summary. Read this section first for background and introduction information about IMIE services, program goals, and an overall description of the program.

Network Community Pharmacy Workflow. This flow chart illustrates the procedures involved in performing IMIE interventions, step-by-step.

Recommendations and Talking Points. This section provides the rationale behind each IMIE intervention, recommended additions or changes to medication therapies, and talking points that may be helpful during conversations with prescribers and patients. The section is comprised of information specific to the 17 drugs or drug classes that are currently included in the IMIE program:

- Barbiturates
- Chlorpropamide
- Gastrointestinal antispasmodics
- Indomethacin
- Ketorolac
- Benzodiazepines (high-dose, long-acting, and/or sedative)
- Meperidine
- Meprobamate
- Metyldopa
- Muscle relaxants
- Nifedipine short-acting
- Oxybutynin immediate release
- Pentazocine
- Tertiary – tricyclic antidepressants
- Thioridazine
- Trimethobenzamide
- Zolpidem (high-dose)

Due to the number of formulary plans, recommendations provided are independent of preferred formulary choices, step-care programs, and prior authorizations.

The talking points may be used in conjunction with the IMIE patient education handout on fall prevention, which is provided in Section H in a format suitable for photocopying. This handout is designed to be given to patients during their pharmacy visit.
Service Bill and Intervention Assessment Feedback Form. This section provides a sample of the IMIE billing form. This form is used to submit bills for IMIE services and to collect prescriber and patient feedback to provide a better picture of the patient’s medication therapies, secure reimbursement, document the outcome of the intervention, and to help ensure that the consultation is provided correctly. A printable version of the Service Bill and Intervention Assessment Feedback Form for IMIE is provided in Section I.
Inappropriate Medications in the Elderly Program Summary

Introduction
Side effects of medications and drug-related problems can have profound medical and safety consequences for older adults that economically affect the healthcare system. The use of consensus criteria for safe medication use in elderly patients is one approach to developing reliable and explicit criteria when precise clinical information is lacking. Walgreens Health Services is providing Medication Therapy Management (MTM) services through a nationwide delivery system of contracted community pharmacies. This summary provides an overview of the Inappropriate Medications in the Elderly (IMIE) Program.

Background
Thirty percent of hospital admissions in elderly patients may be linked to drug-related problems or drug toxic effects. Healthcare expenditures related to inappropriate medications used by the community dwelling elderly reached an estimate $7.2 billion in the United States in 2001. Studies have shown that there is a necessity for consistent communication with providers to give information on the potential risks of using certain medications in the elderly and to improve prescribing practices.

The advantages for using standard prescribing criteria are to improve therapeutic practices and reduce medication-related adverse drug events, which will increase the quality of care and enhance patient outcomes. The Centers for Medicare and Medicaid Services (CMS) is one of the major proponents of utilizing standard criteria and evidence-based prescribing to enable providers and insurers to plan interventions aimed at reducing drug-related costs and overall healthcare costs while minimizing adverse drug events in elderly patients.

Program Goals
The goals of the IMIE program are to:

- identify and educate participants who may be at risk for adverse health events as a result of taking inappropriate medications for the elderly
- control overall healthcare costs
- reduce participant morbidity and mortality

To accomplish these goals the pharmacist will:

- review drug therapies to ensure appropriate treatment per IMIE criteria
- contact the participants’ prescribers and provide suitable therapy recommendations
- use the provided talking points to educate prescribers and participants
- perform interventions based on the following targeted medications:

<table>
<thead>
<tr>
<th>Medication Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barbiturates</td>
</tr>
<tr>
<td>Gastrointestinal (GI) antispasmodics</td>
</tr>
<tr>
<td>Benzodiazepines (high-dose, long-acting, and/or sedative)</td>
</tr>
<tr>
<td>Muscle relaxants</td>
</tr>
<tr>
<td>Tertiary tricyclic antidepressants (TCAs)</td>
</tr>
<tr>
<td>Individual Medications</td>
</tr>
<tr>
<td>--------------------------------</td>
</tr>
<tr>
<td>Chlorpropamide</td>
</tr>
<tr>
<td>Indomethacin</td>
</tr>
<tr>
<td>Ketorolac</td>
</tr>
<tr>
<td>Meperidine</td>
</tr>
<tr>
<td>Meprobamate</td>
</tr>
<tr>
<td>Methyldopa</td>
</tr>
<tr>
<td>Nifedipine short-acting</td>
</tr>
<tr>
<td>Oxybutynin immediate release</td>
</tr>
<tr>
<td>Pentazocine</td>
</tr>
<tr>
<td>Thioridazine</td>
</tr>
<tr>
<td>Trimethobenzamide</td>
</tr>
<tr>
<td>Zolpidem (high-dose)</td>
</tr>
</tbody>
</table>

**Program Description**

The IMIE program identifies participants age 65 and older who meet specific MTM eligibility criteria and have been prescribed one or more medications on the targeted IMIE drug list. The pharmacist will contact the prescribing prescriber, if necessary, to discuss the identified medication-related issues and recommend possible therapeutic solutions. The pharmacist will document the results of the clinical intervention.

The pharmacist will be provided with the targeted IMIE drug list, alternative medication choices, and associated rationale. The pharmacist will have prescriber and patient counseling points to help aid the discussions. Participants will have the opportunity to discuss details of the intervention with their community pharmacist.

References
MedMonitor XR Network
Community Pharmacy Workflow Scenario:
Inappropriate Medications in the Elderly (IMIE) *(Thioridazine)*

Pharmacy receives a “MTM Consultation Service Bill Report” via fax/web portal indicating that an IMIE “patient taking an inappropriate medication in the elderly (e.g. thioridazine)” intervention opportunity has been identified for one of their patients.

Pharmacist contacts prescriber to discuss potential change to patient’s medication therapy, using the “Key Message to Prescriber” provided on the service bill as reference when discussing the intervention. Prescriber Talking Points are also provided in this guide to use as a reference.

If prescriber agrees to an alternative to the IMIE medication, pharmacist obtains the new prescription. If prescriber does not agree to the alternative medication, the original medication remains active (both scenarios result in payment for service).

**Key Message to Prescriber**

According to the Beers Criteria for Potentially Inappropriate Medication Use in Older Adults, the use of thioridazine should be avoided in patients 65 and older. Thioridazine has a greater potential for central nervous system (CNS) and extrapyramidal adverse effects. RECOMMENDATIONS: Unless contraindicated, consider switching to one of the following atypical antipsychotics: Abilify (aripiprazole), Geodon (ziprasidone), risperidone, Seroquel (quetiapine), or Zyprexa (Olanzapine).

- as displayed in the IMIE Service Bill

**Pharmacist-to-Prescriber Talking Points**

**IMIE:**
- Thioridazine is associated with a greater potential for CNS and extrapyramidal adverse effects.
- Thioridazine is associated with a higher incidence of sedation, anticholinergic side effects, and orthostatic hypotension compared to atypical antipsychotics.
- Thioridazine may cause retinopathy.
- Thioridazine may cause ventricular arrhythmias and other cardiotoxic side effects.
- The use of thioridazine is restricted to a second-line treatment for schizophrenia.

**Recommended Alternatives:**
- When choosing an atypical antipsychotic, the risks should be weighed against the benefits.
- Elderly patients with dementia-related psychosis treated with atypical antipsychotic drugs are at an increased risk of death compared to placebo. Although the causes of death in clinical trials were varied, most of the deaths appeared to be either cardiovascular (e.g. heart failure, sudden death) or infectious (e.g. pneumonia) in nature.
- Atypical antipsychotics are generally associated with a lower incidence of sedation, anticholinergic side effects, EPS, and orthostatic hypotension than thioridazine.
- Among the atypical antipsychotics, aripiprazole, ziprasidone, and risperidone are associated with the least sedation.
- Among the atypical antipsychotics, aripiprazole, quetiapine, risperidone, and ziprasidone are associated with the lowest incidence of anticholinergic side effects and orthostatic hypotension.
Inappropriate Medications in the Elderly (IMIE) (Thioridazine)

Pharmacist informs patient that his/her prescriber has agreed to a change to his/her drug therapy and discusses risks of current IMIE drug and benefits of alternative (if applicable). Pharmacist completes patient-facing portion of IMIE Service Bill. (see talking points below).

Pharmacist submits completed IMIE Service Bill to WHS MTM Department via fax/mail/web portal.

IMIE:
• Thioridazine may cause drowsiness, dizziness, fainting, muscle spasm of the neck or face, or other uncontrolled body movements.
• Thioridazine is likely to cause dry mouth, constipation, and dry eyes.
• Thioridazine can cause changes in vision which may be partly irreversible.
• Thioridazine is not a first-line treatment for schizophrenia.

Recommended Alternatives:
• Atypical antipsychotics cause less nervous system side effects such as dizziness.
• Atypical antipsychotics generally cause less dry mouth, constipation, and uncontrolled body movements.
• Depending on the alternative atypical antipsychotic prescribed, the medication may cause weight gain, high cholesterol, and increased blood sugar.
## Barbiturates—Recommendation and Talking Points

<table>
<thead>
<tr>
<th>IMIE</th>
<th>Butabarbital</th>
<th>Mephobarbital</th>
<th>Secobarbital</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Alternatives</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Zolpidem 5 mg/day</td>
<td>Zaleplon 5 mg/day</td>
<td>Ramelteon 8mg/day</td>
</tr>
<tr>
<td></td>
<td>Zolpidem CR 6.25 mg/day</td>
<td></td>
<td>Temazepam ≤ 15 mg/day</td>
</tr>
<tr>
<td></td>
<td>Mephobarbital</td>
<td>Eszopiclone ≤ 2 mg/day</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rationale</strong></td>
<td>According to the Beers Criteria for Potentially Inappropriate Medication Use in Older Adults, the use of barbiturates, in patients 65 and older may result in rapid development of tolerance, psychological and physical dependence, and withdrawal.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Comments</strong></td>
<td>These barbiturates may be highly addictive and can cause more adverse effects than other sedative or hypnotic agents. Some of the adverse effects may include falls, fractures, confusion, dependence, and withdrawal.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Prescriber Talking Points</strong></td>
<td>IMIE:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• May be highly addicting.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Associated with more adverse effects compared to most sedative or hypnotic drugs such as falls, fractures, confusion, dependence, and withdrawal.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recommended Alternatives:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• These medications are considered safer for older adults and have less adverse effects than barbiturates.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Non-BZDs should be used in the elderly first. However, if a BZD is necessary, a short-acting BZD is preferred (e.g. temazepam ≤ 15mg/day)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Patient Talking Points</strong></td>
<td>IMIE:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• May become habit-forming.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• May need to gradually withdraw this medicine.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• May cause problems with balance or walking, clumsiness, lightheadedness, and confusion.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• May cause daytime drowsiness, increasing the risk of falls and fractures.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recommended Alternatives:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• This medication is considered safer for older adults and has less severe side effects than a barbiturate.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Drowsiness may begin shortly after taking the dose. Take this medication just before bedtime.</td>
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</tr>
<tr>
<td></td>
<td>• As with other sleep agents, do not drink alcohol while taking this medication.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• These medications may be less habit-forming than a barbiturate.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Drug names are the property of their respective owners

This information sheet is intended to enhance the pharmacist’s knowledge and aid discussions with prescribers and patients. This information sheet does not replace clinical judgment. Additional patient counseling may be necessary. This information sheet should not be given to patients.

IMIE Program References
Chlorpropamide—Recommendation and Talking Points

<table>
<thead>
<tr>
<th>IMIE</th>
<th>Chlorpropamide</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Alternatives</strong></td>
<td>Second Generation Sulfonylureas:</td>
</tr>
<tr>
<td></td>
<td>Glimepiride or a Glimepiride–containing product</td>
</tr>
<tr>
<td></td>
<td>Glipizide or a Glipizide–containing product</td>
</tr>
<tr>
<td></td>
<td>Glyburide (see comments)</td>
</tr>
<tr>
<td><strong>Rationale</strong></td>
<td>Chlorpropamide may have an extended half-life in elderly patients and could cause prolonged hypoglycemia. Additionally, chlorpropamide is more likely to cause Syndrome of Inappropriate Antidiuretic Hormone (SIADH) than other sulfonylureas.</td>
</tr>
<tr>
<td><strong>Comments</strong></td>
<td>Glyburide is <strong>not</strong> recommended in patients with a creatinine clearance (CrCl) less than 50 mL/min because they are more susceptible to hypoglycemia.</td>
</tr>
</tbody>
</table>

**Prescriber Talking Points**

**IMIE:**
- Chlorpropamide may have an extended half-life in elderly patients which could cause prolonged hypoglycemia.
- Chlorpropamide is more likely to cause SIADH than other sulfonylureas.

**Recommended Alternatives:**
- Glimepiride and Glipizide have shorter half-lives and are less likely to cause severe hypoglycemia.
- Reports of SIADH are rare with these agents.

**Patient Talking Points**

**IMIE:**
- Chlorpropamide stays in the body a long time and may cause low blood sugar, especially when a meal is missed, exercising for a long time, or drinking alcohol. Symptoms of low blood sugar may include sweating, shakiness, weakness, trouble concentrating, drowsiness, feeling very hungry, blurred vision, rapid heartbeat, confusion, or a headache that will not go away.
- Chlorpropamide is more likely to cause a disorder of water and minerals in the body called SIADH than other similar medications.

**Recommended Alternatives:**
- Glimepiride and Glipizide do not stay in the body as long as chlorpropamide and are less likely to cause severe low blood sugar.
- Continue to monitor your blood sugar regularly as directed by your prescriber.

**Reference**

- DRUGDEX® System. Thomson Micromedex, Greenwood Village, Colorado; 2009 Available at: http://www.thomsonhc.com

Drug names are the property of their respective owners.

This information sheet is intended to enhance the pharmacist’s knowledge and aid discussions with prescribers and patients. This information sheet does not replace clinical judgment. Additional patient counseling may be necessary. This information sheet should not be given to patients.

IMIE Program References

## Gastrointestinal (GI) Antispasmodics—Recommendation and Talking Points

<table>
<thead>
<tr>
<th>IMIE</th>
<th>Dicyclomine</th>
<th>Hyoscyamine</th>
<th>Propantheline</th>
<th>Belladonna Alkaloids</th>
<th>Chlordiazepoxide/Clidinium</th>
<th>Chlordiazepoxide/Methscopolamine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Alternatives</strong></td>
<td>Constipation predominant: soluble fiber (e.g., Psyllium).</td>
<td>Diarrhea predominant: Loperamide or secondary tricyclic antidepressants (TCAs) such as Desipramine or Nortriptyline.</td>
<td>Pain predominant: secondary TCAs such as Desipramine or Nortriptyline (See Comments).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rationale</strong></td>
<td>These GI antispasmodic agents have uncertain effectiveness and have strong anticholinergic properties. They may worsen cognitive and behavioral function for patients with dementia.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Comments</strong></td>
<td>Secondary TCAs may be useful in patients with comorbid depressive disorders. In addition, secondary TCAs have analgesic properties that may alleviate pain from irritable bowel syndrome (IBS). They may also alter gastrointestinal transit. Secondary TCAs may be considered in IBS patients presenting with moderate to severe pain and/or whose stool habit is primarily diarrhea.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| **Prescriber Talking Points** | IMIE:  
- Uncertain effectiveness and strongly anticholinergic.  
- May worsen cognitive and behavioral function for patients with dementia.  

Recommended Alternatives:  
- Secondary TCAs may be useful in patients with comorbid depressive disorders.  
- Secondary TCAs have analgesic properties that may alleviate pain from IBS.  
- Secondary TCAs may alter gastrointestinal transit.  
- Secondary TCAs may be considered in IBS patients presenting with moderate to severe pain and/or whose stool habit is primarily diarrhea. | |
| **Patient Talking Points** | IMIE:  
- May cause drowsiness, blurred vision, and dizziness.  
- May cause dry mouth, constipation, and decreased sweating.  

Recommended Alternatives:  
- Patients that have IBS with pain and/or diarrhea as the primary symptom may benefit from a secondary TCA because TCAs have pain-relieving properties and may alter intestinal activity. | |

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IMIE Program References
# Indomethacin—Recommendation and Talking Points

<table>
<thead>
<tr>
<th>IMIE</th>
<th>Indomethacin</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Alternatives</strong></td>
<td>Ibuprofen, Naproxen, Celecoxib, or other nonsteroidal anti-inflammatory drug (NSAID), excluding Ketorolac (See Comments).</td>
</tr>
</tbody>
</table>

| **Rationale** | Of all the anti-inflammatory drugs, indomethacin produces the most central nervous system (CNS) adverse effects, including headache, dizziness, depression, and somnolence. Indomethacin may also cause severe gastrointestinal (GI) side effects, renal problems, and salt and water retention if used long-term, especially in elderly patients. |

| **Comments** | - All NSAIDs have similar analgesic and anti-inflammatory effects. A clinically superior NSAID is not evident. The distinguishing factors between the NSAIDs include pharmacokinetic properties, cyclooxygenase (COX) enzyme selectivity, and adverse effect profile.  
- Ketorolac is **not** a recommended alternative. Ketorolac may cause severe GI adverse effects and should be avoided in the elderly since a significant number may have asymptomatic GI conditions. Ketorolac may also cause renal dysfunction and require close renal monitoring even with short-term therapy.  
- Use caution with oxaprozin and piroxicam (long half-life).  
- Sulindac and nabumetone are inactive prodrugs converted by the liver to active metabolites (use with caution in liver-impaired patients). |

| **Prescriber Talking Points** | IMIE:  
- Of all the anti-inflammatory drugs, indomethacin produces the most CNS adverse effects.  
- May also cause severe gastrointestinal side effects, renal problems, and salt and water retention if used long-term, especially in elderly patients.  

---  

Recommended Alternatives:  
- All NSAIDs have similar analgesic and anti-inflammatory effects.  
- A clinically superior NSAID is not evident.  
- The distinguishing factors between NSAIDs include pharmacokinetic properties, COX enzyme selectivity, and adverse effect profile. |

| **Patient Talking Points** | IMIE:  
- Ulcers and stomach bleeding are sometimes caused by this type of medication. These side effects may occur without stomach pain or other warning signs.  
- May cause headaches, drowsiness, dizziness, and lightheadedness.  
- May cause kidney problems and salt and water retention with long-term use, especially in older adults.  

---  

Recommended Alternatives:  
- Other anti-inflammatory medications are available that have a lower likelihood of causing headache, dizziness, depression, and fatigue.  
- As with other anti-inflammatory medications, take this medicine with food to reduce the likelihood of stomach side effects such as nausea or pain. |

| **Reference** | - DRUGDEX® System. Thomson Micromedex, Greenwood Village, Colorado; 2009 Available at: http://www.thomsonhc.com  

---

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IMIE Program References  

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# Ketorolac—Recommendation and Talking Points

<table>
<thead>
<tr>
<th>IMIE</th>
<th>Ketorolac</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Alternatives</strong></td>
<td>Ibuprofen, Naproxen, Celecoxib, or other nonsteroidal anti-inflammatory drug (NSAID), excluding indomethacin (See Comments).</td>
</tr>
<tr>
<td><strong>Rationale</strong></td>
<td>Ketorolac may cause severe gastrointestinal (GI) adverse effects. Immediate and long-term use of ketorolac should be avoided in older persons since a significant number have asymptomatic GI pathologic conditions. Ketorolac may also cause renal dysfunction and require close renal monitoring even with short-term therapy.</td>
</tr>
</tbody>
</table>
| **Comments** | • All NSAIDs have similar analgesic and anti-inflammatory effects. A clinically superior NSAID is not evident. The distinguishing factors between the NSAIDs include pharmacokinetic properties, cyclooxygenase (COX) enzyme selectivity, and adverse effect profile.  
• Indomethacin is not a recommended alternative. Indomethacin may cause central nervous system (CNS) adverse effects, severe GI side effects, renal problems, and salt and water retention, especially in the elderly.  
• Use caution with oxaprozin and piroxicam (long half-life).  
• Sulindac and nabumetone are inactive prodrugs converted by the liver to active metabolites (use with caution in liver-impaired patients). |
| **Prescriber Talking Points** | IMIE:  
• Ketorolac may cause severe GI adverse effects and should not be used for longer than five days. Immediate and long-term use of ketorolac should be avoided in older persons since a significant number have asymptomatic GI pathologic conditions.  
• Ketorolac may also cause renal dysfunction and require close renal monitoring even with short-term therapy.  
**Recommended Alternatives:**  
• All NSAIDs have similar analgesic and anti-inflammatory effects.  
• A clinically superior NSAID is not evident.  
• The distinguishing factors between the NSAIDs include pharmacokinetic properties, COX enzyme selectivity, and adverse effect profile. |
| **Patient Talking Points** | IMIE:  
• Ulcers and stomach bleeding can occur without warning signs.  
• May cause drowsiness and dizziness.  
• Ketorolac may also cause kidney impairment and require close kidney monitoring even with short-term therapy.  
**Recommended Alternatives:**  
• Other anti-inflammatory medications are available that have a lower likelihood of causing of severe stomach and intestinal side effects.  
• As with other anti-inflammatory medications, take this medicine with food to reduce the likelihood of stomach side effects such as nausea or pain. |
• DRUGDEX® System. Thomson Micromedex, Greenwood Village, Colorado; 2009 Available at: http://www.thomsonhc.com  
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IMIE Program References
## Long-acting Benzodiazepines (BZDs) – Recommendation and Talking Points

<table>
<thead>
<tr>
<th>IMIE</th>
<th>Chlordiazepoxide</th>
<th>Clorazepate</th>
<th>Diazepam</th>
<th>Flurazepam</th>
<th>Quazepam</th>
<th>Temazepam &gt; 15mg</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Alternatives</strong></td>
<td>Anti-Anxiety Use:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Short-acting BZD:</td>
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<td></td>
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<tr>
<td></td>
<td>Lorazepam ≤ 3 mg/day</td>
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<tr>
<td></td>
<td>Oxazepam ≤ 60 mg/day</td>
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<tr>
<td></td>
<td>Sedative or Hypnotic Use:</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Zolpidem 5 mg/day</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Zolpidem CR 6.25 mg/day</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Zaleplon 5 mg/day</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Eszopiclone ≤ 2 mg/day</td>
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<tr>
<td></td>
<td>Ramelteon 8mg/day</td>
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</tr>
<tr>
<td></td>
<td>Temazepam &lt; 15 mg/day (See Comments)</td>
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</tr>
</tbody>
</table>

### Rationale
Long-acting BZDs have an extended half-life, producing prolonged sedation in elderly patients and increasing the risk of falls, fractures, confusion, dependence, and withdrawal.

### Comments
Elderly patients may have slowed liver metabolism. Patients with impaired liver function or slowed liver metabolism should use BZDs with caution especially those that undergo oxidation (e.g., chlordiazepoxide, estazolam) as the oxidation process is more susceptible to liver impairment than glucuronidation. If a BZD must be used, short-acting BZDs that undergo glucuronidation are preferred (e.g., lorazepam ≤ 3mg/day, temazepam ≤ 15 mg/day).

### Prescriber Talking Points
**IMIE:**
- Long half-life may cause prolonged sedation in elderly patients and increases the risk of falls, fractures, confusion, dependence, and withdrawal.

**Recommended Alternatives:**
- These medications are considered safer for older adults and have less adverse effects than long-acting BZDs.
- Elderly patients may have slowed liver metabolism. Patients with impaired liver function or slowed liver metabolism should use BZDs with caution especially those that undergo oxidation (e.g., chlordiazepoxide, estazolam) as the oxidation process is more susceptible to liver impairment than glucuronidation. If a BZD must be used, short-acting BZDs that undergo glucuronidation are preferred (e.g., lorazepam, temazepam < 15 mg/day).

### Patient Talking Points
**IMIE**
- May cause severe dizziness, drowsiness, clumsiness, confusion, extreme unsteadiness, and an increased risk of falls and fractures.
- May become habit-forming.
- May need to gradually withdraw this medicine.

**Recommended Alternatives:**
- This medication is considered safer for older adults and has less severe side effects than a long-acting BZD.
- As with other anti-anxiety or sleep agents, do not drink alcohol while taking this medication.
- These medications may be less habit-forming than a long-acting BZD.

### References

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This information sheet is intended to enhance the pharmacist’s knowledge and aid discussions with prescribers and patients. This information sheet does not replace clinical judgment. Additional patient counseling may be necessary.

IMIE Program References
# Meperidine—Recommendation and Talking Points

<table>
<thead>
<tr>
<th>IMIE</th>
<th>Meperidine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Alternatives</strong></td>
<td>Codeine-, Hydrocodone-, Hydromorphone-, Oxycodone-, or Morphine-containing products</td>
</tr>
</tbody>
</table>

| Rationale | Meperidine has many disadvantages compared to other narcotics drugs. Meperidine is **not** an effective oral analgesic in doses commonly used. Meperidine may cause falls, fractures, confusion, dependency, and withdrawal. |

| Comments | • Meperidine is not recommended as a drug of first choice for the treatment of chronic pain in the elderly due to the accumulation of the active metabolite, normeperidine.  
• For acute pain its use is limited to one to two days.  
• Normeperidine has a 17 hour half-life and displays two to three times the central nervous system (CNS) effects of meperidine with only half of the analgesic effect.  
• In comparison, codeine, hydrocodone, hydromorphone, oxycodone, and morphine have shorter half-lives (two to four hours) and cause less respiratory depression than meperidine. |

| Prescriber Talking Points | IMIE:  
• Meperidine has many disadvantages compared to other narcotics drugs.  
• Meperidine is not an effective oral analgesic in doses commonly used.  
• Meperidine may cause falls, fractures, confusion, dependency, and withdrawal.  
• Meperidine is not recommended as a drug of first choice for the treatment of chronic pain in the elderly due to the accumulation of the active metabolite, normeperidine.  
• For acute pain its use is limited to one to two days.  
• The active metabolite has a 17 hour half-life.  

Recommended Alternatives:  
• In comparison, codeine, hydrocodone, hydromorphone, oxycodone, and morphine have shorter half-lives (two to four hours) and cause less respiratory depression than meperidine.  
• For moderate pain, a combination of non-opioid and opioid analgesics with moderate pain-relieving properties is recommended (e.g., codeine, hydrocodone).  
• For severe pain, a combination of non-opioid and opioid analgesics with severe pain-relieving properties is recommended (e.g., morphine, oxycodone). |

| Patient Talking Points | IMIE:  
• Meperidine may require very high doses to be effective for pain relief.  
• Meperidine may cause dizziness, lightheadedness, or confusion. This may increase the risk for falls and fractures.  
• Meperidine should only be used for one to two days. Long-term use of meperidine should be avoided.  

Recommended Alternatives:  
• Codeine, hydrocodone, hydromorphone, oxycodone, and morphine are effective pain relief medications.  
• These medications are easier to monitor and dose than meperidine.  
• Codeine, hydrocodone, hydromorphone, oxycodone, and morphine are more appropriate than meperidine for long-term use. |

| References | ▪ DRUGDEX® System. Thomson Micromedex, Greenwood Village, Colorado; 2009 Available at: http://www.thomsonhc.com |

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IMIE Program References  
### Meprobamate—Recommendation and Talking Points

<table>
<thead>
<tr>
<th>IMIE</th>
<th>Meprobamate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Alternatives</strong></td>
<td>Short-acting benzodiazepines (BZDs)</td>
</tr>
<tr>
<td></td>
<td>lorazepam ≤ 3 mg/day</td>
</tr>
<tr>
<td></td>
<td>oxazepam ≤ 60 mg/day</td>
</tr>
<tr>
<td>OR</td>
<td>alprazolam ≤ 2 mg/day</td>
</tr>
</tbody>
</table>

| **Rationale** | According to the Beers Criteria for Potentially Inappropriate Medication Use in Older Adults, the use of meprobamate in patients 65 and older can result in excessive sedation and an increased risk of falls/fractures. This agent is also associated with physical and psychological dependence and withdrawal syndrome, as well as cardiovascular effects, such as palpitations, tachycardia, and arrhythmia. |

| **Comments** | Meprobamate is highly sedating and addictive. Those using meprobamate for prolonged periods may become addicted and may need to be slowly withdrawn. |

<table>
<thead>
<tr>
<th><strong>Prescriber Talking Points</strong></th>
<th>IMIE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>Meprobamate is highly sedating.</td>
</tr>
<tr>
<td>-</td>
<td>Meprobamate may become habit-forming.</td>
</tr>
<tr>
<td>-</td>
<td>Those using meprobamate for prolonged periods may become addicted and may need to be withdrawn slowly.</td>
</tr>
</tbody>
</table>

| **Recommended Alternatives:** | Consider switching to one of the following anxiolytics with a shorter half-life: oxazepam < or = 60mg/day, lorazepam < or = 3mg/day or alprazolam < or = 2mg/day. |

<table>
<thead>
<tr>
<th><strong>Patient Talking Points</strong></th>
<th>IMIE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>Meprobamate may be habit-forming.</td>
</tr>
<tr>
<td>-</td>
<td>Meprobamate may cause slurred speech.</td>
</tr>
<tr>
<td>-</td>
<td>Meprobamate may cause severe drowsiness and weakness.</td>
</tr>
</tbody>
</table>

| **Recommended Alternatives:** | This medication is considered safer for older adults and has less severe side effects than meprobamate.  |
| | As with other anti-anxiety agents, do not drink alcohol while taking this medication.  |
| | This medication may be less habit-forming than meprobamate.  |


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**IMIE Program References**


**Methyldopa—Recommendation and Talking Points**

<table>
<thead>
<tr>
<th>IMIE</th>
<th>Methyldopa</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Alternatives</strong></td>
<td>Thiazide diuretic +/- any of the following: Beta-Blocker (BB) Angiotensin Converting Enzyme Inhibitor (ACE-I) Angiotensin Receptor Blocker (ARB) Long-acting Calcium Channel Blocker (CCB)</td>
</tr>
<tr>
<td><strong>Rationale</strong></td>
<td>Methyldopa may cause bradycardia and can exacerbate depression in the elderly. Safer antihypertensives are available.</td>
</tr>
<tr>
<td><strong>Comments</strong></td>
<td>• Clonidine, a central-acting alpha agonist, is not listed as a recommended alternative. • Clonidine has an increased incidence of orthostatic hypotension and dizziness as well as anticholinergic side effects. Abrupt cessation may lead to rebound hypertension. • Beers rated clonidine as “low” severity and should only be used with caution in resistant hypertension.</td>
</tr>
<tr>
<td><strong>Prescriber Talking Points</strong></td>
<td><strong>IMIE:</strong> • Methyldopa may cause bradycardia and can exacerbate depression in the elderly. • Methyldopa is not a first line agent used to treat hypertension. Recommended Alternatives: • Safer antihypertensives are available.</td>
</tr>
<tr>
<td><strong>Patient Talking Points</strong></td>
<td><strong>IMIE:</strong> • Methyldopa may cause dizziness or drowsiness. • Methyldopa may cause a significantly slow heart rate. • Methyldopa is not a first line agent used to treat high blood pressure. Recommended Alternatives: • Safer medications are available to treat high blood pressure.</td>
</tr>
</tbody>
</table>

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**IMIE Program References**
### Muscle Relaxants—Recommendation and Talking Points

<table>
<thead>
<tr>
<th>IMIE</th>
<th>Carisoprodol</th>
<th>Cyclobenzaprine &gt; 15 mg/day</th>
<th>Metaxalone</th>
<th>Orphenadrine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Alternative</strong></td>
<td>Low-dose cyclobenzaprine (5mg up to TID)</td>
<td>Chlorzoxazone</td>
<td>Methocarbamol</td>
<td></td>
</tr>
</tbody>
</table>

| **Rationale** | The use of certain muscle relaxants in patients 65 years and older should be avoided. These agents may increase the risk of CNS and anticholinergic effects in this patient population (e.g., blurred vision, dry mouth, confusion, and urinary retention). |

| **Comments** | • Tizanidine, baclofen, and diazepam are equally effective in decreasing excessive muscle tone. However, baclofen and diazepam are often associated with more side effects, which can limit their usefulness.  
• Baclofen and diazepam can produce an unacceptably high level of drowsiness in the elderly. Therefore, they are not appropriate alternatives.  
• Tizanidine is drug-interaction prone & may cause hypotension, dizziness, & sedation. |

| **Prescriber Talking Points** | **IMIE:**  
• Doses needed to achieve therapeutic efficacy generally produce anticholinergic side effects including drowsiness, agitation, and disorientation.  
• Carisoprodol has an active metabolite, meprobamate, which is a controlled substance anxiolytic. Thus, this drug can be highly sedating and addictive.  

| **Recommended Alternative:** | • Consider switching to an alternative agent with a more favorable side effect profile such as cyclobenzaprine (up to 15mg per day), methocarbamol, or chlorzoxazone.  
• After extensive clinical use of chlorzoxazone containing products in an estimated thirty-two million patients, it is apparent that the drug is well tolerated and seldom produces undesirable side effects.  
• The mean elimination half-life of methocarbamol in elderly healthy volunteers age, 69 (+/- 4) years) was slightly prolonged compared to a younger age, 53.3 (+/- 8.8) years), healthy population (1.5 (+/- 0.4) hours versus 1.1 (+/-0.27) hours, respectively). The fraction of bound methocarbamol was slightly decreased in the elderly versus younger volunteers |

| **Patient Talking Points** | **IMIE:**  
• The doses needed to achieve an effect with these muscle relaxants generally produce side effects such as drowsiness, nervousness, confusion, or blurred vision.  

| **Recommended Alternative:** | • These agents may be better tolerated since they produce fewer side effects |

| **References** | • Reents S, Seymour J. Clinical Pharmacology, Version 5.05 Gold Standard Multimedia Inc., producers, Tampa, FL; 2009.  
• DRUGDEX® System. Thomson Micromedex, Greenwood Village, Colorado; 2009 Available at: http://www.thomsonhc.com  

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### IMIE Program References


## Nifedipine Short-acting—Recommendation and Talking Points

<table>
<thead>
<tr>
<th>IMIE</th>
<th>Nifedipine Short-acting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Alternative</strong></td>
<td>Nifedipine Extended-Release</td>
</tr>
</tbody>
</table>

### Rationale
According to the Beers Criteria for Potentially Inappropriate Medication Use in Older Adults, the use of short-acting nifedipine in patients 65 and older is not recommended for the treatment of chronic hypertension, acute hypertensive crisis, acute myocardial infarction or in the setting of acute coronary syndrome.

### Comments
Short-acting nifedipine may cause dramatic changes in blood pressure (e.g., severe postural hypotension). The immediate-release capsules should **not** be used for the control of essential hypertension.

### Prescriber Talking Points
**IMIE:**
- This drug may cause dramatic changes in blood pressure (e.g., severe postural hypotension).
- Immediate-release capsules should not be used for the control of essential hypertension.
- Nifedipine short-acting does not reduce the risk of myocardial infarction (MI). In fact, there have been reports of heart attack in patients, especially in older adults, when short-acting nifedipine is used acutely to lower blood pressure.

**Recommended Alternative:**
- The extended-release capsules are more appropriate for the treatment of high blood pressure because this formulation has a lower likelihood of causing a dramatic decrease in blood pressure.

### Patient Talking Points
**IMIE:**
- Nifedipine short-acting may cause dramatic changes in blood pressure.
- Nifedipine short-acting may cause dizziness or lightheadedness.
- Nifedipine short-acting does not reduce the risk of heart attack. In fact, there have been reports of heart attack in patients, especially in older adults, when short-acting nifedipine is used acutely to lower blood pressure.
- Nifedipine short-acting may increase the incidence of constipation.

**Recommended Alternative:**
- The extended-release capsules are more appropriate for the treatment of high blood pressure because this formulation has a lower likelihood of causing a dramatic decrease in blood pressure.

### References

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**IMIE Program References**
## Oxybutynin Immediate Release—Recommendation and Talking Points

<table>
<thead>
<tr>
<th>IMIE</th>
<th>oxybutynin immediate release</th>
</tr>
</thead>
</table>
| Recommended Alternatives | Oxybutynin XL or Oxybutynin Transdermal  
Tolterodine LA  
Solifenacin  
Darifenacin  
Trospium |
| Rationale | The doses of oxybutynin immediate-release needed to achieve a therapeutic effect generally produce anticholinergic side effects such as drowsiness, agitation, and disorientation, which are poorly tolerated by the elderly. |
| Comments |  
- Tolterodine LA, oxybutynin XL, solifenacin, and darifenacin offer more tolerability than the immediate-release agents due to the controlled-release formulation. The formulations deliver the drug continuously over a 24 hour period, reducing first pass gastrointestinal (GI) metabolism.  
- The incidence of dry mouth was higher with oxybutynin XL and higher strengths of solifenacin and darifenacin.  
- Trospium exhibits increased tolerability to central nervous system (CNS) disturbances due to its quaternary amine structure, which inhibits its ability to cross the blood-brain barrier.  
- Head-to-head studies of tolterodine-LA and oxybutynin-XL have demonstrated comparable efficacy in the treatment of urinary incontinence with reduction of incontinent episodes and urinary frequency.  
- Transdermal oxybutynin offers a significant reduction in dry mouth compared to oral immediate release oxybutynin. |
| Prescriber Talking Points | IMIE:  
- Doses needed to achieve therapeutic efficacy generally produce anticholinergic side effects such as drowsiness, agitation, and disorientation.  
Recommended Alternatives:  
- Tolterodine LA, oxybutynin XL, solifenacin, and darifenacin offer more tolerability than the immediate-release agents due to the controlled-release formulations. The formulations deliver the drug continuously over a 24 hour period, reducing first pass GI metabolism.  
- The incidence of dry mouth was higher with oxybutynin XL and higher strengths of solifenacin and darifenacin.  
- Trospium exhibits increased tolerability to CNS disturbances due to its quaternary amine structure, which inhibits its ability to cross the blood-brain barrier.  
- Head–to-head studies of tolterodine-LA and oxybutynin-XL have demonstrated comparable efficacy in the treatment of urinary incontinence with reduction of incontinent episodes and urinary frequency. |
| Patient Talking Points | IMIE:  
- The doses of oxybutynin immediate release needed to achieve a therapeutic effect generally produce side effects such as drowsiness, nervousness, and confusion.  
Recommended Alternatives:  
- Long-acting medications may be more convenient to take because most are dosed once daily.  
- Long-acting medications have less side effects than the immediate-release medications, partly because the drug is released in the body over a 24 hour period.  
- Trospium is less likely to cause side effects such as drowsiness and dizziness.  
- Patients taking either tolterodine-LA or oxybutynin-XL had very similar improvement in the treatment of their bladder conditions.  
- Application site itching was the most common adverse reaction (16%) from the oxybutynin transdermal patch, new application sites should be selected with each new system to avoid re-application to the same site within 7 days. |
References


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IMIE Program References
### Pentazocine—Recommendation and Talking Points

<table>
<thead>
<tr>
<th>IMIE</th>
<th>Pentazocine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Alternatives</strong></td>
<td>Codeine-, Hydrocodone-, Hydromorphone-, Oxycodone-, or Morphine-containing products Tramadol (see comments)</td>
</tr>
<tr>
<td><strong>Rationale</strong></td>
<td>Pentazocine is a narcotic analgesic that may cause more central nervous system (CNS) adverse effects, including confusion, hallucinations, falls, fractures, dependency, and withdrawal, than other commonly used narcotics.</td>
</tr>
</tbody>
</table>

**Comments**
- Pentazocine is a partial agonist and antagonist opioid analgesic.
- When partial agonist and antagonist opioid analgesics are being considered, the risk of unpleasant psychotomimetic side effects must be weighed against the benefits.
- Pentazocine is associated with a higher incidence of psychotomimetic reactions than traditional opiate agonist analgesics.
- In one trial, psychic changes occurred in 1.7 percent of patients receiving morphine versus 11.4 percent of pentazocine-treated patients.
- Also, elderly may have impaired renal function and dosing should be adjusted in these patients.
- Codeine, hydrocodone, hydromorphone, oxycodone, and morphine have an equal duration of action (four to six hours) and similar half-lives (two to three hours).
- Codeine and hydromorphone have been shown to cause less sedation, emesis, and respiratory depression as well.
- Tramadol, a second-step treatment on the World Health Organization (WHO) analgesic ladder, has been used effectively in patients with cancer-related pain.
- For moderate pain, a combination of non-opioid analgesics and opioid analgesics with moderate pain relieving properties is recommended (e.g. codeine, hydrocodone).
- For severe pain, a combination of non-opioid analgesics and opioid analgesics with strong pain relieving properties is recommended (e.g. morphine, oxycodone).
- Caution with concurrent administration of a Selective Serotonin Reuptake Inhibitor (SSRI) with tramadol because this may increase the risk for serotonin syndrome.

### Prescriber Talking Points

**IMIE:**
- This narcotic analgesic may cause more CNS adverse effects — including confusion, hallucinations, falls, fractures, dependency, and withdrawal—than other narcotics.
- Pentazocine is a partial agonist and antagonist opioid analgesic.
- When partial agonist and antagonist opioid analgesics are being considered, the risk of unpleasant psychotomimetic side effects must be weighed against the benefits.
- Pentazocine is associated with a higher incidence of psychotomimetic reactions than traditional opiate agonist analgesics.
- In one trial, psychic changes occurred in 1.7 percent of patients receiving morphine versus 11.4 percent pentazocine-treated patients.
- Also, the elderly may have impaired renal function and dosing should be adjusted in these patients.

**Recommended Alternatives:**
- Codeine, hydrocodone, hydromorphone, oxycodone, and morphine have an equal duration of action (four to six hours) and similar half-lives (two to three hours).
- Codeine and hydromorphone have been shown to cause less sedation, emesis, and respiratory depression.
- Tramadol, a second-step treatment on the WHO analgesic ladder, has been used effectively in patients with cancer-related pain.
- For moderate pain, a combination of non-opioid analgesics and opioid analgesics with moderate pain relieving properties is recommended (e.g., codeine, hydrocodone).
- For severe pain, a combination of non-opioid analgesics and opioid analgesics with strong pain relieving properties is recommended (e.g. morphine, oxycodone).
- Caution with concurrent administration of an SSRI with tramadol because this may increase the risk for serotonin syndrome.
**Patient Talking Points**

**IMIE:**
- This narcotic pain reliever may cause severe confusion and hallucinations which may increase the risk of falls and fractures.
- May be habit-forming.

---

**Recommended Alternatives:**
- Lower potential for confusion, hallucinations, falls, fractures, dependency, and withdrawal compared to pentazocine/acetaminophen.
- Codeine, hydrocodone, hydromorphone, oxycodone, and morphine work for an equal length of time.
- Codeine and hydromorphone have been shown to cause less drowsiness and vomiting.

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**References**

- DRUGDEX® System. Thomson Micromedex, Greenwood Village, Colorado; 2009 Available at: http://www.thomsonhc.com

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**IMIE Program References**

# Tertiary Tricyclic Antidepressants (TCAs)—Recommendation and Talking Points

<table>
<thead>
<tr>
<th>IMIE</th>
<th>Amitriptyline &gt; 30 mg/day</th>
<th>Imipramine &gt; 50 mg/day</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Alternatives</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antidepressant Use:</td>
<td></td>
<td>Neuropathic Pain Use:</td>
</tr>
<tr>
<td>▪ Selective Serotonin Reuptake Inhibitors (SSRIs)</td>
<td>Gabapentin</td>
<td></td>
</tr>
<tr>
<td>Citalopram</td>
<td>Pregabalin</td>
<td></td>
</tr>
<tr>
<td>Escitalopram</td>
<td>Duloxetine</td>
<td></td>
</tr>
<tr>
<td>Paroxetine (see comments)</td>
<td>▪ Secondary TCAs</td>
<td></td>
</tr>
<tr>
<td>Sertraline</td>
<td>Nortriptyline</td>
<td></td>
</tr>
<tr>
<td>▪ Secondary TCAs</td>
<td></td>
<td>Desipramine</td>
</tr>
<tr>
<td>Nortriptyline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desipramine</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Rationale** | These tertiary TCAs have strong sedating and anticholinergic properties. May worsen postural hypotension and cause falls as well as aggravate glaucoma. May cause urinary retention in patients with benign prostatic hypertrophy (BPH) or worsen heart block. Rarely the antidepressant of choice. |

| **Comments** | *Comments regarding alternatives for depression:*
| | ▪ SSRI s cause less dizziness, drowsiness, dry mouth, and constipation than tertiary TCAs.
| | ▪ Secondary TCAs are not preferred due to the increased incidence of postural hypotension and cardiac conduction delays. However, they can be considered for elderly who cannot tolerate or afford an SSRI.
| | ▪ Fluoxetine, an SSRI, is excluded due to its prolonged half-life. Fluoxetine is considered a high-risk Beers’ medication.
| | ▪ Paroxetine may cause drowsiness
| | *Comments regarding alternatives for neuropathic pain:*
| | ▪ There was no difference as measured by pain scales and global pain scores between amitriptyline and gabapentin in the treatment of diabetics with peripheral neuropathic pain.
| | ▪ Gabapentin was effective for the treatment of pain and sleep difficulties associated with diabetic peripheral neuropathic pain.
| | ▪ There are no head-to-head trial comparisons of gabapentin and duloxetine. Duloxetine at 60 mg/day and 120 mg/day was safe and effective in the management of diabetic peripheral neuropathic pain. Elderly participants had a safety profile with duloxetine comparable to their younger counterparts.
| | ▪ Pregabalin is safe and effective in decreasing pain associated with diabetic peripheral neuropathy (DPN), and also improved mood, sleep disturbance, and quality of life. Pregabalin was well-tolerated despite a greater incidence of dizziness and somnolence than placebo.
| | ▪ Most of an oral dose of pregabalin is excreted unchanged in the urine and dose adjustments are indicated. However, no guidance on renal adjustment or use in the elderly population has been published. |

| **Prescriber Talking Points** | IMIE: |
| | ▪ Possess strong sedating and anticholinergic properties. |
| | ▪ May worsen postural hypotension, cause falls, and aggravate glaucoma. |
| | ▪ May cause urinary retention in patients with BPH or worsen heart block. |
| | ▪ Rarely the antidepressant of choice. |
| | ------------------------------------------------------------------------------------------------------------------|
| | **Recommended Alternatives:** |
| | *Depression-* |
| | ▪ SSRI s cause less dizziness, drowsiness, dry mouth, and constipation than tertiary TCAs. |
| | ▪ Secondary TCAs can be considered for elderly who cannot tolerate or afford an SSRI. However, secondary TCAs are not preferred due to an increased incidence of postural hypotension and cardiac conduction delays. |
| | ▪ Fluoxetine is excluded due to its prolonged half-life as well as the fact that it is considered an inappropriate medication in the elderly. |
### Prescriber Talking Points (ctd)

**Neuropathic Pain-**
- There was no difference as measured by pain scales and global pain scores between amitriptyline and gabapentin in the treatment of diabetics with peripheral neuropathic pain.
- Gabapentin is effective for the treatment of pain and sleep difficulties associated with diabetic peripheral neuropathic pain.
- There are no head-to-head trial comparisons of gabapentin and duloxetine.
- Duloxetine at 60 mg/day and 120 mg/day was safe and effective in the management of diabetic peripheral neuropathic pain.
- Pregabalin is safe and effective in decreasing pain associated with DPN, and also improved mood, sleep disturbance, and quality of life. Pregabalin was well-tolerated despite a greater incidence of dizziness and somnolence than placebo.
- Majority of any oral dose of pregabalin is excreted unchanged in the urine and dose adjustments are indicated. However, no guidelines for renal adjustment or geriatric use have been published.

### Patient Talking Points

**IMIE:**
- May cause dizziness or drowsiness.
- May cause lightheadedness especially when standing up which may increase the risk of falls.
- May cause dry mouth, constipation, dry eyes, and headache.
- May worsen glaucoma.
- May cause trouble going to the bathroom.
- May worsen heart disease.

---

**Recommended Alternatives:**

**Depression-**
- SSRIs cause less dizziness, drowsiness, dry mouth, and constipation than tertiary TCAs.
- Nortriptyline and desipramine may be used as a less costly alternative to an SSRI, but they are less desirable because they may have more side effects.

**Neuropathic Pain-**
- Gabapentin is effective for treating pain and helping those patients that have sleep difficulties as a result of diabetic peripheral neuropathic pain.
- Pregabalin is safe and effective in decreasing pain associated with DPN, and also improved mood, sleep difficulties, and quality of life.

### References


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**IMIE Program References**

Thioridazine—Recommendation and Talking Points

<table>
<thead>
<tr>
<th>IMIE</th>
<th>Thioridazine</th>
</tr>
</thead>
</table>
| **Recommended Alternatives** | Aripiprazole  
 Ziprasidone  
 Risperidone  
 Quetiapine |
| **Rationale** | Thioridazine has a greater potential for central nervous system (CNS) and extrapyramidal adverse effects. The use of thioridazine is restricted to a second-line treatment for schizophrenia. |

**Comments**
- There is a variable response to the second generation (atypical) antipsychotics among patients, both in terms of efficacy and susceptibility to side effects of these medications.
- Due to the variable side effect profile of each of the agents, drug selection needs to be tailored to patient-specific characteristics.
- When choosing an atypical antipsychotic, the risks should be weighed against the benefits.
- Atypical antipsychotics are required to warn of increased mortality in elderly patients with dementia-related psychosis compared to placebo. A comprehensive analysis of 17 placebo-controlled trials showed a 1.7 percent increased incidence of death with atypical antipsychotics compared to placebo. Most of the deaths were due to cardiovascular complications or infection.
- Thioridazine is associated with a greater incidence of sedation, anticholinergic side effects, extrapyramidal symptoms (EPS), and orthostatic hypotension. Atypical antipsychotics are generally associated with a lower incidence of these side effects.
- Thioridazine may also cause retinopathy.
- Among the atypical antipsychotics, aripiprazole, ziprasidone, and risperidone are associated with the least sedation.
- Among the atypical antipsychotics, aripiprazole, quetiapine, risperidone, and ziprasidone are associated with the lowest incidence of anticholinergic side effects and orthostatic hypotension.
- Atypical antipsychotics can cause weight gain, hyperlipidemia, and diabetes.
- Among the atypical antipsychotics, aripiprazole, ziprasidone, and risperidone cause the least weight gain.
- Among the atypical antipsychotics, risperidone and quetiapine cause the least hyperlipidemia and diabetes. Aripiprazole and ziprasidone are also associated with a low incidence of hyperlipidemia and diabetes.
- Ziprasidone has been associated with QT prolongation at normal doses. Ziprasidone is contraindicated in patients with a preexisting heart condition.
- Risperidone can cause significant prolactin elevation and EPS at higher doses.
- No age-related dosage adjustments are needed in the elderly with aripiprazole or ziprasidone.
- Clozapine and olanzapine are associated with the highest incidence of weight gain, hyperlipidemia, and diabetes. They may also cause significant anticholinergic side effects and orthostatic hypotension. Clozapine and olanzapine are not recommended alternatives.

**Prescriber Talking Points**
- Thioridazine is associated with a greater potential for CNS and extrapyramidal adverse effects.
- Thioridazine is associated with a higher incidence of sedation, anticholinergic side effects, and orthostatic hypotension compared to atypical antipsychotics.
- Thioridazine may cause retinopathy.
- Thioridazine may cause ventricular arrhythmias and other cardiotoxic side effects.
- The use of thioridazine is restricted to a second-line treatment for schizophrenia.

Recommended Alternatives:
- When choosing an atypical antipsychotic, the risks should be weighed against the benefits.
- Atypical antipsychotics are required to warn of increased mortality in elderly patients with dementia-related psychosis compared to placebo. Most of the deaths were due to cardiovascular complications or infection.
**Prescriber Talking Points (ctd)**

- Atypical antipsychotics are generally associated with a lower incidence of sedation, anticholinergic side effects, EPS, and orthostatic hypotension than thioridazine.
- Among the atypical antipsychotics, aripiprazole, ziprasidone, and risperidone are associated with the least sedation.
- Among the atypical antipsychotics, aripiprazole, quetiapine, risperidone, and ziprasidone are associated with the lowest incidence of anticholinergic side effects and orthostatic hypotension.
- Atypical antipsychotics can cause weight gain, hyperlipidemia, and diabetes.
- Among the atypical antipsychotics, aripiprazole, ziprasidone, and risperidone cause the least weight gain.
- Among the atypical antipsychotics, risperidone and quetiapine cause the least hyperlipidemia and diabetes. Aripiprazole and ziprasidone are also associated with a low incidence of hyperlipidemia and diabetes. However, limited data exists on these two medications.
- Ziprasidone has been associated with QT prolongation at normal doses. Ziprasidone is contraindicated in patients with a preexisting heart condition.
- Risperidone can cause significant prolactin elevation and EPS at higher doses.
- No age-related dosage adjustments are needed in the elderly with aripiprazole or ziprasidone.

**Patient Talking Points**

**IMIE:**

- Thioridazine may cause drowsiness, dizziness, fainting, muscle spasm of the neck or face, or other uncontrollable body movements.
- Thioridazine is likely to cause dry mouth, constipation, and dry eyes.
- Thioridazine can cause changes in vision which may be partly irreversible.
- Thioridazine is not a first-line treatment for schizophrenia.

Recommended Alternatives:

- Atypical antipsychotics cause less nervous system side effects such as dizziness.
- Atypical antipsychotics generally cause less dry mouth, constipation, and uncontrolled body movements.
- Depending on the alternative atypical antipsychotic prescribed, the medication may cause weight gain, high cholesterol, and increased blood sugar.

**References**

- DRUGDEX® System. Thomson Micromedex, Greenwood Village, Colorado; 2009 Available at: http://www.thomsonhc.com

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IMIE Program References

### Trimethobenzamide—Recommendation and Talking Points

<table>
<thead>
<tr>
<th>IMIE</th>
<th>Trimethobenzamide</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Alternative</strong></td>
<td>Prochlorperazine</td>
</tr>
</tbody>
</table>

| **Rationale** | Trimethobenzamide is one of the least effective antiemetic drugs and it can cause extrapyramidal symptoms (EPS). |

| **Comments** | • Trimethobenzamide does not appear to be as effective as the phenothiazines for reduction of nausea and vomiting.  
• Metoclopramide is not recommended because the risk of EPS secondary to metoclopramide therapy is increased in the elderly population. In addition, the development of drug-induced EPS may be misinterpreted as a new disease or as being associated with the aging process.  
• Aprepitant and 5-HT3 receptor antagonist antiemetics (e.g., dolasetron, granisetron, ondansetron) are effective in the prevention of nausea and vomiting after an operation, chemotherapy, and radiation, but may not be the most cost effective therapy as an alternative to trimethobenzamide.  
• Promethazine and chlorpromazine are not recommended alternatives due to anticholinergic adverse effects. |

| **Prescriber Talking Points** | IMIE:  
• Trimethobenzamide is one of the least effective antiemetic drugs and it can cause EPS.  
• Not as effective as the phenothiazines for reduction of nausea and vomiting.  

Recommended Alternatives:  
• Prochlorperazine is an effective, low cost antiemetic with a lower risk of EPS and other side effects in the elderly.  
• Aprepitant and antiemetics that block the 5-HT3 receptor (e.g., dolasetron, granisetron, ondansetron) are effective in the prevention of nausea and vomiting after an operation, chemotherapy, and radiation, but may not be the most cost effective alternative therapy to trimethobenzamide.  
• Promethazine and chlorpromazine are not recommended alternatives due to anticholinergic adverse effects. |

| **Patient Talking Points** | IMIE:  
• Trimethobenzamide is one of the least effective medications to treat nausea and vomiting and it can cause abnormal movements of the face, tongue, head, neck, and shuffling gait.  
• Trimethobenzamide does not appear to work as well as prochlorperazine to treat nausea and vomiting.  

Recommended Alternatives:  
• Prochlorperazine has a lower potential for these side effects and may treat nausea and vomiting better than trimethobenzamide. |

• DRUGDEX® System. Thomson Micromedex, Greenwood Village, Colorado; 2009 Available at: http://www.thomsonhc.com  
• American Society of Health-System Pharmacists (ASHP) therapeutic guidelines on the pharmacologic management of nausea and vomiting in adult and pediatric patients receiving chemotherapy or radiation therapy or undergoing surgery. Am J Health Syst Pharm 1999 15;56(8):729-64. |

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**IMIE Program References**
## High Dose Benzodiazepines (BZDs) – Recommendation and Talking Points

<table>
<thead>
<tr>
<th>IMIE</th>
<th>Lorazepam &gt; 3mg/day</th>
<th>Oxazepam &gt; 60mg/day</th>
<th>Alprazolam &gt; 2mg/day</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended Alternatives</strong></td>
<td>Lorazepam ≤ 3 mg/day</td>
<td>Oxazepam ≤ 60 mg/day</td>
<td>Alprazolam ≤ 2 mg/day</td>
</tr>
</tbody>
</table>

### Rationale
According to the Beers Criteria for Potentially Inappropriate Medication Use in Older Adults, patients 65 and older are more sensitive to the CNS effects of benzodiazepines and may increase their risk for falls/fractures.

### Comments
The maximum recommended daily dose of lorazepam should not exceed 3 mg per day in these patients. The maximum recommended daily dose of alprazolam should not exceed 2mg per day in these patients. The maximum recommended daily dose of oxazepam should not exceed 60 mg per day in these patients.

### Prescriber Talking Points
**IMIE:**
- Patients over age 65 are at an increased risk for falls, fractures, confusion, dependence, and withdrawal with high-dose benzodiazepines.

**Recommended Alternatives:**
- Consider decreasing the dose of lorazepam to ≤ 3 mg per day
- Consider decreasing the dose of alprazolam ≤ 2 mg/day
- Consider decreasing the dose of oxazepam ≤ 60 mg/day

### Patient Talking Points
**IMIE**
- High-doses may cause dizziness, drowsiness, clumsiness, confusion, extreme unsteadiness, and an increased risk of falls and fractures.
- May become habit-forming.
- May need to gradually withdraw this medicine.

**Recommended Alternatives:**
- Lower doses may be safer for patients over 65 years of age
- As with other anti-anxiety or sleep agents, do not drink alcohol while taking this medication.

### References

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**IMIE Program References**
### Zolpidem > 6.5mg/day – Recommendation and Talking Points

<table>
<thead>
<tr>
<th>IMIE</th>
<th>Zolpidem immediate release &gt; 5mg/day or controlled-release &gt; 6.25 mg/day</th>
</tr>
</thead>
</table>
| **Recommended Alternatives** | Zolpidem ≤ 5mg  
 Zolpidem CR 6.25mg |
| **Rationale** | The daily dose of zolpidem exceeds the manufacturer's maximum recommended daily dose of 5 to 6.25 mg per day in patients ≥ to 65 years. |
| **Comments** | Exceeding this dose may result in impaired motor and/or cognitive performance after repeated exposure. |
| **Prescriber Talking Points** | IMIE:  
 • Patients > 65 years of age should be evaluated closely for impaired motor and/or cognitive performance  
 Recommended Alternatives:  
 • Consider reducing the dose to Zolpidem ≤ 5mg at bedtime or switch to Zolpidem CR 6.25mg (Ambien CR 6.25mg) at bedtime |
| **Patient Talking Points** | IMIE  
 • Higher doses of this medication may cause confusion, lightheadedness, falls  
 • Higher doses of this medication may result in excessive daytime drowsiness or “hangover effects”  
 Recommended Alternatives:  
 • Switch to Zolpidem ≤ 5mg at bedtime  
 • Switch to Zolpidem CR 6.25mg (Ambien CR 6.25mg) at bedtime |
 • Reents S, Seymour J. Clinical Pharmacology, Version 5.05 Gold Standard Multimedia Inc., producers, Tampa, FL; 2009  

Drug names are the property of their respective owners.

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**IMIE Program References**
Pharmacy Service Bill for Inappropriate Medications in the Elderly (IMIE)

An MTM opportunity has been identified for this patient. This form is used to provide feedback to Walgreens Health Services (WHS) as to how successful the suggested intervention was, as well as to provide information to appropriately reimburse for services rendered. WHS must receive this form by the Due Date printed above to receive full payment for your services. Failure to submit this form by this Due Date will result in a rejected service bill.

You must submit both pages of this form and include your signature on the second page of this form in order to receive payment.

<table>
<thead>
<tr>
<th>Patient Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Name: (Last Name, First Name)</td>
</tr>
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<table>
<thead>
<tr>
<th>Rx Info</th>
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<tbody>
<tr>
<td>Date of Service</td>
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<td>Auth Code:</td>
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</thead>
</table>
| Inappropriate Medications in the Elderly Review (IMIE) – This program targets medications to avoid in the elderly. Several lists of high-risk medications have been published (e.g. Beers, McLeod, and Zhan) to aid in more appropriate drug selection in this patient population.

| IMIE Conflict: |

| Key Message to Prescriber |

<table>
<thead>
<tr>
<th>Secondary Rx Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please fill out the following information for medication(s) added to the patient’s profile as a result of the intervention</td>
</tr>
</tbody>
</table>

| Secondary Rx Drug Name and Strength: | Qty: | Directions: |

<table>
<thead>
<tr>
<th>Patient Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person communicating with the patient:</td>
</tr>
<tr>
<td>☐ Pharmacist</td>
</tr>
<tr>
<td>Patient Contact Status: (Check all that apply)</td>
</tr>
<tr>
<td>☐ Counseled patient regarding clinical compliance</td>
</tr>
<tr>
<td>☐ Patient is not willing to discuss</td>
</tr>
<tr>
<td>Patient Contact Information:</td>
</tr>
<tr>
<td>☐ Phone: (_____) <strong><strong><strong>-</strong></strong></strong>_</td>
</tr>
<tr>
<td>☐ Best time of day to contact: <em><strong>:</strong></em> am / pm</td>
</tr>
</tbody>
</table>

Also complete Page 2
Intervention Assessment Feedback for Inappropriate Medications in the Elderly (IMIE)

Patient Name:                           DOB:                       Case Number:

You must submit both pages of this form and include your signature on the second page of this form in order to receive payment.

**Prescriber Feedback**

Prescriber Response: (Check one.)

- Prescriber agrees clinically with pharmacist’s recommendation
- Prescriber does not agree with clinically pharmacist’s concern
- The patient cannot tolerate the medication or it is contraindicated
- The patient’s diagnosis supports current therapy
- Prescriber is aware of the concern and Prescriber is monitoring the patient
- The patient has tried and failed the medication in the past
- The patient is no longer under my care
- No response after three attempts

Prescriber Action: (Check one.)

- Will change the patient’s therapy
- Will NOT change the patient’s therapy
- Will discuss with the patient

**Rx Feedback for Secondary Prescription**

RX Disposition:

- Rx Dispensed
- Rx Not Dispensed (Check why not dispensed.)
  - Financial Cost
  - Substituted OTC Product
  - Patient: (Check all that apply.)
    - Believes current medication is working (even though may not be feeling better)
    - Feels better since starting treatment with current medication and is not experiencing any side effects
    - Believes current medication is better than alternative medication
    - Is reluctant to try new medication
    - Has tried the alternative medication in the past without success
    - Has tried the alternative medication in the past, and although it has worked, it caused patient too many side effects
- Patient to talk with Prescriber
- Patient did not show up to pick up Rx (No Show)
- Do not know

**Pharmacist Contact Time and Signature**

Total time spent on MTM Intervention (including prescriber contact, prep work, patient consultation, and form completion): ______ min

Date of Consult:                      Pharmacy Name and Store Number:  NCPDP or NPI Number:

Phone:                                          Fax:

Pharmacist Signature:  Pharmacist Name: (Last Name, First Name)  Pharmacist ID:(Lic or NPI)

When complete, please fax or mail to:

Fax: (866) 352-5318     Mail: Walgreens Health Services  Questions?
OR 1411 Lake Cook Road MS L415          Phone: (866) 352-5310  Deerfield, IL 60015  Attention: MTM

Confidential Health Information: Health care information is personal information related to a person’s health care. It is being faxed to you after appropriate authorization or under circumstances that don’t require authorization. You are obligated to maintain it in a safe, secure and confidential manner. Re-disclosure of this information is prohibited unless permitted by law or appropriate customer/patient authorization is obtained. Unauthorized re-disclosure or failure to maintain confidentiality could subject you to penalties described in federal and state laws.

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Compliance and Persistency

Section D
Compliance and Persistency Section Overview

This section of the guide provides pharmacists at MTM-contracted community pharmacies with the tools needed to provide Compliance and Persistency services.

Program Summary. Read this section first for background and introduction information about C&P services, program goals, and an overall description of the program.

Network Community Pharmacy Workflow. This flow chart illustrates the procedures involved in performing C&P interventions, step-by-step.

Counseling Points. This section provides the rationale behind each C&P intervention, identifies common compliance problems, and offers talking points to help counsel patients on general noncompliance issues as well as drug class-specific noncompliance issues. The section includes the following components:

- C & P disease states, medication class and rationale
- General counseling points that apply to all disease states
- Specific disease state/medication counseling points

Due to the number of formulary plans, recommendations provided are independent of preferred formulary choices, step-care programs, and prior authorizations.

Scripts

These scripts for telephone and face-to-face C&P interactions with patients will help ensure that you collect information in the format needed to complete the Pharmacy Service Bill.

- Type 1: New to Therapy Point-of-Service Script. Use this script after an MTM patient picks up a new medication from the pharmacy. It is designed to help you confirm the indication for the new therapy, and address any concerns the patient may have.

- Type 2: Late Refill Telephone Script. Use this script when you call an MTM patient who has not refilled a medication that is > 14 days past due. It is designed to help you find out why the medication has not been refilled, gather information about reasons for noncompliance, and create an opportunity to refill the medication.

- You may also wish to give the patient a copy of the C&P patient education handout, Getting the Most Benefits with the Least Risk - Tips for Taking Medication, located in Section H of this guide.

Both scripts create opportunities to counsel patients on compliance and best practices for taking medications.

Service Bill and Intervention Assessment Feedback Form. This section provides a sample of the C&P billing form. This form is used for submitting bills for C&P services and collecting prescriber and patient feedback to provide a better picture of the patient’s medication therapies, secure reimbursement, document the outcome of the intervention, and to help ensure that the consultation is provided correctly. A printable copy of the Service Bill and Intervention Assessment Feedback Form for CP is provided in Section I.
Compliance and Persistency Program Summary

Introduction
Medication noncompliance can have profound medical consequences for adults and economically affect the healthcare system. Walgreens Health Services (WHS) is providing Medication Therapy Management (MTM) services through a nationwide delivery system of contracted community pharmacies. This summary provides an overview of the Compliance and Persistency (C&P) program.

Background
Appropriate medication use means taking medication exactly as prescribed by the doctor. Missing doses can lead to poor treatment outcomes. Supporting data demonstrate that healthcare costs increase, as do morbidity and mortality, when patients miss doses of their medications. This is particularly observed in elderly patients, who often carry with them debilitating health conditions and financial burdens.

Compliance and persistency are often used interchangeably when referring to general medication-taking behavior, but the definitions do differ. Compliance is defined as following a healthcare provider’s instructions regarding medication administration. The patient is merely following directions without being involved in a mutually active role with the provider. Persistency measures how long a patient stays on the prescribed therapy. A persistent patient has a sufficient supply of medication that enables timely medication administration. Optimizing both compliance and persistency will contribute to maximizing medication benefits while controlling overall healthcare costs in the MTM population.

Program Goals
The C&P program has three high-level goals aimed at ultimately improving C&P in the MTM population. These goals include the following:

- identify noncompliant and/or nonpersistent participants (>14 days past their refill due date)
- identify and resolve participant barriers and other issues surrounding C&P
- educate participants on the benefits of being compliant and persistent, and discuss the consequences of noncompliant and/or nonpersistent behavior

Goals of the C&P program include:

- Time to discontinuation: number of days patient is persistent on therapy
- Enroll all appropriate patients in a refill reminder program (if available)
- Identify the most common reasons for noncompliance and/or nonpersistency*
- Decrease the amount of doses missed in a given week*
- Identify the most common methods used as a daily medication reminder*
- Minimize the number of Type II interventions (see Program Description)

* Goals measured subjectively based on patient response.

Interventions will be based on the following targeted diseases states and therapeutic classes
Heart Disease
- Amiodarone
- Angiotensin converting enzyme inhibitors (ACE-Is)
- Angiotensin receptor blockers (ARBs)
- Beta-blockers
- Calcium channel blockers
- Digoxin

Hypercholesterolemia
- HMG-CoA reductase inhibitors (“statins”)
- Fibric acid derivatives

Diabetes
- Sulfonylureas
- Meglitinides
- Alpha-glucosidase inhibitors
- Thiazolidinediones
- Biguanides

Ischemic Event Prevention
- Antiplatelet agents
- Anticoagulants

Parkinson’s Disease
- Levodopa-carbidopa products
- Catechol-O-methyltransferase (COMT) inhibitors
- Dopamine agonists

Major Depression
- Serotonin and Norepinephrine Reuptake Inhibitors (SNRIs)
- Monoamine oxidase inhibitors (MAOIs)
- Selective serotonin receptor inhibitors (SSRIs)

Osteoporosis
- Bisphophonates

Glaucoma
- Beta-blockers (ophthalmic)
- Prostaglandins (ophthalmic)
- Carbonic anhydrase inhibitors (ophthalmic)
- Alpha-agonists (ophthalmic)

Rheumatoid Arthritis
- Oral disease modifying anti-rheumatic drugs (DMARDs)
- Biological Response Modifiers

Respiratory Diseases: Asthma and Chronic Obstructive Pulmonary Disease
- Inhaled corticosteroids

Alzheimer’s Disease/Dementia
- Cholinesterase inhibitors
- N-methyl-d-aspartate (NMDA) receptor antagonist

Benign Prostatic Hyperplasia (BPH)
- 5-alpha reductase inhibitors
- Alpha-blockers

Program Description
The C&P program identifies participants who meet specific MTM eligibility criteria and are noncompliant or nonpersistent with a medication on the targeted C&P drug list. Once identified, the patient will receive one or a combination of unique interventions labeled Type 1 and Type 2 interventions. Each type is triggered at a different stage during the medication refill process. Type 1 interventions occur when a patient is new to therapy (NTT). Type 2 interventions occur when a patient is at more than fourteen days late refilling a prescription.

Pharmacists performing either of the two interventions will have available to them evidence-based tools designed to help the pharmacist work with participants. The pharmacist will also be provided with general and disease-specific counseling points to aid in participant education. Each intervention follows a script that allows for simplified discussions and methods of data collection. Each pharmacist is encouraged to engage in discussions about medication management with the patient beyond the recommended counseling points. The pharmacist will document the results of the clinical intervention.

References
**MedMonitor XR Network**  
**Community Pharmacy Workflow**  
**Scenario: Compliance & Persistency (C&P I)**  
*(New to Therapy)*

Pharmacy receives a “MTM Consultation Service Bill Report” via fax/web portal indicating that a CP “new to therapy” intervention opportunity has been identified for one of their patients.

Pharmacist reviews the “MTM Consultation Service Bill Report” and contacts the patient to discuss his/her new medication and provides new to therapy consultation, using the “Recommended Talking Points” provided on the service bill as reference when discussing the intervention.

Pharmacist submits the completed CP Service Bill to WHS MTM Department via fax/mail/web portal.

---

### CP Service Bill Outcomes

#### Recommended Talking Points

**WHAT TO DO:** Make sure patient can express the basics - name of medicine - what it’s used for - how to take it - what to do about missed doses - when you’ll know its working - what sides effects to expect and how to handle them  
- Make sure patient knows how medicine works and the benefits of therapy  
- Make sure patient can express his/her personal plan for remembering to take the medication and ordering refills on time  
- Create hope, focus patients to pay attention to small improvements in how they feel, this can improve compliance  
- Set reasonable expectations, may take 2-12 weeks to see full benefit

*Note: Abrupt D/C may cause mood changes, irritability, agitation, dizziness, paresthesias, headache*  

**NONADHERENCE FACTORS:** Social stigma of needing medication for depression; side effects (Nausea/vomiting/diarrhea, decreased libido, insomnia, weight changes with prolonged therapy)  
- Low motivation due to lack of a strong value proposition

#### Was the patient willing to discuss counseling points with you?  
(Document the answer on the pharmacy service bill)

- Yes □
- No □

#### Did the patient accept the offer to enroll in a refill reminder program during this intervention? (Document answer on the pharmacy service bill)

- Yes □
- No □
MedMonitor XR Network
Community Pharmacy Workflow
Scenario: Compliance & Persistency (C&P II)
(No Refill After 14 Days)

Pharmacy receives a “MTM Consultation Service Bill Report” via fax or web portal indicating that a CP “no refill after 14 days” intervention opportunity has been identified for one of their patients.

Pharmacist reviews the “MTM Consultation Service Bill Report” and contacts the patient to discuss why he/she has not refilled his/her medication, using the “Recommended Talking Points” provided on the service bill as reference when discussing the intervention.

If patient accepts offer to refill medication, pharmacist processes refill and completes CP Service Bill. If patient does not want refill, pharmacist makes the appropriate notes on the CP Service Bill (both scenarios result in payment for service).

Pharmacist submits CP Service Bill to WHS MTM Department via fax/mail or web portal.

Recommended Talking Points

DON'T ASSUME PATIENT IS NONADHERENT, HE/SHE MAY HAVE A VALID REASON FOR LATE REFILL
WHAT TO DO: Probe for reason patient is late (see page 2 for list of reasons)
- Express empathy if truly late, reinforce benefit of being adherent to therapy
- Address patient's fear, attitude, and belief concerns (e.g., denial of need to treat, side effects, lack of value)
- Problem solve patient's obstacles to adherence (e.g., forgetfulness, cost, transportation)
- If appropriate, offer to refill patient's prescription and sign them up for a refill reminder program
- Encourage patient to 'know his/her numbers' - encourage BP testing, seeing early results drives patient motivation
NONADHERENCE FACTORS
- Possible persistent dry cough may lead patients to D&C therapy if its unexpected or extremely bothersome
- Patient may be nonadherent because they do not 'feel' the medication working and thus feel there is lack of value

Pharmacist-to-Patient Phone Script

- I am reviewing your medication profile in our computer system and it shows that you have not refilled your prescription yet. Do you mind if I ask you a few questions about refilling or picking up your medication(s)?
- What do you usually do to remember to take your medication(s) each day?
- How many doses of medication(s) did you miss last week? (Document answer on the pharmacy service bill)
- Would you like us to have your prescription refilled right now? (Document refill status on the pharmacy service bill)
- (If this service is available) Would you like to enroll in a refill reminder program? This service is a great way to remember to get your prescription refills. You will receive a phone call when it's ready for you to pick up.
- Thank you for your time. Goodbye.
### Compliance and Persistency - Disease States, Medication Classes, and Rationale

<table>
<thead>
<tr>
<th>Disease States</th>
<th>Medication Class &amp; Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heart Disease</strong></td>
<td><em>Amiodarone</em></td>
</tr>
<tr>
<td>- Hypertension</td>
<td>▪ Poor adherence is associated with greater risk of mortality. ¹</td>
</tr>
<tr>
<td>- Atrial-Fibrillation</td>
<td><em>Anti-platelets/Anticoagulants</em></td>
</tr>
<tr>
<td>- Heart Failure</td>
<td>▪ Long-term aspirin therapy demonstrates a favorable benefit versus risk profile. ²</td>
</tr>
<tr>
<td>- Secondary Prevention of Cardiovascular Events (Post-MI)</td>
<td><em>ACE Inhibitors</em></td>
</tr>
<tr>
<td></td>
<td>▪ Compliance with this class of medication is important in heart failure and hypertension. The medications have been proven to slow the progression of disease complications and to decrease mortality and hospitalizations. ³</td>
</tr>
<tr>
<td></td>
<td>▪ Almost one-third of hospitalized patients stopped taking their ACE inhibitor within six months of hospital discharge. ⁴</td>
</tr>
<tr>
<td></td>
<td><em>Angiotensin Receptor Blockers</em></td>
</tr>
<tr>
<td></td>
<td>▪ Compliance with this class of medication is important in heart failure and hypertension. The medications have been proven to slow the progression of disease complications and to decrease mortality and hospitalizations. ³</td>
</tr>
<tr>
<td></td>
<td><em>Beta Blockers</em></td>
</tr>
<tr>
<td></td>
<td>▪ Low compliance to beta-blockers in patients who have survived a myocardial infarction results in an increased risk of death. ⁸</td>
</tr>
<tr>
<td></td>
<td>▪ Patients who take less than 80% of the prescribed dose of a beta-blocker medication have a four fold increased risk of developing a cardiovascular event compared to patients taking more than 90% of the prescribed dose. ⁵</td>
</tr>
<tr>
<td></td>
<td>▪ The risk is two fold for patients taking 80%-90% of the prescribed dosage compared to those adhering to the correct dose more than 90% of the time. ⁵</td>
</tr>
<tr>
<td></td>
<td><em>Calcium Channel Blockers</em></td>
</tr>
<tr>
<td></td>
<td>▪ When dosing with a beta-blocker or calcium channel blocker is erratic the patient will experience significant increases in systolic and diastolic blood pressure as well as heart rate during the days that immediately follow a missed dose. ⁵</td>
</tr>
<tr>
<td></td>
<td>▪ Some patients may experience rebound hypertension if non-compliant with their calcium channel blocker. ⁵</td>
</tr>
<tr>
<td></td>
<td><em>Digoxin</em></td>
</tr>
<tr>
<td></td>
<td>▪ Digoxin non-compliant patients had a marked decrease in the left ventricular ejection fraction. ⁶</td>
</tr>
<tr>
<td></td>
<td>▪ The cumulative rate of mortality from any cause in non-compliant patients was two fold higher than in compliant patients. ⁶</td>
</tr>
<tr>
<td></td>
<td>▪ Digoxin noncompliance, in part, increases the rate of both hospitalization and mortality due to worsening heart failure. ⁶</td>
</tr>
<tr>
<td></td>
<td>▪ A wide variety of placebo-controlled clinical trials have shown that digoxin can improve symptoms, quality of life, and exercise tolerance in patients with mild, moderate, or severe heart failure. ⁷</td>
</tr>
<tr>
<td></td>
<td><em>General Heart Disease Compliance Statistics</em></td>
</tr>
<tr>
<td></td>
<td>▪ Hypertension patients with 80%-100% adherence were significantly less likely to be hospitalized and to have less medical costs across all patients’ treated conditions. ¹²</td>
</tr>
<tr>
<td></td>
<td>▪ All-cause hospitalization rates were lowest in hypertension patients with 80%-100% adherence. ¹²</td>
</tr>
<tr>
<td></td>
<td>▪ In compliant hypertension patients, every additional dollar spent on drugs saved an average of $3.98 in medical costs. ¹²</td>
</tr>
<tr>
<td></td>
<td>▪ Heart failure patients with 80%-100% adherence were significantly less likely to be hospitalized. ¹²</td>
</tr>
<tr>
<td></td>
<td>▪ All-cause hospitalization rates were lowest in heart failure patients with 80%-100% adherence. ¹²</td>
</tr>
<tr>
<td>Diabetes</td>
<td>ACE Inhibitors</td>
</tr>
<tr>
<td>----------</td>
<td>----------------</td>
</tr>
<tr>
<td>• Compliance with this class of medication is important in diabetes. The medications have been proven to slow the progression of disease complications and to decrease mortality and hospitalizations.</td>
<td></td>
</tr>
<tr>
<td>• Almost one-third of hospitalized patients stopped taking their ACE inhibitor within six months of hospital discharge.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Anti-diabetic agents</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Patients with 80%-100% adherence were significantly less likely to be hospitalized and demonstrated less medical costs across all patients’ treated conditions.</td>
<td></td>
</tr>
<tr>
<td>• All-cause hospitalization rates were lowest in patients with 80%-100% adherence. These patients had a 13% risk compared to 30% for low compliance patients.</td>
<td></td>
</tr>
<tr>
<td>• A 20% increase in drug utilization results in $177 drug costs, but is offset by $1251 in disease-related medical cost reduction – a net savings of $1074/patient.</td>
<td></td>
</tr>
<tr>
<td>• Tight glycemic control has been proven to lower the incidence of microvascular complications and in turn reduce healthcare expenditure in elderly patients.</td>
<td></td>
</tr>
<tr>
<td>• These non adherent patients have poorer physical and mental functioning; greater probability of having any emergency department, primary care, specialty care, medical inpatient, and mental health costs.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMG-CoA Reductase Inhibitors (Statins)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Lipid-lowering drugs in Type 2 diabetes has demonstrated a reduction of 22%-24% in major cardiovascular events.</td>
<td></td>
</tr>
<tr>
<td>• Secondary prevention of cardiovascular mortality and morbidity can be achieved with lipid-lowering therapy in Type 2 diabetes with CAD.</td>
<td></td>
</tr>
<tr>
<td>• Statins are recommended for primary prevention of macrovascular complications in Type 2 diabetes with other cardiovascular risk factors.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hypercholesterolemia</th>
<th>HMG-CoA Reductase Inhibitors (Statins), Fibric Acid Derivatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Low compliance to statins in patients who have survived a myocardial infarction results in an increased risk of death.</td>
<td></td>
</tr>
<tr>
<td>• Clinical trials have reported reductions in mortality, coronary artery disease (CAD) death, and stroke up to 30%, 42%, and 31% respectively when using statin therapy.</td>
<td></td>
</tr>
<tr>
<td>• In a cohort study of 5590 post-MI patients, adherence &gt; 80% had significant lower risks of further MI and of all-cause mortality.</td>
<td></td>
</tr>
<tr>
<td>• In clinical trials, statins have been proven to decrease mortality and morbidity and are strongly recommended as secondary prevention for patients with established CAD.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ischemic Event Prevention</th>
<th>Anti-platelets/ Anticoagulants</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Long-term aspirin therapy demonstrates a favorable benefit versus risk profile.</td>
<td></td>
</tr>
<tr>
<td>• Non-compliance to warfarin therapy can subsequently cause a stroke, deep vein thrombosis (DVT), pulmonary embolism (PE), or a cardiovascular event.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Osteoporosis</th>
<th>Bisphosphonates</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The risk of hip fractures in an untreated white or Hispanic woman is 20% over a lifetime.</td>
<td></td>
</tr>
<tr>
<td>• The risk of developing any type of fracture in this population increases to 50% over a lifetime.</td>
<td></td>
</tr>
<tr>
<td>Parkinson’s Disease</td>
<td>Anti-Parkinson’s agents</td>
</tr>
<tr>
<td>--------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td></td>
<td>For patients with more advanced disease, frequently missed or extra doses often have a more immediate motor or behavioral impact.</td>
</tr>
<tr>
<td></td>
<td>To alleviate a perceived treatment deficiency, practitioners may respond with medication schedule adjustments, which can result in additional unwarranted consequences including hospitalization.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major Depression</th>
<th>Anti-depressants (SSRIs and MAOIs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In order to successfully combat depression, adherence to the American Psychiatric Association (APA) recommended guideline is essential.</td>
</tr>
<tr>
<td></td>
<td>The risk involved with non-adherence is a relapse occurrence, which can cause a decline in the ability to care for concomitant diseases, lost productivity, and potentially suicide.</td>
</tr>
<tr>
<td></td>
<td>Missing doses or taking partial doses of SSRIs or MAOIs during the acute, continuation, or maintenance periods could result in non-response, relapse or recurrence. Taking longer drug holidays could result in discontinuation symptoms.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Glaucoma</th>
<th>Anti-glaucoma agents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>When topical and systemic agents are used properly the risk of visual impairment can be significantly reduced in elderly patients with glaucoma.</td>
</tr>
<tr>
<td></td>
<td>Because glaucoma progresses slowly, long-term adherence is crucial to improving clinical and financial outcomes of treatment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rheumatoid Arthritis</th>
<th>Disease Modifying Antirheumatic Drugs (DMARDs) &amp; Biological Response Modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The patients that are typically less adherent are those with mild disease who are not experiencing frequent or debilitating pain; however, complying with medications may slow the progression of the disease and improve functioning.</td>
</tr>
<tr>
<td></td>
<td>Preventing joint damage is possible with early initiation of DMARDs and following a persistent regimen.</td>
</tr>
<tr>
<td></td>
<td>Quality of life and patient comfort are affected by patient compliance, resulting in improved patient desire to adhere to medication regimens in those with severe or progressive disease.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chronic Respiratory Diseases:</th>
<th>Inhaled Corticosteroids (ICS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma</td>
<td>Studies have shown that compliance with the mainstay of asthma treatment, ICS, is low.</td>
</tr>
<tr>
<td>Chronic Obstructive Pulmonary Disease</td>
<td>The consequences of non-compliance include increased symptoms and asthma exacerbations, both of which can lead to increased morbidity.</td>
</tr>
<tr>
<td></td>
<td>Each 25% increase in the proportion of time without ICS medication resulted in a doubling of the rate of asthma-related hospitalization.</td>
</tr>
<tr>
<td></td>
<td>Population studies of asthma in the elderly have shown that unlike many younger adults who often require no medications or just as-needed beta-agonist therapy for occasional symptoms, most older patients with asthma need continuous treatment programs to control their disease.</td>
</tr>
<tr>
<td></td>
<td>The use of the ICS, fluticasone, resulted in improved spirometry values and fewer symptoms, and reduced the number of disease exacerbations compared with those who used placebo.</td>
</tr>
</tbody>
</table>
Poorer medication adherence was associated with a 5% increase in total annual physician visits.12
Better medication adherence was associated with a 20% decrease in annual hospitalization.12
Additional pulmonary complications and severe comorbidities were associated with increases in health care utilization and costs.12

**Alzheimer’s Disease**

**Anti-Alzheimer’s agents**

- Compliance with therapy (cholinesterase inhibitors) is important to slow cognitive decline.33

**Benign Prostatic Hyperplasia (BPH)**

**5-alpha Reductase Inhibitors**

- If no therapy is started, the time to progression to AUR or surgery will depend on individual risk factors (symptoms):31
  1. Change in volume and force of urine stream
  2. Bladder emptying sensation
  3. Enlarged prostate
- Each additional risk factor increases the incidence of AUR or surgery:32
  1 risk factor = 9% risk
  2 risk factors = 16% risk
  3 risk factors = 37% risk
- These risk factors are modifiable by consistent intake of 5-alpha reductase inhibitors. Decreasing the number of risk factors will minimize the risk of developing an AUR or need for surgery. Therefore, compliance is essential.

References:

7) G. William Dec. Medical Clinics of North America. Digoxin remains useful in the management of chronic heart failure;Volume 87 • Number 2 • March 2003
## Compliance & Persistency Types I and II - General Counseling Points
(apply to all disease states)

<table>
<thead>
<tr>
<th>Identified Event/Issue</th>
<th>Counseling Points</th>
</tr>
</thead>
</table>
| **New to therapy**             | ▪ When medications are not taken exactly as instructed by your doctor, they may not work properly to treat your condition.  
▪ Your disease state may worsen if you are non-compliant and this may result in costly and unwanted visits to the doctor’s office or emergency room. It may be easier to be compliant with medications than to deal with these consequences.  
▪ Forgetfulness is one of the most common reasons for non-compliance. Using multiple reminders is a good way to stay on track. |
| **Forgetfulness**              | ▪ Refill Reminder Program (if available) is a great way to remember to get your prescription refills. You will receive a phone call when it's ready for you to pick up.  
▪ Try to keep your medications in the same location of your house where you are more likely to see them and avoid misplacing them.  
▪ Keep reminder notes posted on your calendar, refrigerator, mirrors, etc.  
▪ If your daily dosing schedule for the medication is the same, then try to take your medicine at the same time every day as part of a daily routine (e.g., right after you brush your teeth in the morning).  
▪ Ask a friend, family member, or trusted neighbor to remind you to take your medicine.  
▪ If you are taking multiple medications, try using a weekly pillbox to keep you organized and be aware of which medicines you have taken or still need to take. |
| **Cost issues**                | ▪ Patient assistance programs  
▪ Pharmaceutical Manufacturer’s Association (PMA)  
▪ 1-800-PMA-INFO  
▪ www.needymeds.com  
▪ www.rxassist.org  
▪ www.helpingpatients.org  
▪ www.rxhope.com  
▪ www.benefitscheckuprx.org  
▪ Encourage generic medications  
▪ Suggest less expensive medications |
| **Child safety caps**          | ▪ Recommend non-safety caps for certain patients |
| **Splitting tablets**          | ▪ Recommend a tablet splitter or offer to cut the tablet for the patient |
| **Side effects**               | ▪ Counsel patient  
▪ Contact prescriber if necessary |
| **“Too” many medications**     | ▪ Special labeling techniques  
▪ Medication consolidation by recommending combination products when available and covered by insurance plan or affordable to patient  
▪ Suggest alternative medications with less frequent dosing |
| **Feeling of little or no benefit** | ▪ Educate the patient on the medication (e.g., time of onset)  
▪ Educate the patient on the importance of the medication in relation to the disease state it is treating. Be sure to stress that although the patient does not feel like it is working, that in most cases it is. |
<table>
<thead>
<tr>
<th>Patient doesn’t feel sick</th>
<th>▪ Educate the patient on the disease state (e.g., silent disease) and/or medication (e.g., medication is for preventing complications)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confused or lack of understanding about medication or disease state</td>
<td>▪ Telephonic “brown bag”</td>
</tr>
<tr>
<td></td>
<td>▪ Special labeling techniques</td>
</tr>
<tr>
<td></td>
<td>▪ Medical device technique review</td>
</tr>
<tr>
<td></td>
<td>▪ Suggest/counsel caregiver</td>
</tr>
<tr>
<td></td>
<td>▪ Educate patient on the medication and/or disease state</td>
</tr>
<tr>
<td>Communication barriers</td>
<td>▪ Language</td>
</tr>
<tr>
<td></td>
<td>▪ Offer languages for prescriptions or translation services where applicable</td>
</tr>
<tr>
<td></td>
<td>▪ Vision</td>
</tr>
<tr>
<td></td>
<td>▪ Vision screening</td>
</tr>
<tr>
<td></td>
<td>▪ Face-to-face with the blind</td>
</tr>
<tr>
<td></td>
<td>▪ Counsel on touch and feel</td>
</tr>
<tr>
<td></td>
<td>▪ Offer larger print materials (if available)</td>
</tr>
<tr>
<td></td>
<td>▪ Hearing</td>
</tr>
<tr>
<td></td>
<td>▪ Suggest hearing aids</td>
</tr>
<tr>
<td></td>
<td>▪ Telephone with volume control</td>
</tr>
<tr>
<td></td>
<td>▪ Offer additional written materials</td>
</tr>
<tr>
<td></td>
<td>▪ Literacy</td>
</tr>
<tr>
<td></td>
<td>▪ Verbal counseling using patient friendly terms</td>
</tr>
<tr>
<td></td>
<td>▪ Pictorial instructions</td>
</tr>
</tbody>
</table>

This information sheet is intended to enhance the pharmacist’s knowledge and aid discussions with prescribers and patients. This information sheet does not replace clinical judgment. Additional patient counseling may be necessary. This information sheet should not be given to patients.
## Compliance & Persistency Types I and II - Specific Disease State/Medication Counseling Points

<table>
<thead>
<tr>
<th>Disease</th>
<th>Medication Class</th>
<th>Counseling Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atrial Fibrillation$^{12}$</td>
<td>Amiodarone</td>
<td>▪ Poor adherence is associated with greater risk of mortality</td>
</tr>
<tr>
<td>Hyperlipidemia$^{1,3,4}$</td>
<td>Fibric acid Derivatives</td>
<td>▪ These medications have been proven to lower the risk of developing serious heart conditions by decreasing your cholesterol.</td>
</tr>
<tr>
<td></td>
<td>HMG-CoA Reductase Inhibitors (“Statins”)</td>
<td>▪ They may prevent heart attacks.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ You may not necessarily feel any symptoms from high cholesterol, but it is very important to take this medication consistently and correctly to prevent serious future complications such as heart disease, clogged arteries which can cause a heart attack, or severe chest pain called angina.</td>
</tr>
<tr>
<td>Hypertension$^{5,6,7,8}$</td>
<td>ACE Inhibitors</td>
<td>▪ When taken appropriately these medications can decrease the risk of complications including heart disease, heart failure, kidney failure, stroke, and clogged arteries.</td>
</tr>
<tr>
<td></td>
<td>Angiotensin Receptor Blockers</td>
<td>▪ See ACE Inhibitors.</td>
</tr>
<tr>
<td></td>
<td>Beta-Blockers</td>
<td>▪ Missing a dose of medication may cause unpleasant symptoms from missing the dose, like rapid heartbeat and palpitations.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Studies have shown that the risk of death is significantly lower in those who take their medications exactly as prescribed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ You may not feel any symptoms of high blood pressure but taking your medications consistently and correctly is extremely important to prevent serious future complications including heart disease, heart failure, kidney failure, stroke, and clogged arteries.</td>
</tr>
<tr>
<td>Heart Failure$^{5,6,9,10,11}$</td>
<td>ACE Inhibitors</td>
<td>▪ When taken appropriately can decrease the risk of complications including: coronary artery disease, congestive heart failure, kidney failure, stroke, and clogged arteries.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Mortality is decreased with adherence to ACE Inhibitors.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Taking this medication consistently and correctly can improve your heart failure symptoms and allow you to do more on your own. Your heart’s function may also improve. Complications and worsening heart failure can be prevented by taking this medication appropriately.</td>
</tr>
<tr>
<td>Heart Failure (ctd)(^5,6,9,10,11)</td>
<td>Angiotensin Receptor Blockers</td>
<td>• See ACE Inhibitors.</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>-------------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Beta-Blockers</td>
<td></td>
<td>• If this medication is taken properly it may extend your life.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Significantly fewer hospitalizations are seen with people who are more compliant (80%-100%) with their medication.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Taking this medication consistently and correctly can improve your heart failure symptoms and allow you to do more on your own. Your heart’s function may also improve. Complications and worsening heart failure can be prevented by taking this medication appropriately.</td>
</tr>
<tr>
<td>Digoxin</td>
<td></td>
<td>• Non-compliance has been associated with worsening heart failure, increased hospitalizations, and possibly death.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Adherence to this medication has been shown to improve heart failure symptoms, improve quality of life, and increase the ability to do exercise.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Taking this medication consistently and correctly can improve your heart failure symptoms and allow you to do more on your own. Your heart’s function may also improve. Complications and worsening heart failure can be prevented by taking this medication appropriately.</td>
</tr>
<tr>
<td>Secondary Prevention of Cardiovascular Events(^13)</td>
<td>Antiplatelets Anticoagulants</td>
<td>• Missing doses or taking inappropriate amounts of warfarin can be dangerous and even life threatening. You should be closely monitored while taking this medication. When being taken for atrial fibrillation or valve replacement, it is extremely important to take this medication exactly as directed to prevent serious complications like bleeding or stroke.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• You may not have any symptoms, but taking your medications consistently and correctly is extremely important to prevent serious future complications. It is important that you understand the prevention benefit this medication offers you. Remembering to take the medication as directed can help to prevent future heart problems, stroke, or blood clots.</td>
</tr>
<tr>
<td>Diabetes(^9,14)</td>
<td>ACE Inhibitors</td>
<td>• These medications work to protect your heart and your kidneys. People with diabetes have a high risk of developing complications with major organs like your heart and kidneys.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• It is important to take this medication as prescribed to receive the benefits of this medication.</td>
</tr>
<tr>
<td></td>
<td>Anti-Diabetic agents</td>
<td>• Compliant patients have a lower risk of developing complications, being hospitalized, and have lower healthcare costs compared to those who are not.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Diabetes is a disease that will continue to become more complicated over time. The easiest way you can prevent or delay those complications is by taking your medications exactly as prescribed and to follow recommended lifestyle changes.</td>
</tr>
<tr>
<td>Disease (ctd.)</td>
<td>Medication Class</td>
<td>Benefits</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Diabetes (ctd.)</td>
<td>HMG-CoA Reductase Inhibitors (“Statins”)</td>
<td>These medications have been proven to lower the risk of developing serious heart conditions by decreasing your cholesterol.</td>
</tr>
<tr>
<td>Ischemic Event Prevention</td>
<td>Anti-platelets Anticoagulants</td>
<td>See Secondary Prevention of Cardiovascular events.</td>
</tr>
<tr>
<td>Osteoporosis</td>
<td>Bisphosphonates</td>
<td>This medication strengthens your bones to prevent fractures. You may not feel the effects of this medication, but it is important to take it daily in order to prevent a serious bone break or fracture.</td>
</tr>
<tr>
<td>Parkinson’s Disease</td>
<td>All agents</td>
<td>Missing doses of certain medicines (anticholinergics) may cause a rebound increase in parkinsonian symptoms.</td>
</tr>
<tr>
<td>Major Depression</td>
<td>SSRIss MAOIs</td>
<td>Abrupt stop of certain medications (sertraline) may lead to a recurrence of psychological symptoms and also withdrawal symptoms like fatigue and drowsiness. Nonadherence to therapy may result in a decreased ability to manage concomitant diseases, lost productivity, and potentially suicide. Missing even partial doses of MAOIs and SSRIs may result in non-response or relapse.</td>
</tr>
<tr>
<td>Glaucoma</td>
<td>All agents</td>
<td>Glaucoma is a condition that progresses slowly and long-term compliance is essential for improving symptoms, but you may not feel the effects of missing a dose. Maintaining compliance to therapy is important in preserving eye sight.</td>
</tr>
<tr>
<td>Rheumatoid Arthritis</td>
<td>DMARDs</td>
<td>Noncompliance may lead to discomfort and decreased quality of life. Complying with medications may help slow disease progression and improve functioning. Maintaining therapy may help in preventing joint damage.</td>
</tr>
<tr>
<td>Chronic Respiratory Diseases</td>
<td>Inhaled Corticosteroids</td>
<td>Noncompliance may lead to worsening asthma symptoms and recurrence of attacks, both of which may lead to complications and risk of death. Poor medication adherence may lead to increased prescriber visits and hospitalizations, thus increasing healthcare costs.</td>
</tr>
<tr>
<td>Alzheimer’s Disease/Dementia</td>
<td>All agents</td>
<td>Compliance with therapy for agents such as cholinesterase inhibitors is important to slow cognitive decline.</td>
</tr>
</tbody>
</table>

Drug names are the property of their respective owners.

This information sheet is intended to enhance the pharmacist’s knowledge and aid discussions with prescribers and patients. This information sheet does not replace clinical judgment. Additional patient counseling may be necessary. This information sheet should not be given to patients.

References

3) Canadian Medical Association Journal. The use of cholesterol-lowering medications after coronary revascularization; Volume 169 • Number 11 • November 25, 2003


10) G. William Dec. Medical Clinics of North America. Digoxin remains useful in the management of chronic heart failure;Volume 87 • Number 2 • March 2003


Compliance and Persistency Type 1:
New To Therapy
Patient Intervention Script

Patient Name: ____________________________ Patient Phone #: ______________________

- "At no cost to you, your health benefits administrator is providing you a Compliance and Persistency program. This program is fully funded by your health benefits provider. This service is available to help you better manage your medications and to help you remember to take your doses. In order to start this service, I need to ask you some questions."

- "What condition are you taking this medication for?" (Use patient’s answer to tailor compliance education. See Specific Disease State/Medication Counseling Points.)
  - Heart Disease
  - Hyperlipidemia
  - Hypertension
  - Heart failure
  - Secondary prevention of cardiovascular events
  - Arrhythmia (e.g., atrial fibrillation)
  - Diabetes
  - Ischemic event prevention (e.g., stroke)
  - Osteoporosis
  - Parkinson’s Disease
  - Major Depression
  - Glaucoma
  - Rheumatoid Arthritis
  - Chronic Respiratory Diseases
    - Asthma
    - Chronic obstructive pulmonary disease
  - Alzheimer’s Disease/Dementia
  - Benign Prostatic Hyperplasia
  - Other___________________________________

- "In order to try to estimate your level of compliance, I am going to ask you four simple yes or no questions." (Document answers on the Pharmacy Service Bill.)

Morisky Scale

Reference

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

1. “Do you ever forget to take your medicine?”
2. “Are you generally not careful about taking your medicine?”
3. “When you feel better, do you sometimes stop taking your medicine?”
4. “Sometimes if you feel worse when you take the medicine, do you stop taking it?”

_________ Total
* Summation of 0 signifies the least level of compliance.
* Summation of 4 signifies the most level of compliance.

* Summation of 0 or 1 signifies the level where pharmacist intervention would most benefit the patient. Patient may benefit from general counseling points and specific disease-state or medication counseling points. *(See General Counseling Points and Specific Disease State/Medication Counseling Points.)*
* Summation of 2 or above signifies the level where the patient is at a lower risk for nonadherence. *(See General Counseling Points.)*

- **Patient Contact Status (Document answer on the Pharmacy Service Bill.)**
  - Counseled patient regarding clinical compliance
  - Patient is not willing to discuss
  - Patient advised to speak with prescriber

- Did the patient accept the offer to enroll in a refill reminder program during this intervention? *(Document answer on the Pharmacy Service Bill.)*
  - Yes
  - No
  - Do not have a refill reminder program

- **Total time spent on MTM intervention: _____ minutes** *(Document answer on the Pharmacy Service Bill.)*
Compliance and Persistency Type 2:
Late Refill Reminder (Phone)
Patient Intervention Script

Patient Name: ____________________________ Patient Phone #: ______________________

At least three attempts to contact the patient should be made between the hours of 10 a.m.
and 8 p.m. (patient’s time zone) preferably within 72 hours of the identified intervention.
An optional Store Use Only patient contact tracking sheet is provided in Section I.

A. “Hello. My name is <PHARMACIST NAME>. I am calling from [pharmacy/call
center name]. Is <PATIENT NAME> available?”
Make person aware that this is NOT an emergency.

- If person not available, or another person answers, “No” or “May I take a
  message?” or “May I tell <PATIENT> why you’re calling?”
“It is concerning a matter of patient care, and I’m calling <PATIENT NAME>
to let him or her know about the services we provide. It isn’t urgent. Would
there be a better time I could reach him or her?”
Record callback date and time: Date (mm/dd/yy): __/__/__, Time: __:__ a.m. / p.m.

- If that person responds: “Can you tell me what it’s about?”
“We prefer to speak directly to <PATIENT NAME>.”
- If concern is expressed, reassure the person that there is no problem. If pressured
  for a reason why we need to speak directly to the patient, explain that
  [pharmacy/call center name] follows a general policy of confidentiality.
- If the patient is unable to communicate, ask what relationship the person
  answering the phone has to the patient. If you have determined that you are
  speaking with the primary caregiver, record caregiver’s name then proceed.
  Caregiver’s name: ______________________

B. “As part of the Compliance and Persistency service offered by your health
benefits provider, I am calling about medication(s) that your profile indicates
you are currently taking. This should only take approximately five minutes. Do
you have a few minutes now to discuss your medication?”

- If the patient answers, “Yes” go to C (below).
- If the patient opts out at this point, thank him/her for his/her time and end the call.
  Complete the Patient Opt-Out Form and fax to WHS.
- If the patient asks if this information is being shared with a pharmaceutical
  manufacturer, please state “We are offering this service to help keep our
  patients on their prescribed therapy and do not share personal health
  information. No information identifying you is shared with anyone outside
  of Walgreens Health Services.”

C. “I am reviewing your medication profile in our computer system and it shows
that you have not refilled your prescription yet. Do you mind if I ask you a few
questions about refilling or picking up your medication(s)?”

- If patient is not willing to discuss or answer questions, Document on the
  Pharmacy Service Bill and continue to G (below).
D. “What do you usually do to remember to take your medication(s) each day?”
- Keep the medication(s) in the same location
- Post reminder notes
- Take the medication(s) at the same time every day
- Take the medication along with a daily activity (e.g., right after brushing teeth)
- Have a friend, family member, or trusted neighbor remind me to take my medication(s)
- Use a daily, weekly, and/or monthly pillbox
- Other_______________________________

E. “How many doses of medication(s) did you miss last week?” (Document answer on the Pharmacy Service Bill.)
- None
- 1 to 2 doses
- 3 to 4 doses
- More than 4 doses
- Cannot remember

- If patient missed any dose(s): “What is/are the reason(s) you missed doses of your medication?” (Document answer(s) on the Pharmacy Service Bill.)
  - Patient forgot to take dose(s)
  - Patient forgot to refill medication
  - Patient had drug samples
  - Prescriber discontinued medication
  - Patient filled medication at another pharmacy
  - Prescriber changed strength, dose, or schedule
  - Patient has cost issues
  - Patient cannot open child safety caps
  - Patient is splitting tablets
  - Patient has side effects
  - Patient is taking “too many” medications
  - Patient feels little or no benefit from the medication
  - Patient doesn’t feel sick
  - Patient is confused or has a lack of understanding about medication or disease state
  - Patient is taking complementary alternatives and/or OTC medicines instead
  - Negative media
  - Patient was in hospital
  - Patient was on vacation and did not refill medication
  - Other_______________________________

F. Once you have determined all reasons for noncompliance, provide compliance tips/suggestions (see suggestion list below). Also refer to the General Counseling Points.
- Try to keep your medications in the same location of your house where you are more likely to see them and avoid misplacing them.
- Keep reminder notes posted on your calendar, refrigerator, mirrors, etc.
If your daily dosing schedule for the medication is the same, then try to take your medicine at the same time every day as part of a daily routine (e.g., right after you brush your teeth in the morning).

Ask a friend, family member, or trusted neighbor to remind you to take your medicine.

If you are taking multiple medications, try using a weekly pillbox to keep you organized and aware of which medicines you have taken or still need to take.

“I will update your medication profile with the information you just shared with me.”

G. “Would you like us to have your prescription refilled right now?” (Document refill status on the Pharmacy Service Bill.)

H. (If this service is available) “Would you like to enroll in a refill reminder program? This service is a great way to remember to get your prescription refills. You will receive a phone call when it's ready for you to pick up.” (Document answer on the Pharmacy Service Bill.)

I. “Thank you for your time. Goodbye.”
   Total time spent on MTM intervention: _______ minutes (Document answer on the Pharmacy Service Bill.)
Pharmacy Service Bill for Compliance and Persistency (C&P)

Due Date: 02/19/2007

An MTM opportunity has been identified for this patient. This form is used to provide feedback to Walgreens Health Services (WHS) as to how successful the suggested intervention was, as well as to provide information to appropriately reimburse for services rendered. WHS must receive this form by the Due Date printed above to receive full payment for your services. Failure to submit this form by this Due Date will result in a rejected service bill.

You must submit both pages of this form and include your signature on the second page of this form in order to receive payment.

Patient Info

<table>
<thead>
<tr>
<th>Patient Name: (Last Name, First Name)</th>
<th>DOB: (mm/dd/yyyy)</th>
<th>Gender:</th>
<th>Case #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smith, John</td>
<td>09/15/1939</td>
<td>M</td>
<td>123456</td>
</tr>
</tbody>
</table>

Rx Info

<table>
<thead>
<tr>
<th>Date of Service</th>
<th>Original Rx #:</th>
<th>NDC Number:</th>
<th>Drug Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/20/2007</td>
<td>123456</td>
<td>12345-67-890</td>
<td>Cosopt Eye Drops</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Auth Code:</th>
<th>Prescriber Name: (Last Name, First Name)</th>
<th>Prescriber DEA/NPI:</th>
<th>Prescriber Phone #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>654321</td>
<td>Smith, Janet</td>
<td>AS1234567</td>
<td>999-999-9999</td>
</tr>
</tbody>
</table>

Program Info

Compliance and Persistency Review (C&P) - This program identifies participants who meet specific MTM eligibility criteria and are non-compliant or non-persistent with a medication on the targeted C&P drug list, or who are new to a therapy.

C&P Conflict: Ophthal. CA Inhibitor-Need Refill

Recommended Talking Points

After reviewing your patient's refill frequency of his/her ophthalmic carbonic anhydrase inhibitor it appears that your patient is overdue for a refill. We are concerned that he/she may be non-adherent to the prescribed dosing regimen which may lead to sub-therapeutic effects.

Patient Feedback

Person communicating with the patient:

[ ] Pharmacist  [ ] Pharmacist Intern  [ ] Resident

Patient Contact Status: (Check all that apply)

[X] Counseled patient regarding clinical compliance

[ ] Patient is not willing to discuss

[ ] Patient advised to speak with Physician

[ ] No response after three attempts

Patient Contact Information:

[ ] Phone: (____) _______ - _________________

[ ] Fax: (____) _______ - _________________

[ ] eMail: _____________@____________.____

Best time of day to contact: ___:___ am / ___:___ pm

Also complete Page 2

Confidential Health Information: Health care information is personal information related to a person's health care. It is being faxed to you after appropriate authorization or under circumstances that don't require authorization. You are obligated to maintain it in a safe, secure and confidential manner. Re-disclosure of this information is prohibited unless permitted by law or appropriate customer/patient authorization is obtained. Unauthorized re-disclosure or failure to maintain confidentiality could subject you to penalties described in federal and state laws.

IMPORTANT WARNING: This message is intended for the use of the person or entity to whom it is addressed and may contain information that is privileged and confidential, the disclosure of which is governed by applicable law. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this information is STRICTLY PROHIBITED. If you have received this message in error, please notify us immediately.
**Intervention Assessment Feedback and Program Specific Information for Compliance and Persistency (C&P) 1 & 2**

**Patient Name:** John Smith  
**DOB:** 09/15/1939  
**Case Number:** 123456

You must submit both pages of this form and include your signature on the second page of this form in order to receive payment.

### CP 1 & 2 Programs  New to Therapy & Late Refill

Did the patient accept an offer to enroll in a Refill Reminder Program?

- [ ] Yes  
- [ ] No  
- [ ] Do not have a Refill Reminder Program

### CP 1 Program Only  New to Therapy

**Morisky Compliance Assessment Scale** - (Circle Yes or No for each question.)

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you ever forget to take your medicine?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Are you generally not careful about taking your medicine?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. When you feel better, do you sometimes stop taking your medicine?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Sometimes if you feel worse when you take the medicine, do you stop taking it?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** If answered yes to any above question, Please recommend compliance aids.

Scoring: 0 pt for each yes, 1 pt for each no. Morisky Scale: 0 = Non-Compliant... 4 = Compliant

### CP 2 Program Only  Late Refill

How many doses of medication(s) were missed last week?

- [ ] None  
- [ ] 1-2 Doses  
- [ ] 3-4 Doses  
- [ ] More than 4 Doses  
- [ ] Patient does not recall how many doses were missed

Noncompliance reasons (Check all that apply.)

**Patient:**
- [ ] Forgot to take dose(s)  
- [ ]Forgot to refill medication  
- [ ]Had drug samples  
- [ ]Filled medication at another pharmacy  
- [ ]Has cost issues  
- [ ]Cannot open child safety caps  
- [ ]Is splitting tablets  
- [ ]Has side effects  
- [ ]Is taking too many medications

**Physician:**
- [ ] Discontinued medication  
- [ ]Changed Strength or SIG

Refill status (Check one)

- [ ] Refilled before patient contact  
- [ ]Refilled with intervention today  
- [ ]Plan to refill soon  
- [ ] No plans to refill medication with prescriber consent  
- [ ] No plans to refill medication with no prescriber consent

### Pharmacist Contact Time and Signature

Total time spent on MTM Intervention (including doctor contact, prep work, patient consultation, and form completion): ______ min

<table>
<thead>
<tr>
<th>Date of Consult</th>
<th>Pharmacy Name and Store Number</th>
<th>NCPDP or NPI Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Walgreens #01234</td>
<td>1234567</td>
</tr>
</tbody>
</table>

**Phone:** 999-999-9999  
**Fax:** 999-999-9999

**Pharmacist Signature:**  
**Pharmacist Name:** (Last Name, First Name)  
**Pharmacist ID:** (Lic or NPI#)

When complete, please fax or mail to:

- **Fax:** (866) 352-5318  
- **Mail:** Walgreens Health Services  
- **OR**  
- **1411 Lake Cook Road MS L415**  
- **Deerfield, IL 60015**  
- **Questions?**  
- **Phone:** (866) 352-5310

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Ref Code: MFNB58CPPPH1207v1 04/17/2009 D23
Polypharmacy

Section E
Polypharmacy Section Overview

This section of the guide provides pharmacists at MTM-contracted community pharmacies with the tools needed to provide Polypharmacy services.

**Program Summary.** Read this section first for background and introduction information about polypharmacy services, program goals, and an overall description of the program.

**Network Community Pharmacy Workflow.** This flow chart illustrates the procedures involved in performing polypharmacy interventions, step-by-step.

**Patient Consultation Package.** The following seven components make up the Polypharmacy Patient Consultation Package. You will receive these documents via fax from the MTM Clinical Care Center following a polypharmacy review conducted by an MTM Clinical Care Center pharmacist.

- **Cover Letter and Instructions.** This will give you information about the polypharmacy review that was performed along with instructions for using each section of the Polypharmacy Consultation Package, including page numbers where each section can be found.

- **Service Bill and Consultation Checklist.** This checklist walks you through the steps involved in providing polypharmacy services. The service bill is used for submitting bills for polypharmacy services and collecting patient feedback.

- **Personal Medication Record—Pharmacist Version.** This document informs you about the medication therapies that were modified or identified as requiring patient education, describes actions required of you, provides additional instructions for the patient, and collects patient information and feedback.

- **Personal Medication Record—Patient Version.** This is designed to be kept by patients after you review it with them, for use as a reference guide at the patient’s home or care facility. It provides patients with a list of their current prescriptions and space for you or the patient to fill in names of OTC medications and herbal supplements, along with detailed dosing instructions. Medications that have been discontinued as a result of the polypharmacy review are listed. Patients’ known allergies are included on this form.

- **Medication Action Plan.** Along with the Personal Medication Record, this is designed to be kept by patients after you review it with them. It is intended for use as a reference guide at the patient’s home or care facility. The Medication Action Plan includes the following:
- A wallet card with a list of current prescription medications and known allergies, contact information for the patient’s primary pharmacy and prescriber, and space to write in OTC medications and herbal supplements currently taken

- A summary of pharmacist actions performed during the polypharmacy review and the medication therapies that were targeted for modification

- Additional recommendations by you or the MTM Clinical Care Center pharmacist

**Pharmacist Satisfaction Survey.** You will receive this via fax from an MTM Clinical Care Center following a polypharmacy review performed by an MTM Clinical Care Center pharmacist. This survey is used to assess the effectiveness of the consultation as well as your perceptions of the experience.

**Patient Education Handouts.** Educational handouts are also provided and are intended to be given to the patient to further enhance the knowledge of his/her medications and conditions. A MTM Clinical Care Center pharmacist will send patient-specific handouts that pertain specifically to that patient’s disease history and drug therapy.

**Patient Consultation Package: Step-by-Step Instructions for Completing the Forms.** This section provides you detailed instructions for filling out the Patient Consultation Package. Follow these steps and then submit the required forms to Walgreens Health Services for payment.

**Polypharmacy Consultation Patient Counseling Points.** Included in this guide, these additional patient counseling points provide an additional clinical tool to use during the polypharmacy consultation and serve as an additional educational aid for pharmacists. Due to the number of formulary plans, recommendations provided are independent of preferred formulary choices, step-care programs, and prior authorizations.

**Polypharmacy Consultation Appointment Telephone Script.** This script is for use by you or a pharmacy technician on your team when you wish to contact a patient to set up a polypharmacy face-to-face consultation. It includes a telephone-contact attempt tracking sheet.
Polypharmacy Program Summary

**Introduction**
Polypharmacy is the unwanted duplication of drugs often resulting when patients visit multiple prescribers or pharmacies. It may also include potentially harmful medication combinations, duplicate therapy, medications inappropriately prescribed, or the use of high-cost medications when more cost-effective alternatives are available. Walgreens Health Services is providing Medication Therapy Management (MTM) services through a nationwide delivery system of contracted community pharmacies. This summary provides an overview of the Polypharmacy program.

**Background**
Approximately one-third of the elderly population is at risk for polypharmacy and its complications. Over 20 percent of seniors are prescribed medications inappropriate for their age, one in four sees four or more prescribers, and one-third fill prescriptions at four or more pharmacies. These behaviors contribute to the risk that seniors taking five or more medications per day are twice as likely to experience preventable adverse drug reactions. In fact, nearly one-half (46 percent) of all elderly persons admitted to U.S. hospitals may be taking seven or more medications, and over 100,000 Americans die each year due to drug interactions.

Polypharmacy increases a patient’s risk for many ill effects, including incidence and severity of adverse events, falls and fractures, cognitive impairment, drug interactions, non-adherence, medication errors, hospitalizations, nursing home admissions, morbidity, and mortality. The occurrence of polypharmacy and its associated direct and indirect healthcare costs is largely underestimated since the use of over-the-counter medications and dietary supplements is generally not taken into consideration.

**Program Goals**
The goals of the Polypharmacy program are to identify and educate participants who may be at risk for adverse health events as a result of taking multiple medications, having multiple prescribers, and perhaps using multiple pharmacies. The pharmacist will:
- contact the participants’ prescribers and provide therapy recommendations, when appropriate
- address any compliance and persistency issues participants may have with their prescribed therapy
- reduce the number of prescription medications the patients are taking, if appropriate, and be an additional resource to help improve participants social support
- help to control overall healthcare costs and patient morbidity and mortality

Other specific goals include:
- reviewing drug therapies for appropriateness to help ensure a suitable
  - indication
  - effectiveness
  - dosage, regimen, and strength
  - quantity and duration of treatment
  - cost of therapy
- improving drug therapy outcomes by helping to ensure efficacy and minimizing toxicities by decreasing the number of drug conflicts (e.g., drug interactions, duplicate therapy)

Guidelines used to assure appropriate treatment include:
- Appropriateness of Therapy criteria (based on national treatment guidelines)
- Inappropriate Medications in the Elderly criteria (evidence-based literature from authors Beers, McLeod, and Zhan)
The Polypharmacy program is designed to accomplish these goals by providing the following interventions to all eligible participants:

- Conducting a pharmacist-driven:
  - profile review utilizing a Medication Appropriateness Index (MAI) and consulting the prescriber on identified issues
  - assessment of compliance and persistency with prescribed medication therapy and use of over-the-counter (OTC) products and herbal supplements
- Providing participants a face-to-face opportunity (preferred) or telephone consultation with their pharmacist to discuss their personalized:
  - Personal Medication Record (PMR)
  - Medication Action Plan (MAP)

**Program Description**

The Polypharmacy program identifies participants that may be at risk for polypharmacy as identified by the MTM eligibility criteria including a specified number of chronic medications, multiple disease states, and annual drug spend. Participant- and prescriber-centric interventions occur at the participant’s community pharmacy and at the MTM Clinical Care Center.

All targeted medication profiles will be reviewed by an MTM Clinical Care Center pharmacist, utilizing the MAI. The MTM pharmacist will contact the prescribing prescriber, if necessary, to discuss the identified medication-related issues and recommend possible therapeutic solutions. The MTM pharmacist will document the results of the clinical intervention and fax a copy of the MAP and PMR (Pharmacist and Patient versions) to the participant’s community pharmacist.

The patient is then contacted for an MTM consultation with a pharmacist. During the consultation, the pharmacist gathers supplemental information regarding the patient’s understanding and adherence to his/her prescribed therapy and use of OTC and herbal products. The pharmacist will document the patient’s responses. The pharmacist will have patient counseling points to help aid the consultation. The pharmacist reinforces the prescriber’s instructions and counsels the participant regarding the PMR and MAP. The participants are encouraged to share these documents with their prescribers at the time of their next appointment.

**References**

Community Pharmacy Workflow

Scenario: Polypharmacy

Pharmacy receives a Polypharmacy consultation package via fax/web portal indicating that a Polypharmacy intervention opportunity has been identified for one of their patients. The package serves to guide the pharmacist through the consultation and also provides a service bill allowing payment for services rendered.

Pharmacist reviews the Polypharmacy consultation package and contacts the patient to set up an appointment to discuss his/her medication therapy. (see phone script below)

Pharmacist reviews the “Personal Medication Record (PMR) – Pharmacist Version” and “Medication Action Plan (MAP)” pages of the Polypharmacy consultation package and contacts prescriber(s) to obtain new prescription(s), if applicable. New prescriptions are generated during the Polypharmacy review discussion between the patient’s prescriber(s) and a MTM Clinical Care Center pharmacist.

---

**Pharmacy Technician -to- Patient Phone Script**

- Hello, my name is <YOUR NAME>. I am a technician calling from <PHARMACY NAME> on behalf of <PLAN NAME>. I am calling in regard to the medication therapy management service included in your prescription benefit plan. As part of this service, your pharmacist and/or physician have reviewed your medication profile.

- Your <PHARMACY NAME> pharmacist would like to discuss your medications in person at the <CITY> <PHARMACY NAME>. The session will take approximately 15 minutes. The next open appointment is <DATE/TIME>. Does this work for you or when is a better time for you (and your caregiver, if applicable) to meet with the pharmacist?

- Your appointment has been scheduled. You are scheduled to meet with our <PHARMACY NAME> pharmacist, <PHARMACIST NAME>, on <REPEAT DATE AND TIME>. (Give address and directions if necessary.)

- We ask that you bring all of your current prescription bottles, OTC medications, and herbal supplements to the appointment to aid in the discussion.

- Do you have any questions?

- We look forward to seeing you at the appointment. Thank you for your time. Have a nice day.
Pharmacist obtains new prescription(s) from prescriber(s), if applicable.

Pharmacist performs standard prescription fill procedure, if applicable.

Pharmacist performs Polypharmacy consultation with patient during scheduled appointment. Pharmacist discusses complete medication therapy, new prescriptions and recommendations for improving medication therapy and completes patient-facing portion of Polypharmacy Service Bill. Pharmacist gives patient updated copies of the “Personal Medication Record (PMR) – Patient Version” and “Medication Action Plan (MAP)” pages of the Polypharmacy consultation package. (see sample talking points below)

Pharmacist submits updated “Personal Medication Record (PMR) – Pharmacist Version,” “Pharmacist Satisfaction Survey” and “Service Bill & Consultation Checklist” pages of the Polypharmacy consultation package to WHS MTM Department via fax/mail/web portal.

**Pharmacist-to-Patient Talking Points Example: Prescription Medications**

- Always take your medications as prescribed by your doctor.
- Take your medications at the proper time.
- Never take less or more medication than prescribed by your doctor.
- Do not double or take extra doses if you miss a dose.
- Know what your medications look like.
- Report any medication side effects you experience to your doctor.
- Discard medications if it is past its expiration date.
- Use the same pharmacy for all of your medications, if possible, so that one pharmacy has a complete list of all your medications and can check for drug interactions.
- Pharmacist: Provide any drug-specific special instructions (e.g. empty stomach, with food, no alcohol).
- Discuss the benefits of home or self monitoring of blood pressure, blood glucose levels, if appropriate.
A. Cover Letter and Instructions

An MTM polypharmacy review has been performed for the patient listed below:

Patient’s Name:  
Gender:  
Birth Date:  
Phone:  
Case Number:  

Please utilize the contents of this fax package to consult with the patient regarding recommended changes to their medication therapy plan. This fax contains the following documents:

<table>
<thead>
<tr>
<th>Page</th>
<th>Description and Instructions</th>
</tr>
</thead>
</table>
| A1   | **Cover Letter and Instructions**  
Please review the documents listed on this page prior to performing a polypharmacy consultation with this patient. The required actions for each page are given below. After reviewing this document, schedule an appointment with the patient to review the packet with him or her. **Ask the patient to bring all his or her medications (prescription, OTC, and herbal supplements) with them to the consultation.** |
| B1   | **Service Bill and Consultation Checklist**  
The Service Bill must be completed during the MTM polypharmacy consultation and faxed or mailed to Walgreens Health Services according to the instructions at the bottom of page B1. The service bill must be filled out completely to receive payment.  
The Polypharmacy Consultation Checklist should be used by the pharmacist to ensure that the consultation is performed correctly and the proper materials are returned to Walgreens Health Services for processing. |
| C1   | **Personal Medication Record (PMR) – Pharmacist Version**  
Medication therapy recommendations and/or changes may have been identified and discussed with one or more of the patient’s prescribing physicians by an MTM Call Center pharmacist.  
This page guides you, the pharmacist, through the consultation process by presenting an overview of recommended changes to the patient’s medications and questions designed to capture additional information regarding the patient’s overall medication therapy.  
**You must contact the appropriate physician to validate all prescriptions listed in the “Physician Recommended Changes to Therapy” table.** If any of the recommendations are not accepted by the prescribing physician or the pharmacist performing the review, indicate the response on the form and provide comments as to why the recommendations were not followed. Return this form according to the instructions on page B1. |
| D1   | **Personal Medication Record (PMR) – Patient Version**  
Review the enclosed PMR – Patient Version with the patient and give it to him or her to take home for future reference. If any of the recommended changes on the PMR – Pharmacist Version page are not accepted, make the appropriate change(s) on the PMR – Patient Version so that the patient’s ongoing medication therapy is accurately reflected on the form. |
| E1   | **Medication Action Plan (MAP)**  
Review the enclosed MAP with the patient and give it to him or her to take home for future reference. If any of the recommended changes on the PMR – Pharmacist Version page are not accepted, make the appropriate change(s) on the patient’s MAP so it accurately reflects the patient’s ongoing medication therapy. |
| F1   | **Pharmacist Satisfaction Survey**  
Answer all of the questions on the Satisfaction Survey completely and return the form according to the instructions given on page B1. |
**Medication Therapy Management**  
**Polypharmacy Patient Consultation Package**

**B. Service Bill and Consultation Checklist**  
Walgreens Health Services must receive this form by the Due Date printed above. Failure to submit this form by the due date will result in a rejected service bill.

<table>
<thead>
<tr>
<th>Patient Info</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient Name:</strong> (Last, First)</td>
<td>Gender:</td>
</tr>
<tr>
<td></td>
<td>Birth Date:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cardholder ID</th>
<th>Cardholder Rx Group</th>
<th>Case Number:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pharmacy Info</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pharmacy Name and Store #</strong></td>
<td><strong>NCPDP:</strong></td>
</tr>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Pharmacist Info</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pharmacist Name:</strong> (Last, First)</td>
<td><strong>Pharmacist ID:</strong> (LSC#)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consult Date/Date of Service:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Polypharmacy Consult Bill</th>
<th>Conflict</th>
<th>Service</th>
<th>Result:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please Check One:</td>
<td>Consult w/ Pt/MD</td>
<td>Pt Assessment</td>
<td>☐ Regimen Changed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Drug Therapy Unchanged</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Therapy Changed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Follow-Up/ Report</td>
</tr>
</tbody>
</table>

**Patient Information:**

1. **Patient Information: (Please provide)**
   - Phone: (_____) _______ - _________________
   - Fax: (_____) _______ - _________________
   - Best time of day to contact: ____:___ am / ___:___ pm
   - eMail: _____________@___________________

2. What is the patient’s height and weight?
   - Height: ft: in.
   - Weight: lbs:

3. Has the patient been counseled about the benefits of receiving a flu and/or pneumonia shot? (Check One)
   - ☐ Yes
   - ☐ No

4. **Total time spent on MTM intervention** (including doctor contact, prep work, patient consultation, and form completion):
   - ______________ min

This form meets Health Insurance Portability and Accountability Act confidentiality requirements.

**Polypharmacy Consultation Checklist**

- Confirm that you, the pharmacist, have taken the following actions:
  - ☐ Recommended changes to drug therapy have been verified with appropriate physician(s).
  - ☐ Recommended changes to drug therapy have been reviewed with the patient who understands the changes.
  - ☐ Patient has been given the patient version of the Personal Medication Record (PMR); it accurately reflects the patient’s current drug therapy and the patient understands how to use it.
  - ☐ Patient has been given the Medication Action Plan (MAP); it accurately reflects the patient’s current drug therapy and the patient understands how to use it.
  - ☐ Walgreens Health Services must receive this form by: ______________

- Return the following pages to Walgreens Health Services:
  - ☐ Completed Service Bill
  - ☐ Completed Personal Medication Record (PMR) - Pharmacist Version
  - ☐ Completed Pharmacist Satisfaction Survey

Mail to: Walgreens Health Services  
1411 Lake Cook Road MS L415  
Deerfield, IL 60015  
Attention: MTM  
OR FAX to: 1-866-352-5318

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Ref Code: MFAMSBWHPH1107v1
C. Personal Medication Record (PMR) – Pharmacist’s Version

<table>
<thead>
<tr>
<th>Medication</th>
<th>Doses per Day</th>
<th>Days Supply</th>
<th><strong>MPR%</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oldest Fill Date on File</td>
<td>Medication</td>
<td>Doses per Day</td>
<td>Days Supply</td>
</tr>
<tr>
<td>D/C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEW</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Medication Under Review:**

**Physician Recommended Changes to Therapy:**

This is NOT a valid prescription blank. You MUST contact the physician directly to verify any changes to drug therapy.

<table>
<thead>
<tr>
<th>Effective Date</th>
<th>Medication</th>
<th>Doses per Day</th>
<th>Days Supply</th>
<th>Recommended Action</th>
<th>Concern</th>
<th>Physician Name/Phone</th>
<th>Change Rejected (Check One)</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Effective Date]</td>
<td>Medication</td>
<td>Doses per Day</td>
<td>Days Supply</td>
<td>Recommended Action</td>
<td>Concern</td>
<td>Physician Name/Phone</td>
<td>Change Rejected (Check One)</td>
</tr>
<tr>
<td>[Changed Dosage] [Compliance Education]</td>
<td>[Indication] [Late Refill History]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Use Alternative Drug]</td>
<td>[Effectiveness]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Discontinue]</td>
<td>[Cost]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[New Therapy]</td>
<td>[Duration]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Compliance Education] [Late Refill History]</td>
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</tbody>
</table>

**The Medication Possession Ratio is a measure of medication compliance and \( \frac{\text{sum (total days supply)}}{\text{days in evaluation period (evaluation period is last 120 days)}} \)**

1. Mark the “Change Rejected” column ONLY if change was rejected. (Indicate who rejected the change: Dr = Doctor, Pt = Patient)

Provide reason for rejected change(s):

**Medical Condition Assessment – Ask the patient the following questions:**

4. Confirm the following medical conditions: (Circle one)

<table>
<thead>
<tr>
<th>Disease 1</th>
<th>Y</th>
<th>N</th>
<th>Disease 2</th>
<th>Y</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disease 3</td>
<td>Y</td>
<td>N</td>
<td>Disease 4</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Disease 5</td>
<td>Y</td>
<td>N</td>
<td>Disease 6</td>
<td>Y</td>
<td>N</td>
</tr>
</tbody>
</table>

5. Are there any additional medical conditions you are being treated for?

List conditions:

6. What OTCs and herbal supplements are you currently taking?

List:

**Compliance and Persistence Assessment – Please check the appropriate answers**

7. How many doses of medication(s) were missed last week? (Check one)

<table>
<thead>
<tr>
<th>None</th>
<th>1 to 2</th>
<th>3 to 4</th>
<th>More than 4</th>
<th>Patient does not recall</th>
</tr>
</thead>
</table>

8. What was the reason for non-compliance? (Check all that apply)

<table>
<thead>
<tr>
<th>Forgot to take dose</th>
<th>Forgot to refill medication</th>
<th>Had drug samples</th>
<th>Filled med at other pharmacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has cost issues</td>
<td>Is splitting tablets</td>
<td>Has side effects</td>
<td>Confused about med/disease</td>
</tr>
<tr>
<td>Was on vacation and did not refill med</td>
<td>Perceives little or no benefit from med</td>
<td>Cannot open child safety caps</td>
<td>Taking complimentary OTC instead</td>
</tr>
<tr>
<td>Negative Media</td>
<td>Does not feel sick</td>
<td>Was in hospital</td>
<td>Taking too many meds</td>
</tr>
<tr>
<td>Physician D/C’d med</td>
<td>Physician changed strength or SIG</td>
<td>Other:</td>
<td></td>
</tr>
</tbody>
</table>

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Ref Code: MFAMPRWHIPH0307 E9
Medication Therapy Management  
Polypharmacy Patient Consultation Package  

Patient Name:  
Gender:  
Birth Date:  
Phone:  
Case Number:  
Pharmacy Contact:  
Ph:  

D. Personal Medication Record (PMR) – Patient Version

Pharmacist: Please give this page to the patient following review.  
*If the patient denies any of the medication changes, you are responsible for alerting the prescriber and manually adjusting the patient’s PMR and MAP.  

Patient: Please use this as a reference on how to take your medications properly.

Current Medication List:  Enter the number of doses taken in the appropriate time of day box

<table>
<thead>
<tr>
<th>Medication, Strength &amp; Description</th>
<th>Picture</th>
<th>Indication</th>
<th>Time of Day</th>
<th>Sun # of doses</th>
<th>Mon # of doses</th>
<th>Tue # of doses</th>
<th>Wed # of doses</th>
<th>Thurs # of doses</th>
<th>Fri # of doses</th>
<th>Sat # of doses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color: NDC: Side 1: Side 2:</td>
<td></td>
<td></td>
<td>Morning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Afternoon</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Evening</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bedtime</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
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<td>As Needed</td>
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<td></td>
</tr>
<tr>
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<td>As Directed</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Special Instructions for:

| Color: NDC: Side 1: Side 2:       |         |            | Morning     |               |               |               |               |                |               |               |
|                                   |         |            | Afternoon   |               |               |               |               |                |               |               |
|                                   |         |            | Evening     |               |               |               |               |                |               |               |
|                                   |         |            | Bedtime     |               |               |               |               |                |               |               |
|                                   |         |            | As Needed   |               |               |               |               |                |               |               |
|                                   |         |            | As Directed |               |               |               |               |                |               |               |
Special Instructions for:

OTCs and Herbal Supplements: Enter and the number of doses taken in the appropriate time of day box

<table>
<thead>
<tr>
<th>Medication &amp; Strength</th>
<th>Indication</th>
<th>Special Instructions</th>
<th>Time of Day</th>
<th>Sun # of doses</th>
<th>Mon # of doses</th>
<th>Tue # of doses</th>
<th>Wed # of doses</th>
<th>Thurs # of doses</th>
<th>Fri # of doses</th>
<th>Sat # of Doses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color:</td>
<td></td>
<td></td>
<td>Morning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NDC:</td>
<td></td>
<td></td>
<td>Afternoon</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Side 1:</td>
<td></td>
<td></td>
<td>Evening</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Side 2:</td>
<td></td>
<td></td>
<td>Bedtime</td>
<td></td>
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<tr>
<td></td>
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<td>As Needed</td>
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<tr>
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<td>As Directed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Allergies:

List Allergies: ____________________________________________

Discontinue the Following Medication(s):

<table>
<thead>
<tr>
<th>Medication, Strength &amp; Description</th>
<th>Picture</th>
<th>Discontinue Date:</th>
<th>Special Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NDC:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Side 1:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Side 2:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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E. Medication Action Plan (MAP)  

Pharmacist: Please give this page to the patient following review.

Patient: Please review this Medication Action Plan and keep it for your reference after your pharmacist has explained it to you. Cut out the wallet card and keep it with you at all times. Be sure to write in any over-the-counter (OTC) and herbal supplement products you may be taking.

<table>
<thead>
<tr>
<th>Reviewed:</th>
<th>Results:</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Indications</td>
<td></td>
</tr>
<tr>
<td>✓ Effectiveness for</td>
<td></td>
</tr>
<tr>
<td>conditions</td>
<td></td>
</tr>
<tr>
<td>✓ Duration of therapies</td>
<td></td>
</tr>
<tr>
<td>✓ Dosages</td>
<td></td>
</tr>
<tr>
<td>✓ Costs relative to</td>
<td></td>
</tr>
<tr>
<td>drugs of equal utility</td>
<td></td>
</tr>
<tr>
<td>✓ Clinically significant</td>
<td></td>
</tr>
<tr>
<td>drug interactions</td>
<td></td>
</tr>
<tr>
<td>✓ Compliance to</td>
<td></td>
</tr>
<tr>
<td>therapy regimen</td>
<td></td>
</tr>
</tbody>
</table>

Pharmacist Recommendations for Patient

1. Use pill box.
2. Keep a list of your medications with you at all times.
3. Keep your Personal Medication Record near your medications.
4. 
5. 
6. 
7. 

Summary of Pharmacist Review

<table>
<thead>
<tr>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Current Medication List as of [dd/mm/yyyy]

<table>
<thead>
<tr>
<th>Name/Strength</th>
<th>Physician</th>
<th>Name/Strength</th>
<th>Physician</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Current OTC/Herbal List as of [dd/mm/yyyy]

<table>
<thead>
<tr>
<th>Allergies:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Question</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1. How would you rate the patient’s understanding before the consultation?</td>
</tr>
<tr>
<td>2. How would you rate the patient’s understanding after the consultation?</td>
</tr>
<tr>
<td>3. How would you rate the patient’s receptiveness to the consultation and recommendations?</td>
</tr>
<tr>
<td>4. How beneficial do you feel this consultation was to the patient?</td>
</tr>
<tr>
<td>5. How beneficial do you feel a follow-up consultation would be to the patient?</td>
</tr>
<tr>
<td>6. Were any additional calls to the doctor required during the consultation?</td>
</tr>
<tr>
<td>7. Did the patient report taking all medications as prescribed?</td>
</tr>
<tr>
<td>8. Did the patient report any unusual side effects or adverse effects that required a call to his or her doctor?</td>
</tr>
<tr>
<td>9. Did the patient report “skipping” or forgetting doses?</td>
</tr>
<tr>
<td>10. Were any assistive compliance aids recommended or discussed (i.e., pillbox, refill reminders, caregiver information)?</td>
</tr>
</tbody>
</table>

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Polypharmacy Patient Consultation Package: Step-by-Step Instructions for Completing the Forms

After a Walgreens Health Services clinical call center pharmacist performs an MTM Polypharmacy intervention, you will receive a prepopulated Patient Consultation Package via fax. When you receive the package:

- call the prescriber(s) to verify any new or changed prescriptions listed within, and schedule a counseling session with the patient
- counsel the patient on the changes made to his or her medication therapy
- complete the required billing forms and fax or mail them to Walgreens Health Services for payment

The Walgreens Health Services fax number and mailing address will be provided in the Patient Consultation Package. Many of the fields in the Patient Consultation Package will be prepopulated, but some fields require manual data entry. Incomplete forms or failure to submit the required forms by the Due Date will result in a rejected service bill and your pharmacy will not be reimbursed for the intervention.

The Polypharmacy Patient Consultation Package includes:

- **Page A**: Cover Letter and Instructions
- **Page B**: Service Bill and Consultation Checklist*
- **Page(s) C**: Personal Medication Record (PMR) – Pharmacist Version*
- **Page(s) D**: Personal Medication Record (PMR) – Patient Version
- **Page(s) E**: Medication Action Plan (MAP)
- **Page F**: Pharmacist Satisfaction Survey*

*Denotes a billing form, which **must** be completed and returned for payment.

**Note:** Make a copy of all billing forms for your records, and file the copy in your pharmacy. Ask your pharmacy supervisor if you have questions.
The Cover Letter and Instructions sheet is the first page of the Polypharmacy Consultation Package. This document identifies the patient for whom a polypharmacy intervention was performed. It also provides a short description of the contents in the Patient Consultation Package that follows. This sheet is for your information only and it is not required that you return this sheet in order to receive payment.
### Page B. Service Bill and Consultation Checklist

**Medication Therapy Management**  
**Polypharmacy Patient Consultation Package**

**Due Date:**

<table>
<thead>
<tr>
<th>Patient Info</th>
<th>Gender</th>
<th>Birth Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardholder ID</td>
<td>Cardholder Rx Group</td>
<td>Case Number</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pharmacy Info</th>
<th>NCPDP</th>
<th>Pharmacist Name (Last, First)</th>
<th>Pharmacist ID (LSC)</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmacy Name and Store #</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consult Date/Date of Service</th>
<th>Patient Info:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please Check One:</td>
<td>Patient Information: (Please provide)</td>
</tr>
</tbody>
</table>

- Consult w/ PI/MD
- Pt. Assessment
- Regimen Changed
- Therapy Changed
- Drug Therapy Unchanged
- Follow-Up Report

**Phone:** (____) _______  
**Fax:** (____) _______  
**E-Mail:** _______  
**Best time of day to contact:** _______/____pm

2. **What is the patient’s height and weight?**

<table>
<thead>
<tr>
<th>Height</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>ft.</td>
<td>lb.</td>
</tr>
</tbody>
</table>

3. **Was the patient been counseled about the benefits of receiving a flu and/or pneumonia shot?**  
   - [ ] Yes  
   - [ ] No

4. **Total time spent on MTM Intervention (including doctor contact, prep work, patient consultation, and form completion):** __________ minutes

**Polypharmacy Consultation Checklist**

- [ ] Confirmed that you, the pharmacist, have taken the following actions:
  - Recommended changes to drug therapy have been verified with appropriate physician(s);
  - Recommended changes to drug therapy have been reviewed with the patient who understands the changes;
  - Patient has been given the patient version of the Personal Medication Record (PMR); it accurately reflects the patient’s current drug therapy and the patient understands how to use it.
  - Patient has been given the Medication Action Plan (MAP); it accurately reflects the patient’s current drug therapy and the patient understands how to use it.
  - Walgreens Health Services must receive this form by:

**Return the following pages to Walgreens Health Services:**

- [ ] Completed Service Bill
- [ ] Completed Personal Medication Record (PMR) - Pharmacist Version
- [ ] Completed Medication Action Plan (MAP) - Walgreens Version

**Address:**

Mail: Walgreens Health Services  
1411 Lake Cook Road MS L410  
Deerfield, IL 60015  
Attention: MTM  
OR FAX to: 1-800-232-5395

**Confidential Health Information:** Health care information is personal health information about a person's health condition. It is being shared by you with appropriate authority or entity who are responsible for protecting confidential health information. You are notified to maintain in a safe, secure, and confidential manner. Disclosure of this information is authorized to the Walgreens Health Services if approved in writing. Failure to maintain confidentiality could subject you to criminal, civil, or disciplinary action.

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The second part of the Patient Consultation Package is the **Service Bill and Consultation Checklist**. This document **must** be completed and returned to Walgreens Health Services for payment after the patient has been counseled on the intervention. Please use the instructions that follow to fill out the **Service Bill and Consultation Checklist**.
### Pharmacy Info

**Pharmacist Name**
Print your full name (last name, first name).

**Pharmacist ID**
Fill in your pharmacist license number for the state in which you are currently practicing.

**Pharmacist Signature**
Sign your first and last name.

**Consult Date/Date of Service**
Fill in the date the prescriber was contacted to confirm the changes listed in the Polypharmacy Patient Consultation Package (Consult Date) and the date the patient was counseled (Date of Service) as a two-digit month, two-digit day, and four-digit year.

Note: The Consult Date may be the same as the Date of Service.

### Billing Information

**Result**
Review the Personal Medication Record (PMR) – Pharmacist Version. In your best judgment, select the primary result of the polypharmacy review. **Check one only.**
**Patient Information**

1. **Patient Information:** (*Please provide*)
   - Phone: (______) ____-______
   - Fax: (______) ____-______
   - Best time of day to contact: (______) ______am / ______pm
   - eMail: youngatheshell@ymail.com

2. **Height and Weight**
   - Height: ______ ft. ______ in.
   - Weight: ______ lbs.

3. **Flu and/or Pneumonia Shot**
   - Check whether the patient has been counseled and understands the benefits of vaccination for influenza or pneumococcal infection.

4. **Total time spent on MTM intervention**
   - Document the total amount of time spent on the intervention, including the amount of time it took to speak to the prescriber, counsel the patient, and fill out the billing forms.

**Polypharmacy Consultation Checklist**

- **Polypharmacy Consultation Checklist**
  - Confirm that you, the pharmacist, have taken the following actions:
    - Recommended changes to drug therapy have been verified with appropriate physician(s).
    - Recommended changes to drug therapy have been reviewed with the patient who understands the changes.
    - Patient has been given the patient version of the Personal Medication Record (PMR); it accurately reflects the patient’s current drug therapy and the patient understands how to use it.
    - Patient has been given the Medication Action Plan (MAP); it accurately reflects the patient’s current drug therapy and the patient understands how to use it.

- **Check all** that apply with regard to your interaction with the prescriber and the patient during the Polypharmacy consultation.
When you have completed each of the three required forms for billing, check them off and return them to the address provided. The three required forms include the Service Bill and Consultation Checklist, Personal Medication Record – Pharmacist Version, and Pharmacist Satisfaction Survey.
The third part of the Patient Consultation Package is the *Personal Medication Record (PMR) – Pharmacist’s Version*. This document **must** be completed after the patient has been counseled on the intervention and returned to Walgreens Health Services for payment.
Patient and Pharmacist Info

Note: Portions of this section will be pre-populated. Please verify this information before continuing with the rest of the Personal Medication Record (PMR) – Pharmacist’s Version.

✓ Pharmacist Name
Print your full name (last name, first name).

Medication Under Review and Prescriber Recommended Changes to Therapy

<table>
<thead>
<tr>
<th>Medication Under Review</th>
<th>Physician Recommended Changes to Therapy</th>
<th>This is NOT a valid prescription blank. You MUST contact the physician directly to verify any changes to drug therapy.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective Date</td>
<td>Medication</td>
<td>Doses per Day</td>
</tr>
<tr>
<td>10/03/2006</td>
<td>Acetaminophen 10 mg</td>
<td>[1]</td>
</tr>
<tr>
<td>11/03/2006</td>
<td>Crestor 20 mg</td>
<td>[1]</td>
</tr>
<tr>
<td>04/22/2001</td>
<td>Lamictal 100 mg</td>
<td>[2]</td>
</tr>
<tr>
<td>04/22/2006</td>
<td>Lisinopril 20 mg</td>
<td>[2]</td>
</tr>
</tbody>
</table>

*The Medication Possession Rate is a measure of medication compliance and = sum (total days supply / days in evaluation period) (evaluation period is last 90 days)

Note: Portions of this section will be pre-populated. Please verify this information before continuing with the rest of the Personal Medication Record (PMR) – Pharmacist’s Version.

✓ This section explains what medications the call center pharmacist reviewed with the prescriber and the result of each medication’s review. Look for any new or changed prescriptions. If there are changes, contact the prescriber to confirm them. Also, note any medications that have been discontinued. Counsel the patient on any modifications to his or her medication therapy.

Note: You will only need to document information in this section if the prescriber or the patient has rejected one or more changes to medication therapy.

✓ Check “Dr” in the Change Rejected field if the prescriber now rejects any of the changes to the medication therapy.

✓ Check “Pt” in the Change Rejected field if the patient rejects any of the changes to the medication therapy.

Note: If a patient rejects any of the medication changes, you are responsible for alerting the prescriber and manually adjusting the PMR – Patient Version and the Medication Action Plan (MAP).

✓ If both the prescriber and the patient accepted the changes, leave the boxes blank in the Change Rejected field.
**Review - Personal Medication Record (PMR) – Patient Version**

<table>
<thead>
<tr>
<th>Review the Personal Medication Record (PMR) – Patient Version. Respond to 1 and 3 based on the patient’s entire list of medications:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Write in the patient reported indication and applicable special instructions (e.g. take with food, take on empty stomach) for each medication listed. (Check if completed)</td>
</tr>
<tr>
<td>3. Identify any medications listed on the PMR that could potentially be dosed less frequently (e.g. Lipitor 10mg bid could be Lipitor 20mg qd). (Check if completed)</td>
</tr>
</tbody>
</table>

**Note:** The following questions refer to the PMR – Patient Version, which follows the PMR – Pharmacist Version in the Patient Consultation Package. Please refer to the PMR – Patient Version when answering these questions.

- ✓ Ask the patient what the indication(s) are for each medication. Verify that these are the indications listed under the Indication field on the PMR – Patient Version and manually correct the indication listed, if necessary. Also, fill in any additional instructions you may have for the patient under the Special Instructions field for that medication on the PMR – Patient Version. Check the corresponding box once completed.

- ✓ Review the PMR – Patient Version for any medication regimens that could be simplified by dosing the medication less frequently. If necessary, contact the prescriber to make any changes. Check the corresponding box once completed.

**Medical Condition Assessment**

<table>
<thead>
<tr>
<th>Medical Condition Assessment - Ask the patient the following questions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Confirm the following medical conditions: (Circle one)</td>
</tr>
<tr>
<td>Hyperlipidemia</td>
</tr>
<tr>
<td>Hypertension</td>
</tr>
<tr>
<td>5. Are there any additional medical conditions you are being treated for?</td>
</tr>
<tr>
<td>List conditions: <strong>Diabetes, Asthma, Heart Failure</strong></td>
</tr>
<tr>
<td>6. What OTCs and herbal supplements are you currently taking?</td>
</tr>
<tr>
<td>List: <strong>St. John’s Wort, Aspirin, Fish Oil</strong></td>
</tr>
</tbody>
</table>

- ✓ Ask the patient to confirm the medical conditions listed. Use patient-friendly terms such as “high blood pressure” and “high cholesterol” when asking about these conditions. Circle “Y” for every disease state verified by the patient. Circle “N” for any disease state the patient denies having.

- ✓ If the patient is being treated for any other medical conditions not listed, fill in those conditions in the space provided.

- ✓ Ask the patient what OTC medications or supplements the patient is currently taking and fill in the patient’s response in the space provided.
Compliance and Persistence Assessment

- Ask the patient how many doses of medication were missed in the past week. Check the box next to the appropriate patient response.
- If the patient missed one or more doses of medication during the past week, ask the patient why he or she did not take the medication and check all responses that apply.
The fourth part of the Patient Consultation Package is the **Personal Medication Record (PMR) – Patient Version**.

- Review the **PMR – Patient Version** with the patient during the polypharmacy consultation.
- Give the **PMR – Patient Version** to the patient following the consultation. Do not return this document for payment.
Current Medication List

<table>
<thead>
<tr>
<th>Medication, Strength &amp; Description</th>
<th>Picture</th>
<th>Indication</th>
<th>Time of Day</th>
<th>Sun</th>
<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thurs</th>
<th>Fri</th>
<th>Sat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effexor XR 150 mg CAP SA Color: dark orange ID: 0008-0835-20</td>
<td>![Image]</td>
<td>Attention Deficit Hyperactivity Disorder</td>
<td>Morning</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Special Instructions for Effexor 20 mg Tablet: Take this medication by mouth usually once daily in the evening, with or without food. Certain medical conditions (e.g., familial hypercholesterolemia) may require more frequent dosage instructions as directed by your doctor. Dosage is based on your medical condition, response to treatment...Continue. Please refer to the instructions you received with your prescription.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Indication and of Dosing**
  - As instructed on the Service Bill and Consultation Checklist, ask the patient what the indication is for each medication. Verify that these are the indications listed in the Indication field. If necessary, manually correct the medication description, picture, and indication listed. Fill in the number of doses, days of the week, and time of day the patient is to take each medication.

- **Special Instructions**
  - As instructed on the Service Bill and Consultation Checklist, fill in any additional instructions you may have for the patient under the Special Instructions field for that medication.

OTCs and Herbal Supplements

<table>
<thead>
<tr>
<th>OTCs and Herbal Supplements:</th>
<th>Enter the number of doses taken in the appropriate time of day box</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication &amp; Strength</td>
<td>Indication</td>
</tr>
<tr>
<td>Aspirin 81 mg</td>
<td>Ibuprofen 200 mg and 770 mg</td>
</tr>
</tbody>
</table>
| Special Instructions for Aspirin 81 mg: 
  - Take with food to reduce stomach irritation. 
  - Refer to the patient's medication guide for additional instructions. |

- **OTCs and Herbal Supplements**
  - Ask the patient which OTC medications or supplements the patient is currently taking. Help the patient fill in the medication name, strength, and indication in the space provided. In addition, help the patient fill in the number of doses, days of the week, and times of the day the patient is to take each medication. Write any additional special instructions you may have for the patient under the Special Instructions field for that medication.
**Allergies**

<table>
<thead>
<tr>
<th>Allergies:</th>
</tr>
</thead>
<tbody>
<tr>
<td>List Allergies: <strong>Yellow #5</strong></td>
</tr>
</tbody>
</table>

✓ Ask the patient if he or she has any allergies to any medications, including prescriptions, OTCs, and supplements. Fill in the names of the medications followed by the corresponding patient reported allergic reaction in the space provided.

---

**Discontinue the Following Medications**

<table>
<thead>
<tr>
<th>Medication, Strength And Description</th>
<th>Picture</th>
<th>Discontinue Date</th>
<th>Special Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYNT 100 mg/25 mg tablet D:</td>
<td><img src="image.jpg" alt="Picture" /></td>
<td>02/20/2005</td>
<td>Take this medication on an empty stomach 1 hour before or 2 hours after a meal. To prevent difficulty swallowing the tablet, take it with a full glass of water unless otherwise directed by your doctor. Please refer to the instructions you received with your prescription.</td>
</tr>
</tbody>
</table>

✓ Review any medications that were discontinued because of the polypharmacy intervention. Fill in the date the medication(s) will be discontinued and any special instructions you may have for the patient regarding the discontinued medication(s). Manually correct the medication description, picture, and indication listed, if necessary.
## E. Medication Action Plan (MAP)

The fifth part of the Patient Consultation Package is the Medication Action Plan (MAP).

- Review the MAP with the patient during the polypharmacy consultation
- Give the MAP to the patient following the consultation. Do not return this document for payment.
Summary of Pharmacist Review and Pharmacist Recommendations for Patient

<table>
<thead>
<tr>
<th>Summary of Pharmacist Review</th>
<th>Results:</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Indications</td>
<td>Review: Lamictal 200mg</td>
</tr>
<tr>
<td>✓ Effectiveness for conditions</td>
<td></td>
</tr>
<tr>
<td>✓ Duration of therapies</td>
<td>Review: Metoprolol 100mg</td>
</tr>
<tr>
<td>✓ Dosages</td>
<td>Review: Crestor 20 mg</td>
</tr>
<tr>
<td>✓ Costs relative to drugs of equal utility</td>
<td></td>
</tr>
<tr>
<td>✓ Clinically significant drug interactions</td>
<td></td>
</tr>
<tr>
<td>✓ Compliance to therapy regimen</td>
<td>Review: Lisinopril 20 mg</td>
</tr>
</tbody>
</table>

Pharmacist Recommendations for Patient

1. Use pill box.
2. Keep a list of your medications with you at all times.
3. Keep your Personal Medication Record near your medications.
4. Enroll in an online refill program
5. 
6. 
7. 

These sections list the medications that were reviewed by the call center pharmacist and the patient’s prescriber(s), followed by the result of each medication’s review. Specific recommendations or counseling points for the patient are also displayed here.

✓ Counsel the patient on the changes made to his or her therapy.
✓ You may also fill in any additional recommendations you may have for the patient.
### Wallet Card

#### Contact Information

<table>
<thead>
<tr>
<th>Patient</th>
<th>Primary Physician</th>
<th>Pharmacy</th>
<th>Emergency</th>
</tr>
</thead>
</table>
| Smith, John  
1234 1st St  
Anywhere, Il 12345  
999-999-9999  
09/29/1929 | Atrick, Gerry  
123 56 Ave.  
Nowhere, Il 12345  
ph: 999-999-9999  
fax: 999-999-9999 | Walgreens 1234  
5669 Main St.  
Waldo Wi, 59063  
ph: 555-896-5986  
fax: 555-896-5988 | Fred Miller  
992-876-9677 |

#### Current Medication List as of [dd/mm/yyyy]

<table>
<thead>
<tr>
<th>Name/Strength</th>
<th>Physician</th>
<th>Name/Strength</th>
<th>Physician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atenolol 35 mg</td>
<td>Atrick, Gerry</td>
<td>Lisinopril 20 mg</td>
<td>Atrick, Gerry</td>
</tr>
<tr>
<td>Atenolol 50 mg</td>
<td>Atrick, Gerry</td>
<td>Pi Chloride 20 MEQ</td>
<td>Effran, Emma</td>
</tr>
<tr>
<td>Albuterol 20 mcg</td>
<td>Atrick, Gerry</td>
<td>Metformin 500 mg</td>
<td>Smith, John</td>
</tr>
<tr>
<td>Digoxin 0.125 mg</td>
<td>Atrick, Gerry</td>
<td>Toprol XL 100 mg</td>
<td>Atrick, Gerry</td>
</tr>
<tr>
<td>Furosemide 40 mg</td>
<td>Block, Jim</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lipitor 20 mg</td>
<td>Block, Jim</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singular 10 mg</td>
<td>Block, Jim</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### OTCs and Herbal Supplements:

- St John’s Wort  
- Aspirin  
- Hair Oil  
- Joint  

#### Allergies:

- Yellow #5

- Instruct patients to fill-out the wallet card, cut it out, and keep it with them at all times.
- Tell the patient to fill in the Emergency field with an emergency contact’s name, address, and telephone number.
- Instruct patients to fill in the OTC and Herbal Supplements field with their current non-prescription medications and supplements.
- Tell the patient to write down the names of any prescription, OTC, or supplements they are allergic to, and describe the allergic reaction in the Allergies field.
- If the patient does not have any medication allergies, have the patient write “No known allergies” in the Allergies field.
Page F. Pharmacist Satisfaction Survey

The last part of the Patient Consultation Package is the Pharmacist Satisfaction Survey.

1. This document must be completed and returned to Walgreens Health Services for payment after the patient has been counseled on the intervention.

2. Check the box next to your answer for each of the survey questions.
Submit Bill

You are now ready to submit the following forms for payment:

✓ Page B. Service Bill and Consultation Checklist
✓ Page(s) C. Personal Medication Record (PMR) – Pharmacist Version
✓ Page F. Pharmacist Satisfaction Survey

Mail or fax completed forms, by the Due Date, to:

Walgreens Health Services
Attention: MTM
1411 Lake Cook Road MS L415
Deerfield, IL 60015
Fax 866-352-5318
### Polypharmacy Consultation Patient Counseling Points

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>COUNSELING POINTS</th>
</tr>
</thead>
</table>
| **Prescription Medications** | - Always take your medications as prescribed by your doctor.  
- Take your medications at the proper time.  
- Never take more or less medication than prescribed by your doctor.  
- Do not double or take extra doses if you miss a dose.  
- Know what your medications look like.  
- Report to your doctor any medication side effects you experience.  
- Discard medications if you can no longer read their labels or they are past their expiration dates.  
- Use the same pharmacy for all of your medications, if possible, so that one pharmacy has a complete list of all your medications and can check for drug interactions.  
**Pharmacist:** Provide any drug-specific special instructions (e.g., empty stomach, with food, no alcohol). Discuss the benefits of home- or self-monitoring of blood pressure, and blood glucose levels, if appropriate.  
| **OTC’s/Vitamins** | - Speak with your prescriber and/or pharmacist before purchasing over-the-counter medications, vitamins, or supplements.  
- Read the product label before purchasing any over-the-counter medications.  
- Be familiar with the product name, active ingredients, product category, use, warnings, directions, and storage conditions as listed on the product label.  
- Do not combine products that have the same active ingredient. This could result in taking too much of that ingredient. Too much of any one ingredient can lead to serious health problems.  
- More does not always mean better. Follow the directions on the label. Do not exceed the maximum number of doses as stated on the label.  
- Do not double or take extra doses if you miss a dose.  
- Be aware that some over-the-counter medications may interact with the prescription medications you take. Check with your pharmacist about possible drug interactions.  
- Select over-the-counter medications that will treat only the symptoms that you have.  
- If your symptoms do not improve in a short period of time, speak with your doctor.  
- Do not use over-the-counter medications long-term unless recommended by your doctor.  
- Throw away any medicines that are past their expiration date.  
- Keep over-the-counter medications in their original containers to help ensure you do not take the wrong medicine.  
| **Herbal Supplements** | - Herbal and other dietary supplements are not regulated by the U.S. Food and Drug Administration (FDA). This means that they do not have to meet the same standards as prescription drugs and over-the-counter medications for proof of safety, effectiveness, and what the FDA calls Good Manufacturing Practices.  
- Herbal supplements can act in the same way as prescription drugs. Like any other medication herbal supplements can cause medical problems if not used correctly or if taken in large amounts.  
- Some herbal supplements are known to interact with medications in ways that can cause health problems.  
- The active ingredient(s) in many herbal supplements are not known. It is important to know that just because an herbal supplement is labeled natural it does not mean that it is safe or without any harmful effects.  
- There is no legal definition of “standardized” dosing strength for supplements. It means that there may be a difference between the strength listed on the label and what is in the bottle.  
| **Other Supplements** | - Speak with your prescriber and/or pharmacist before purchasing supplements.  
- Make sure your prescriber is aware of the supplements that you take.  |
| **Compliance** | - Try to keep your medications in the same location of your house where you are more likely to see them and rarely misplace them.  
- Keep reminder notes posted on your calendar, refrigetator, mirrors, etc.  
- Try to take your medicine at the same time every day as part of a daily routine (e.g., right after you brush your teeth in the morning).  
- Ask a family member, friend, or trusted neighbor to remind you to take your medicine.  |
## Compliance (ctd)
- Try using a daily, weekly, or monthly pillbox to keep you organized, and be aware of which medications you have taken or still need to take.
- Purchase medication reminder devices (e.g., timers, alarms) to help remind you when to take your medicine.
- Use a pharmacy automatic refill program, if available.
- Use the Personal Medication Record we reviewed today to keep track of when to take your medications.
- Know what possible side effects to expect from your medications. Report side effects to your doctor.
- Taking your medications as instructed may help prevent long-term complications associated with your medical condition from developing.

**Pharmacist:** If certain compliance-related issues are identified (e.g., swallowing difficulties, complex pill regimen), contact the patient’s doctor and recommend changes or advise the patient to speak with his or her doctor.


## Flu (Influenza) Vaccine
- Flu viruses continually change every year. Therefore, it is important to receive a flu shot each year (Oct. - Nov. optimal, Dec. - Jan. OK), since a new vaccine is created annually.
- The flu vaccine is recommended for anyone 50 years of age or older. It is also recommended for any person having other high risk factors including:
  - Nursing home or chronic care facility residents
  - Anyone 6 months to 18 years of age on long-term aspirin treatment
  - Women who will be pregnant during influenza season.
  - Chronic conditions, e.g., diabetes, asthma, blood diseases, immunodeficiencies, or lung, heart, or kidney diseases.
  - Anyone with certain muscle or nerve disorders (such as seizure disorders or severe cerebral palsy) that can lead to breathing or swallowing problems.
  - Anyone who lives with or cares for people at high risk for influenza related complications.
- **Side effects:** soreness at vaccination site (33 percent), low-grade fever or headache (5 percent to 10 percent).
- **Contraindications:** allergy to eggs or prior reaction to influenza vaccine.
- **Precautions:** Guillain-Barre Syndrome or flu-like symptoms (e.g., fever, diarrhea, vomiting).
- Visit [www.findaflushot.com](http://www.findaflushot.com), [www.walgreens.com/flu](http://www.walgreens.com/flu), or your local pharmacy, doctor’s office, or local public health department for flu shot availabilities.
- **Benefit:** The flu kills about 36,000 people each year in the United States, mostly the elderly. The vaccine helps prevent flu syndrome which includes fever, headache, muscle aches, fatigue, chills, coughs, sore throats, and other symptoms associated with the flu.


## Pneumonia (Pneumococcal) Vaccine
- The vaccine is recommended to all adults over age 65.
- The vaccine is also recommended for anyone over 2 years of age who has long-term health problems such as:
  - Heart disease, lung disease, diabetes, alcoholism, liver cirrhosis, sickle cell disease, leaks of cerebrospinal fluid, immunodeficiencies, or persons of Alaskan Native or Native American decent.
- A second dose is recommended for those age 65 and older who got their first dose under age 65 or if it has been five years since last dose.
- **Side effects:** fever, muscle aches, soreness at vaccination site (1 percent).
- **Contraindications:** prior reaction to pneumococcal vaccine.
- Visit your local pharmacy, doctor’s office, or local public health department for vaccine availabilities.
- **Benefit:** Prevent pneumonia, meningitis, blood infections and other medical illnesses associated with this bacteria. Drugs such as penicillin were once effective in treating these infections, but are now more resistant. The vaccine is the key to prevention.


This information sheet is intended to enhance the pharmacist’s knowledge and aid discussions with prescribers and patients. This information sheet does not replace clinical judgment. Additional patient counseling may be necessary. This information sheet should not be given to patients.
Frequently Asked Questions
and
Common Objections

Section F
Frequently Asked Questions and Common Objections

Section Overview

This section of the guide helps answer the questions asked most often by you, the pharmacist at an MTM-contracted community pharmacy. This section also provides you with resources for describing MTM services to patients and prescribers and answering questions about the program.

MTM Community Pharmacist Frequently Asked Questions. Questions and answers about the following topics are provided in this section:

- MTM services
- Program operations
- Prescriber intervention
- Patient interaction
- Pharmacy service billing

Please refer to this document for any questions you may have about MTM. If you have additional questions about compensation, workflow, or other operational procedures that are not addressed in this section, contact your supervisor.

Possible Prescriber and Patient Objections. This document provides an extensive list of objections and concerns that prescribers and patients may have regarding MTM services, along with a suggested response for each. You may wish to familiarize yourself with this information before you begin providing MTM interventions and have this document readily accessible during telephone conversations with prescribers and patients.
MTM Community Pharmacist – Frequently Asked Questions

MTM Services FAQs

- **What is Walgreens Health Services (WHS)?**
  WHS is a division of Walgreens that offers a variety of integrated healthcare services -- from cost-effective pharmacy benefit management and state-of-the-art mail service to specialty pharmacy and home care.

- **What is Medication Therapy Management?**
  MTM services are “patient focused.” They are designed to improve patient care, help reduce the risk of adverse drug events through ongoing review of patients’ medication records, enhance communication between patients and providers, improve collaboration among providers, and optimize therapeutic outcomes. Although pharmacists currently perform many of these functions to a degree, MTM will provide them with the structure to have a more proactive and direct role in the health and well-being of their patients.

- **What is MedMonitor XR?**
  MedMonitor XR is the MTM program offering administered by WHS.

- **How is Centers for Medicare and Medicaid Services (CMS) involved?**
  The MMA of 2003 requires plans that offer the Medicare Part D benefit also offer Medication Therapy Management (MTM) services.

  In recognition of the value that MTM provides in improving patient outcomes and managing overall health costs, CMS has mandated the delivery of these services commencing in 2006.

  MTM services are also available for commercial populations.

- **What MTM services does WHS offer?**
  WHS offers Appropriateness of Therapy (AOT), Compliance and Persistency (C&P), Inappropriate Medications in the Elderly (IMIE), and Polypharmacy. Refer to the Program Summaries for complete details.

- **Who created these MTM services?**
  These MTM services were developed entirely by pharmacists with community pharmacy experience. The clinical content and appropriateness of the MTM services have been approved by the WHS Pharmacy and Therapeutics (P&T) committee comprised of pharmacists and prescribers representing various specialties.

- **What is the basis for these services?**
  The MTM services are based on the core elements and framework developed by national pharmacy organizations.

- **What is the basis for the clinical information and recommendations?**
  The clinical information and recommendations are based on national guidelines, evidence-based medicine, randomized controlled trials (RCTs), peer-reviewed literature, and standards of practice.

- **How frequently is the clinical information updated?**
  The clinical information is verified and maintained on an ongoing basis as new drug therapies are introduced. Clinical information is routinely updated accordingly based on national guidelines and with the assistance of a Pharmacy and Therapeutics Committee.
**Are these services HIPAA-compliant?**
Yes, WHS follows a strict confidentiality policy. Patient health information will be kept confidential following all Health Insurance Portability and Accountability Act (HIPAA) rules and regulations. You are expected to protect all patient health information we provide you. If possible, provide MTM consultations in a private or semiprivate area to help ensure HIPAA compliance.

**Are the MTM services funded by a drug company?**
No, pharmaceutical companies do not sponsor our services nor do they influence our recommendation choices. Interventions and recommendations are strictly from evidence-based medicine and expert consensus.

**Which patients are eligible?**
Medicare Part D providers and Commercial Providers alike establish the specific eligibility criteria for their members. As a guideline, the MMA states that MTM services are for Medicare beneficiaries with multiple chronic diseases who are taking multiple-covered Part D medications and who are likely to incur annual costs that exceed a predetermined level as specified by the Secretary of Health and Human Services (for 2009 the level is $4,000 annually which will be lowered to $3,000 annually for 2010).

**Program Operation FAQs**

**Will I have to detect the MTM opportunities myself?**
No. All MTM opportunities are identified by WHS’ Utilization Therapy Management system, or by one of our MTM Clinical Care Center pharmacists. Your pharmacy will be sent all the information you need to carry out an MTM opportunity via fax or web portal.

**What do I do when an intervention is identified?**
Refer to the Network Pharmacy Community Pharmacy Workflow diagram specific to the intervention’s program.

**Am I required to intervene?**
Your pharmacy has contracted with WHS to provide MTM services. For Medicare Part D providers, MTM services are mandated by the MMA of 2003. MTM services increase the value of the pharmacy profession by enhancing the collaboration between pharmacists and prescribers and improving patient care. Each company sets its own expectations for its pharmacy staff. Contact your supervisor for further questions.

**What if I disagree with the MTM opportunity or recommendation?**
Refer to the specific program’s rationale and references to aid in your decision to intervene.

**What if I miss an identified opportunity?**
After the initial intervention opportunity is sent down, you will receive a Consultation Service Bill Report via fax, twice weekly, listing outstanding opportunities. This report is sent as a reminder to perform the intervention and submit the pharmacy service bill prior to the indicated due date on the report.

**What if I miss a second-chance opportunity?**
A MTM Clinical Care Center pharmacist will perform the intervention and the opportunity for network pharmacy payment will be lost.

**If the patient does not want to participate in MTM, what do I do?**
If a patient wants to opt out of the MTM service, a form is available to fax or mail. Simply print out the form, fill it out and fax or mail it to us. The fax number and the mailing address will be provided. This form can be found in the Forms section of the MTM Network Pharmacy Community Pharmacist Guide.
If I misplace an MTM document (e.g., service bill, opportunity faxes, polypharmacy package), how do I obtain another copy?
You may contact the MTM Clinical Care Center at 1-866-352-5310 or email WHSMTMProgram@walgreens.com to receive new MTM documents.

**Prescriber Intervention FAQs**

- **When do I contact the prescriber?**
  Contact the prescriber immediately after receiving the identified intervention.

- **What if I need help when talking to the prescriber?**
  Medical literature-based prescriber talking points have been provided for the pharmacist to aid in the discussion with the prescriber. Refer to program-specific Recommendation and Talking Points.

- **Where can I find possible clinical recommendations for MTM interventions?**
  Medical literature-based clinical recommendations have been provided for the pharmacist to offer to the prescriber. Refer to the program-specific Recommendation and Talking Points found earlier in this guide.

- **How long should I wait for the prescriber to respond?**
  All contact with the prescriber and documentation of prescriber and patient feedback must be complete and returned, along with the other required forms, to WHS by the due date. Use your best judgment to determine a reasonable timeframe per intervention.

- **What if I do not get a response from the prescriber?**
  If you are about to reach the due date and still do not receive a response, document your effort on the MTM service bills and return them to the MTM Clinical Care Center. You will still be paid for your services. Advise the patient to speak with his or her prescriber about the identified intervention.

**Patient Interaction FAQs**

- **What if I need help when talking to patients?**
  Common patient talking points have been provided for the pharmacist to aid in the discussion with the patient. Refer to program-specific Recommendation and Talking Points or Counseling Points, found earlier in this document. You may also find the Patient Education Handouts useful. These forms can be found in the Patient Education Handouts sections of this guide.

- **May I counsel the patient over the phone or must it be face-to-face?**
  Whenever possible, a face-to-face consultation is preferred. However, consultations provided over the phone are acceptable. After a phone consultation, any patient-related material we provided you should be mailed to the patient.

- **What if the patient or caregiver speaks another language and I cannot provide counseling?**
  Make an attempt to find a translator or bilingual family member. If you are still unable to communicate with the patient, contact the prescriber to discuss changes to the patient’s therapy.

- **If the patient sends a representative to pick up the prescription, should I still provide counseling?**
If the representative is a caregiver, presenting proper identification, you may provide counseling to that caregiver. You can also attempt to call the patient and provide counseling over the phone.

- **What if the representative is not the caregiver?**
  Attempt to call the patient and provide counseling over the phone.

- **What if the patient refuses counseling?**
  Document patient feedback on the pharmacy service bill.

- **What if the patient refuses the new medication?**
  Refer to program-specific patient talking points to help explain the benefits of the new medication. If the patient still refuses, document feedback on the pharmacy service bill and change prescription back to the original medication after consulting with the prescriber.

- **If multiple pharmacists are involved, who completes the pharmacy service bill?**
  The last pharmacist to work on the intervention should complete the pharmacy service bill. Contact your supervisor if you have additional questions.

### Pharmacy Service Bill FAQs

- **How many days do I have to submit the pharmacy service bill?**
  You will have 25 days to complete the intervention and submit the pharmacy service bill.

- **What if I perform the intervention, but submit the pharmacy service bill late?**
  Late pharmacy service bills will not be accepted and payment will be denied.

- **If I do not get a response from the prescriber, do I still have to fill out the pharmacy service bill?**
  Yes, document and return the pharmacy service bill. Advise the patient to speak with his or her prescriber about the identified intervention.

- **Where do I send the completed pharmacy service bill?**
  You can submit the bill via mail, fax, or web portal.

- **How will my store’s completed pharmacy service bills be tracked?**
  Upon receiving your completed service bills, WHS will record all completed interventions. Your corporate office will receive an operational report listing interventions that occurred at the store level. Speak with your supervisor for additional information.

- **Why do you need my pharmacist license number on the service bill?**
  The pharmacy service bill needs to be completed by a licensed pharmacist. Your license number may be required for auditing purposes.

### Additional Assistance FAQs

- **Who do I contact if I have questions regarding MTM: compensation, workflow, or services?**
  Contact your supervisor with questions regarding compensation, workflow, or other operational procedures.

  You may also contact the MTM Clinical Care Center at 1-866-352-5310.
MTM Community Pharmacist—Possible Prescriber and Patient Objections

The following is a list of possible prescriber and patient objections with suggested responses in italics:

**Prescriber Objections**

- Prescriber states, “I have never heard of MTM.”
  Medication Therapy Management (MTM) services are mandated for Medicare Part D recipients by the Medicare Modernization Act (MMA) of 2003. MTM services have also been proven to be very beneficial for commercial populations as well.

Refer to the MTM Service Overview for additional information to share with the prescriber.

- Prescriber states, “I do not have time for this.”
  This should only take about 5 minutes. —or— When is a better time to call back?

- Prescriber states, “I am the prescriber. What gives you the right to intervene?”
  We are both committed to your patient and ensuring that he or she is receiving the best medication regimen.

- Prescriber states, “I do not agree with the recommendation.”
  I will be happy to provide you with the references that support this recommendation so that you may have more time to evaluate them before making a decision.

- Prescriber states, “My patient is not having any problems.”
  Your patient may not currently be experiencing any problems, but my recommendation is based on [guidelines, standards of practice, evidenced-based medicine] and may help ensure the most appropriate therapy for your patient.

Refer to program-specific Recommendation and Talking Points.

- Prescriber states, “I am monitoring my patient.”
  Medical literature suggests that [risk X] may increase as a patient gets older. I would like to suggest a more appropriate medication for your patient.
  —or—
  Medical literature suggests that a patient with [condition X] may benefit from the addition of [medication X] to decrease the risk of additional complications and/or progression of the condition.

- Prescriber states, “I have prescribed other medications in the past and they have not worked for the patient.”
  What other medications have you prescribed in the past for this patient?

Offer all possible alternative recommendations and discuss the risks and benefits of current and alternative medications.
Patient Objections

- **Patient states, “Why did you speak with my doctor?”**
  As part of the Medication Therapy Management services, it is my job to ensure that you are receiving the most appropriate medication regimen. This involves informing your doctor about...

- **Patient states, “Everything is fine, why did you change my medication(s)?”**
  Your doctor agreed that a more appropriate medication was available with equal effectiveness and a better safety profile.

Refer to program-specific Recommendation and Talking Points to explain rationale and risk versus benefits.

- **Patient states, “My medications are none of your business. Why are you interfering?”**
  As your pharmacist, it is my job to ensure that you are receiving the most appropriate medication regimen.

- **Patient states, “I have a relationship with my doctor. He/She knows me best. We don’t need your help.”**
  Pharmacists are medication experts. Prescribers and pharmacists work together to ensure patients are on the best medication regimens.

- **Patient states, “Why do I have to take this medication?”**
  Patient with [condition X] may benefit from the addition of [medication X] to decrease the risk of additional complications and/or progression of the condition.

Refer to program-specific Recommendation and Talking Points to explain rationale and risk versus benefits.

- **Patient states, “I refuse to take the new medication.”**
  Your doctor has agreed to change/add this medication because it is more appropriate/beneficial for your condition. If you do not accept the therapy change we can switch it back for you. I recommend this updated medication regimen and you should discuss this with your doctor before deciding against it.

Refer to program-specific Recommendation and Talking Points to explain rationale and risk versus benefits.

- **Patient states, “I want the medication originally prescribed by my doctor.”**
  I realize that you have been comfortable taking this medication. Your doctor agreed that a more appropriate medication was available with equal or greater effectiveness and a better safety profile.

Refer to program-specific Recommendation and Talking Points to explain rationale and risk versus benefits.

- **Patient states, “I know how to take my medications. I do not need any help or reminders.”**
  I’m glad that you feel comfortable taking your medications. I would like to offer you some tips that may further simplify your daily routine.
Appendix Section Overview

This section of the guide provides pharmacists at MTM-contracted community pharmacies with a sample report describing the outstanding MTM intervention opportunities available to that pharmacy. Only one sample report is included in this section, the Outstanding Opportunities Report and its cover page.

**Outstanding Opportunities Report.** This report is periodically faxed to your pharmacy to notify you about MTM intervention opportunities that have not been acted on and may soon expire. The report includes the patient’s name, the type of MTM intervention to perform, the date the return service bill is due, and the authorization code required for billing.
This report contains outstanding MTM service consultation opportunities for your pharmacy. **Service Bills MUST be RECEIVED by Walgreens Health Services on or before the due date or payment will be denied.**

### Outstanding MTM Opportunities

<table>
<thead>
<tr>
<th>Due Date</th>
<th>Pgm Type</th>
<th>Program Description</th>
<th>Case / Conflict #</th>
<th>Patient's Name: (Last, First)</th>
<th>Birth Date</th>
<th>Auth Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>03/08/2008</td>
<td>POLY</td>
<td>See Polypharmacy Package</td>
<td>456789</td>
<td>ROGERS-BENJAMIN, KAREN</td>
<td>05/16/1956</td>
<td>106758</td>
</tr>
<tr>
<td>03/15/2008</td>
<td>AOT-6</td>
<td>Long term steroid use-add osteoporosis therapy</td>
<td>510152 / 2468102</td>
<td>FLORA, ESPERANZA</td>
<td>04/05/1967</td>
<td>206887</td>
</tr>
<tr>
<td>03/22/2008</td>
<td>IMIE-9</td>
<td>Trimethobenzamide in the Elderly</td>
<td>567890 / 2345678</td>
<td>FLORA, ESPERANZA</td>
<td>04/05/1967</td>
<td>106559</td>
</tr>
<tr>
<td>03/28/2008</td>
<td>CP2-6</td>
<td>digoxin-Need Refill</td>
<td>555555 / 222222</td>
<td>JONES, WILLIAM</td>
<td>05/06/1978</td>
<td>108741</td>
</tr>
</tbody>
</table>

Program Type: AOT - Appropriateness of Therapy; CP1 - New to Therapy; CP2 -- >14 Days Late; IMIE - Inappropriate Medications in the Elderly; Poly - Polypharmacy

For questions, please call **1-866-352-5310**

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Patient Education Handouts Section Overview

This section of the guide provides pharmacists at MTM-contracted community pharmacies with educational handouts designed to be taken home by patients for future reference. The handouts can highlight the topics discussed during a counseling session, enhance a counseling session by providing additional information, and serve as an ongoing resource for patients as questions arise.

Following is a list of available patient education handouts. When providing MTM interventions, please choose the appropriate handout(s) for each patient based on the patient’s health conditions and other needs. All handouts may be photocopied and distributed as needed.

**Handout topics**

- Cholesterol and Heart Disease
- Preventing Complications of Diabetes
- What You Need to Know About Type 1 Diabetes
- What You Need to Know About Type 2 Diabetes
- What You Need To Know About Heart Failure
- What You Need To Know About Asthma
- What You Need To Know About COPD
- What You Need To Know About Peak Flow Meters
- What You Need To Know About Spacers
- Osteoporosis and Glucocorticoid Therapy
- What You need to know about PPIs
- What You Need To Know About H₂ Blockers
- What You Need To Know About High Blood Pressure
- What You Need To Know About Insomnia
- What You Need To Know About Fall Prevention
- Getting the Most Benefits with the Fewest Risks -Tips for Taking Medication
- What You Need To Know About BPH
- What You need to know About Hypothyroidism
- What You Need to Know About Hyperthyroidism
- What You Need to Know About Glaucoma
- What You Need to Know About Parkinson’s Disease
- What You Need to Know About Warfarin
Q. What is cholesterol and how does it increase the risk of heart disease?
A. Cholesterol is a soft, waxy substance that helps the body build cells, make certain hormones and carry out other important functions. However, too much cholesterol can form plaques, or fatty deposits, that can clog arteries and slow blood flow. Poor blood flow reduces the amount of oxygen delivered to other parts of the body and may lead to heart disease, peripheral artery disease, heart attack or stroke. Triglycerides are a form of storage for fat in the body. High triglyceride levels may also contribute to heart disease. Monitoring and controlling cholesterol and triglycerides can help reduce the risk of heart disease.

Q. What other factors can increase the risk of heart disease?
A. The following are some conditions that may increase your risk of heart disease:
- Age: Men who are 45 or older, women who are 55 or older
- Cigarette smoking or other tobacco use
- Diabetes
- Diet high in saturated fat, trans fat or cholesterol
- Family history: Premature heart disease in a first-degree male relative (father or brother) younger than 55 or a first-degree female relative (mother or sister) younger than 65
- High blood pressure: A reading greater than or equal to 140/90 mm Hg
- High LDL (a “bad” type of cholesterol)
- Low HDL (a healthy type of cholesterol)
- Obesity or being overweight
- Physical inactivity
- Slow blood flow, which increases the risk of blood clots

Q. What are the different types of cholesterol?
A. There are two major types of cholesterol. LDL is the “bad” cholesterol that clogs the arteries. HDL is the “good” cholesterol that takes LDL back to the liver for removal from the body.

Q. Where does cholesterol come from?
A. Most of the body's cholesterol is produced in the liver. In some cases, the liver produces too much cholesterol. The remaining cholesterol comes from food. The following are some of the foods that can increase cholesterol levels:
- Butter, shortening or margarine
- Egg yolks
- Fried foods and baked goods
- Red meat
- Whole milk and other high-fat dairy products
Q. How do people develop high cholesterol levels?
A. High cholesterol levels can be caused by your diet, genes, medical conditions and certain medications. Most often, your cholesterol levels can be affected by lifestyle choices such as:
• Alcohol use
• Cigarette smoking or other tobacco use
• Lack of physical activity
• Unhealthy food choices

A tendency toward high cholesterol levels may also be inherited from your parents or grandparents. As a result, some people may be very active and have good eating habits, but may still need to improve cholesterol levels with medication.

Q. What are the optimal cholesterol and triglyceride levels?
A. Your doctor will determine the appropriate goal levels for you based on your risk factors. The optimal levels are shown in the table.

<table>
<thead>
<tr>
<th>LDL (&quot;bad&quot; cholesterol)*</th>
<th>HDL (healthy cholesterol)**</th>
<th>Total cholesterol</th>
<th>Triglycerides (fat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 100 mg/dL</td>
<td>Men: Above 40 mg/dL</td>
<td>Less than 200 mg/dL</td>
<td>Less than 150 mg/dL</td>
</tr>
<tr>
<td></td>
<td>Women: Above 50 mg/dL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The recommended LDL goal for people with heart disease or at high risk for heart disease is less than 70 mg/dL.

**An HDL above 60 mg/dL may decrease your health risks.

Q. What lifestyle changes should I make to lower my cholesterol and decrease the risk of heart disease?
A. The following are some lifestyle changes that can help lower your cholesterol levels:
• Eat a nutritious and heart-healthy diet rich in fiber, vegetables, fruits, whole grains, legumes, nuts and healthy oils.
• Have your cholesterol checked regularly as directed by your doctor.
• If you smoke or use tobacco, ask your doctor for help with quitting.
• Limit alcohol consumption.
• Maintain a healthy weight and lose weight, if needed.
• Participate in physical activity most days of the week for 30 to 60 minutes a day, with your doctor’s approval.

Q. What medications are available to help lower cholesterol?
A. Your doctor will decide whether you will need to take cholesterol-lowering medications and which medications will be best for you. Some types of cholesterol-lowering medications include:
• HMG CoA reductase inhibitors (statins)
• Fibric acids (fibrates)
• Bile acid sequestrants (resins)
• Cholesterol absorption inhibitors
• Nicotinic acids (niacin)
• Fish oils or omega-3 fatty acids

Information about these medications is provided in the following table. This is not a complete list of all the medications used or a complete list of side effects. Not everyone experiences the listed side effects. Talk to your doctor or pharmacist for more information.
<table>
<thead>
<tr>
<th>Generic Name (Brand Name)</th>
<th>How It Works</th>
<th>Common Side Effects</th>
<th>Other Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HMG CoA reductase inhibitors (statins)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>atorvastatin (Lipitor®)</td>
<td>Prevents production of cholesterol</td>
<td>Headache</td>
<td>Take at bedtime (exceptions: rosuvastatin and simvastatin)</td>
</tr>
<tr>
<td>fluvastatin (Lescol®)</td>
<td>Lowers LDL, TC and TG</td>
<td>Upset stomach</td>
<td>Do not take with grapefruit or grapefruit juice</td>
</tr>
<tr>
<td>lovastatin (Mevacor®)</td>
<td>Increases HDL</td>
<td>Muscle cramps or muscle weakness</td>
<td>Contact your doctor if you develop muscle pain that becomes bother-some or continues to get worse</td>
</tr>
<tr>
<td>pravastatin (Pravachol®)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rosuvastatin (Crestor®)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>simvastatin (Zocor®)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fibric acids (fibrates)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fenofibrate (Tricor®)</td>
<td>Increases breakdown of TG</td>
<td>Upset stomach</td>
<td>Take gemfibrozil 30 minutes before breakfast and dinner</td>
</tr>
<tr>
<td>fenofibric acid (Trilipix™)</td>
<td>Lowers TG, LDL and TC</td>
<td>Muscle pain</td>
<td>Take fenofibrate with food</td>
</tr>
<tr>
<td>gemfibrozil (Lopid®)</td>
<td>Increases HDL</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bile acid sequestrants</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cholestyramine (Questran®)</td>
<td>Binds cholesterol so it can easily be eliminated from the body</td>
<td>Upset stomach</td>
<td>Take one to two hours before or four hours after other medications</td>
</tr>
<tr>
<td>colesevelam (Welcho™)</td>
<td>Lowers LDL and TC</td>
<td>Constipation</td>
<td>Powders may be mixed with fruit juices but not with carbonated beverages.</td>
</tr>
<tr>
<td>colestipol (Colestid®)</td>
<td>Increases HDL</td>
<td>Bloating</td>
<td></td>
</tr>
<tr>
<td><strong>Cholesterol absorption inhibitors</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ezetimibe (Zetia®)</td>
<td>Decreases absorption of cholesterol</td>
<td>Headache</td>
<td>Often used in combination with statins</td>
</tr>
<tr>
<td></td>
<td>Lowers LDL</td>
<td>Abdominal pain</td>
<td>May be taken with or without food</td>
</tr>
<tr>
<td><strong>Nicotinic acids (niacin)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>niacin (Niacor®, Niaspan®)</td>
<td>Decreases the amount of LDL made by the liver</td>
<td>Headache</td>
<td>To avoid flushing, ask your doctor or pharmacist about taking aspirin 30 to 60 minutes before taking niacin. Avoid hot beverages and alcohol.</td>
</tr>
<tr>
<td></td>
<td>Lowers TG, LDL and TC</td>
<td>Abdominal pain</td>
<td>Take with food. Prescription medications may have fewer side effects than OTC niacin products.</td>
</tr>
<tr>
<td></td>
<td>Increases HDL</td>
<td>Fatigue</td>
<td>Ask your doctor or pharmacist before taking an OTC niacin product.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Joint aches</td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish oils or omega-3 fatty acids (Lovaza®)</td>
<td>Decreases the amount of TG made by the liver</td>
<td>Altered taste</td>
<td>Take with food or milk</td>
</tr>
<tr>
<td></td>
<td>Lowers TG, LDL and TC</td>
<td>Burping</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Indigestion</td>
<td></td>
</tr>
<tr>
<td><strong>Combination products</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>lovastatin/niacin (Advicor®)</td>
<td>Same actions as medications taken individually</td>
<td>Same side effects as medications taken individually</td>
<td>Same as in individual products</td>
</tr>
<tr>
<td>simvastatin/niacin (Simcor®)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>simvastatin/ezetimibe (Vytorin®)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q. How can I get the most from my cholesterol-lowering medication?

A. Here are some helpful tips:

- Ask your doctor how often you should make an appointment to check your cholesterol levels.
- Fill all your prescriptions at the same pharmacy so the pharmacist is aware of all your current medications.
- Tell your doctor about symptoms and side effects that become too bothersome.
- Take all your medications as prescribed by your doctor. Don’t stop taking medication without talking to your doctor first.
- Tell your doctor about all your medications, especially if you are receiving medications from more than one doctor.
- Make sure to mention over-the-counter medications and herbal supplements because these may affect the way your other medications work.

References


This publication should be used for general educational purposes only and is not intended to be a substitute for professional medical advice. Be sure to contact your doctor, pharmacist, or other healthcare provider for more information about cholesterol. Although it is intended to be accurate, neither Walgreen Co., its subsidiaries or affiliates, nor any other party assumes liability for loss or damage due to reliance on this publication.

Drug names are the property of their respective owners.
**What are complications of diabetes?**

A. Diabetes greatly increases the risk of heart disease, stroke and kidney failure. Heart attack and stroke are the main causes of death in two out of three people with diabetes. A person with diabetes has the same heart-health risks as someone who has had a heart attack or stroke. Diabetes often occurs along with other medical conditions such as high blood pressure and high cholesterol. Together these increase the risk of heart disease and stroke even further.

Diabetes also increases the risk for nerve damage, infections and eye, foot and dental problems. It's important to work closely with your doctor to prevent these complications and lower your health risks.

**What can be done to reduce the risk of complications?**

A. There are many ways to improve your health and reduce the risk of complications. Taking control of your blood glucose and adopting a healthy lifestyle through proper nutrition and moderate physical activity most days of the week are both priorities. Taking certain preventive medications prescribed by your doctor can also help.

**How can I protect the health of my heart?**

A. People with diabetes have an increased risk for heart attack and stroke. Taking low-dose aspirin daily can help lower the risk of heart attack and stroke in those who have previously had one or are at risk. Aspirin helps keep platelets, found normally in the blood, from sticking or clumping together. Platelets are more likely to clump together in people with diabetes. This can result in the formation of a clot, which can narrow or block blood vessels, leading to a heart attack or stroke.

Aspirin can help prevent heart attack or stroke for people with type 2 diabetes but it may not be appropriate for everyone. Talk to your doctor before you start taking aspirin. Your doctor will decide if taking aspirin or another antiplatelet medication daily is right for you. There are many types of aspirin products to choose from.

- A dose between 75 mg and 325 mg per day is usually recommended for maintaining heart health.
- Aspirin comes in regular or enteric-coated form.
  - Enteric coating allows the tablet to pass through the stomach without dissolving.
  - Aspirin is then absorbed in the intestine, which reduces irritation to the stomach lining.
- If you choose aspirin that is not enteric-coated, take it with food.
Q. What is coronary artery disease?
A. Coronary artery disease is caused by narrowing or blockage of the blood vessels that go to the heart. It is the most common form of heart disease. Blood carries oxygen to your heart. When blood vessels to your heart become partially or completely blocked, a heart attack occurs.

Q. What can be done to prevent coronary artery disease?
A. In addition to an aspirin regimen (if appropriate), keeping your diabetes ABCs at goal lowers your risk of coronary artery disease, helps prevent heart disease and decreases your risk for a heart attack.
   - A1C. Have your doctor perform an A1C test every three to six months; the goal is less than 7 percent.
   - Blood pressure. Measure and record your blood pressure at every doctor’s visit and regularly at home if recommended by your doctor. The target blood pressure for people with diabetes is less than 130/80 mm Hg (or less than 125/75 mm Hg for people with certain kidney problems).
   - Cholesterol. Have your doctor measure your cholesterol at least once a year. For LDL, the unhealthy type of cholesterol, the target is less than 100 mg/dL (or less than 70 mg/dL for people at very high risk).

Making good dietary choices, adding physical activity to your daily routine and losing weight (if you are overweight) will also help prevent coronary artery disease.

Q. Why is controlling blood glucose important?
A. Keeping your blood glucose in your goal range reduces your risk of developing complications. On average, a 1 percent decrease in A1C reduces your risk of eye, kidney and nerve problems by up to 40 percent. Well-controlled blood glucose levels over three months will be reflected in A1C levels.

Q. What are goal blood glucose levels?
A. Your doctor will work with you to determine what your target blood glucose should be at different times of the day. The table below shows recommendations for blood glucose levels for people with diabetes.

<table>
<thead>
<tr>
<th>Test</th>
<th>Goal Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fasting (on an empty stomach)</td>
<td>90 to 130 mg/dL</td>
</tr>
<tr>
<td>Postprandial (two hours after the beginning of a meal)</td>
<td>Less than 160 mg/dL</td>
</tr>
<tr>
<td>Bedtime</td>
<td>110 to 150 mg/dL</td>
</tr>
<tr>
<td>A1C level</td>
<td>Less than 7%</td>
</tr>
</tbody>
</table>

*Recommendations from the American Diabetes Association and Joslin Diabetes Center
Q. How often should I check my blood glucose levels?
A. Your doctor will determine how often you should check your blood glucose at home. Ask your doctor or pharmacist to watch your technique when using your blood glucose meter. This will help ensure that your results are accurate. You should have an A1C blood test done two to four times a year to check how well your blood glucose has been controlled.

Q. What are some ways to achieve better blood glucose control?
A. Lifestyle changes can help you control your blood glucose. Watching what you eat, getting enough exercise and taking prescribed medications properly can all help. The following are some healthy behaviors:
• Eat a balanced diet and watch portion sizes.
• Manage weight through meal planning.
• Manage stress through regular physical activity.
• Work with your doctor to create an exercise plan that is right for you.
• Talk to a dietitian about how to improve your diet.
• Take your diabetes medications exactly as prescribed.
• Keep a log of your blood glucose readings.

Q. Why should I be concerned about high blood pressure?
A. High blood pressure, also called hypertension, is a silent condition that can cause serious damage to the heart, kidneys and eyes if left untreated. People with high blood pressure are usually unaware of the condition because there are often no symptoms. The goal blood pressure for most people with diabetes is less than 130/80 mm Hg.
• Controlling your blood pressure can decrease your risk of heart disease and stroke by up to 50 percent and lower your risk of vision, kidney and nerve complications by up to 33 percent.
• The risk of all diabetes complications goes down by almost 12 percent for every 10-point decrease in blood pressure.

Q. What can I do to reduce my blood pressure?
A. You can lower high blood pressure or your risk of developing it by following these tips:
• Have your blood pressure measured at each doctor’s visit.
• Quit smoking or using tobacco. Ask your doctor or pharmacist about tools to help you quit.
• Increase physical activity. Doing light to moderate exercise for 30 to 60 minutes most days of the week can reduce your blood pressure by four to nine points. If your blood glucose is low before exercising, eat a small, healthy carbohydrate snack. Remember to talk with your doctor before starting a new exercise program.
• If you have high blood pressure, measure and record your blood pressure at home on a regular basis. Bring your blood pressure log to each doctor’s visit. This will help your doctor assess your blood pressure control between visits.

Q. What medications are available to help control high blood pressure?
A. Most people with diabetes and high blood pressure need one or more medications for blood pressure control. Medications called angiotensin-converting enzyme (ACE) inhibitors and angiotensin receptor blockers (ARBs) lower the risk of heart disease and stroke and help protect the kidneys. The following table shows examples of ACE inhibitors and ARBs.
## ACE Inhibitors and ARBs

<table>
<thead>
<tr>
<th>Generic Name (Brand Name)</th>
<th>How They Work</th>
<th>Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACE inhibitors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benazepril (Lotensin®)</td>
<td>Prevent the body from producing angiotensin II, which normally causes blood vessels to narrow</td>
<td>Common: dry mouth, persistent cough, dizziness, headache, diarrhea, change in taste or unusual tiredness (may go away once body is used to medication)</td>
</tr>
<tr>
<td>Captopril (Capoten®)</td>
<td>Relax and widen blood vessels to help improve blood flow and reduce blood pressure</td>
<td>Rare: angioedema (rapid swelling of the tissue) around the face, lips, throat, hands, legs or feet</td>
</tr>
<tr>
<td>Enalapril (Vasotec®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fosinopril (Monopril®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lisinopril (Prinivil®, Zestril®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moexipril (Univasc®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perindopril (Aceon®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quinapril (Accupril®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ramipril (Altace®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trandolapril (Mavik®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ARBs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Candesartan (Atacand®)</td>
<td>Block angiotensin II from binding in the body, allowing blood vessels to relax</td>
<td>Common: dry mouth, cough (less often than ACE inhibitors), dizziness, diarrhea, headache, unusual tiredness (may go away once body is used to medication)</td>
</tr>
<tr>
<td>Eprosartan (Teveten®)</td>
<td>Prevent retention of water and sodium, which can raise blood pressure</td>
<td>Rare: angioedema (rapid swelling of the tissue) around the face, lips, throat, hands, legs or feet</td>
</tr>
<tr>
<td>Irbesartan (Avapro®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Losartan (Cozaar®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olmesartan (Benicar®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telmisartan (Micardis®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valsartan (Diovan®)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Your doctor will determine which medication is best for you and may decide to prescribe other medications or more than one blood pressure medication.

**Q. Why is it important to get my kidneys checked?**

**A.** Diabetes can damage the kidneys and cause kidney failure. Your kidneys help filter out waste products from your blood while allowing nutrients, including protein, to be absorbed back into the body. Over time, uncontrolled diabetes, with or without high blood pressure, damages the small blood vessels in the kidneys. When this happens, the protein, known as albumin, leaks into the urine. Having small amounts of albumin in the urine is called microalbuminuria. In the early stages of kidney disease, there may be no signs or symptoms. Severe kidney damage can lead to end-stage renal disease which requires dialysis several times weekly. There are several ways to prevent or slow kidney damage:

- **Keep your blood pressure and blood glucose at goal.**
- **Manage your cholesterol and triglycerides.**
- **Have urine albumin and serum creatinine tests at least once a year to detect early signs of kidney disease.** Normal albumin level in the urine is less than 30 micrograms (mcg) per milligram (mg) of creatinine. Having two lab tests completed one to two weeks apart showing levels greater than 30 mcg albumin per mg creatinine is an early sign of kidney disease.
- **Your doctor may prescribe an ACE inhibitor or ARB to slow kidney damage and lower blood pressure if you have albumin in your urine.**
Q. Why should I be concerned about cholesterol and triglyceride levels?
A. Too much cholesterol can cause blood vessels to clog and harden, limiting blood flow and leading to heart disease, peripheral vascular disease, heart attack or stroke. Cholesterol is a soft, waxy material that helps the body build cells, make certain hormones and carry out other important body functions. Triglycerides are a form of storage for fat in the body. Too much of either one contributes to heart disease. Your body makes all the cholesterol it needs, so it is important to limit cholesterol, saturated fats and trans fats in your diet.

Q. How do people develop high cholesterol?
A. High cholesterol can be caused by diet, genes, medical conditions and certain medications. For some people, high cholesterol develops when the liver produces too much cholesterol. Cholesterol levels can often be affected by lifestyle choices such as:
- Unhealthy food choices like butter, shortening, red meats, fried foods and baked goods
- Lack of physical activity
- Alcohol use
- Tobacco use

A tendency toward high cholesterol levels may also be inherited from your parents or grandparents. As a result, some people who are very active and have good eating habits may still need to improve cholesterol levels with medication.

Q. What are optimal cholesterol and triglyceride levels?
A. Your doctor will determine the appropriate goal levels for you based on your risk factors. The cholesterol goals in the following table are recommended by the American Diabetes Association and Joslin Diabetes Center.

<table>
<thead>
<tr>
<th>Cholesterol</th>
<th>HDL (healthy cholesterol)**</th>
<th>Triglycerides (fat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 100 mg/dL</td>
<td>Men: Above 40 mg/dL</td>
<td>Less than 150 mg/dL</td>
</tr>
<tr>
<td></td>
<td>Women: Above 50 mg/dL</td>
<td></td>
</tr>
</tbody>
</table>

*The recommended LDL goal for people with heart disease or at high risk for heart disease is less than 70 mg/dL.
**An HDL above 60 mg/dL may reduce your health risks.

Q. What can I do to improve my cholesterol levels?
A. Making healthy lifestyle changes is the first step. The following are some lifestyle changes that can help lower your cholesterol levels:
- Eat a nutritious and heart-healthy diet rich in fiber, vegetables, fruits, whole grains, legumes (such as beans and peas), nuts and healthy oils.
- If you smoke or use tobacco, ask your doctor or pharmacist for help quitting.
- Limit alcohol consumption.
- Have your cholesterol checked at least once a year or more often as directed by your doctor.
- Maintain a healthy weight and lose weight, if needed. Ask your doctor what your healthy weight should be.
- Participate in physical activity for at least 30 to 60 minutes most days of the week, with your doctor’s approval.
- This can be done by taking three to four 15-minute walks, as it is the amount (not the intensity) of exercise that is important.
- Remember to check your blood glucose before starting exercise.
- Eat a small, healthy snack before you exercise if your blood glucose is below 100 mg/dL.

Q. What medications are available to help lower cholesterol?
A. Many people with diabetes will need medications to reach their cholesterol goals. The table on the next page lists the types of medications prescribed to lower cholesterol.
### Cholesterol-Lowering Medications*

<table>
<thead>
<tr>
<th>Generic Name (Brand Name)</th>
<th>How It Works</th>
<th>Common Side Effects</th>
<th>Other Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HMG CoA reductase inhibitors (statins)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• atorvastatin (Lipitor®)</td>
<td>• Prevents production of cholesterol</td>
<td>• Headache</td>
<td>• Take at bedtime (exceptions: rosvastatin and simvastatin).</td>
</tr>
<tr>
<td>• fluvastatin (Lescol®)</td>
<td>• Lowers LDL, TC and TG</td>
<td>• Muscle cramps or muscle weakness</td>
<td>• Do not take with grapefruit or grapefruit juice.</td>
</tr>
<tr>
<td>• lovastatin (Mevacor®)</td>
<td>• Increases HDL</td>
<td>• Upset stomach</td>
<td>• Contact your doctor if you develop muscle pain that is bothersome or continues to get worse.</td>
</tr>
<tr>
<td>• pravastatin (Pravachol®)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• rosuvastatin (Crestor®)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• simvastatin (Zocor®)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fibric acids (fibrates)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• fenofibrate (Tricor®)</td>
<td>• Increases breakdown of TG</td>
<td>• Muscle pain</td>
<td>• Take gemfibrozil 30 minutes before breakfast and dinner.</td>
</tr>
<tr>
<td>• gemfibrozil (Lopid®)</td>
<td>• Lowers TG, LDL and TC</td>
<td>• Upset stomach</td>
<td>• Take fenofibrate with food.</td>
</tr>
<tr>
<td><strong>Bile acid sequestrants</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• cholestyramine (Questran®)</td>
<td>• Binds cholesterol so it can easily be eliminated from the body</td>
<td>• Abdominal pain</td>
<td>• Take one to two hours before or four hours after other medications.</td>
</tr>
<tr>
<td>• colesevelam (Welchol™)</td>
<td>• Lowers LDL and TC</td>
<td>• Bloating</td>
<td>• Powders may be mixed with fruit juices but not with carbonated beverages.</td>
</tr>
<tr>
<td>• colestipol (Colestid®)</td>
<td>• Increases HDL</td>
<td>• Constipation</td>
<td></td>
</tr>
<tr>
<td><strong>Cholesterol absorption inhibitors</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ezetimibe (Zetia®)</td>
<td>• Decreases absorption of cholesterol</td>
<td>• Abdominal pain</td>
<td>• Often used in combination with statins</td>
</tr>
<tr>
<td></td>
<td>• Lowers LDL</td>
<td>• Fatigue</td>
<td>• May be taken with or without food</td>
</tr>
<tr>
<td><strong>Nicotinic acids (niacin)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>niacin (Niacor®, Niaspan®)</td>
<td>• Decreases the amount of LDL made by the liver</td>
<td>• Flushing, or reddening of the skin on the face and chest that may include a burning or tingling feeling</td>
<td>• To avoid flushing, ask your doctor or pharmacist about taking aspirin 30 to 60 minutes before taking niacin. Avoid hot beverages and alcohol.</td>
</tr>
<tr>
<td></td>
<td>• Lowers TG, LDL and TC</td>
<td>• Upset stomach</td>
<td>• Take with food.</td>
</tr>
<tr>
<td></td>
<td>• Increases HDL</td>
<td></td>
<td>• Prescription medications may have fewer side effects than OTC niacin products. Ask your doctor or pharmacist before taking an OTC niacin product.</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish oils or omega-3 fatty acids (Lovaza®)</td>
<td>• Decreases the amount of TG made by the liver</td>
<td>• Altered taste</td>
<td>Take with food or milk.</td>
</tr>
<tr>
<td></td>
<td>• Lowers TG, LDL and TC</td>
<td>• Burping</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Indigestion</td>
<td></td>
</tr>
<tr>
<td><strong>Combination products</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• lovastatin/niacin (Advicor®)</td>
<td>Same actions as medications taken individually</td>
<td>Same side effects as medications taken individually</td>
<td>Same as individual products</td>
</tr>
<tr>
<td>• simvastatin/niacin (Simcor®)</td>
<td>Same actions as medications taken individually</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• simvastatin/ezetimibe (Vytorin®)</td>
<td></td>
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</tr>
</tbody>
</table>

*This is not a complete list of medications or side effects. Not everyone experiences the listed side effects. Talk to your doctor or pharmacist for more information.*
Q. Why is it especially important for people with diabetes to quit smoking?
A. Smoking can raise your blood glucose level, making it harder to manage your diabetes. Smoking also increases the risk of developing complications from diabetes, including high blood pressure and heart disease. Tobacco can harden and narrow the blood vessels and block blood flow, which can lead to stroke and other health problems. When you are ready to quit using tobacco, ask your doctor or pharmacist for advice and information about medications and programs that can help.

Q. Why are vaccinations important for people with diabetes?
A. People with diabetes may be at higher risk for complications from influenza (also known as the flu) and pneumonia. Ask your doctor if influenza and pneumonia vaccinations are right for you. The following table outlines general recommendations for these vaccinations.

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### About Flu and Pneumonia Vaccinations

#### Flu Vaccination
- Annual flu vaccinations are recommended for all adults and children (age 6 months and older) with diabetes.
- The best time to get vaccinated is during October or November, before flu season reaches its peak between late December and March.
- Some may benefit from receiving the vaccine as early as September.

#### Pneumonia Vaccination
- At least one pneumonia vaccination is recommended for all people with diabetes over the age of 2.
- People age 65 and older should receive a second pneumonia vaccination if their first pneumonia vaccination took place five years or more before they turned 65.
- A second vaccination is also recommended for younger people with other health conditions such as kidney problems.
- The pneumonia vaccine can be given at any time during the year.

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### Eye Diseases

<table>
<thead>
<tr>
<th>Condition</th>
<th>Symptoms</th>
</tr>
</thead>
</table>
| Diabetic retinopathy | • Trouble seeing out of the sides of the eyes  
|                     | • Blurry or double vision  
|                     | • Seeing dark, floating or blank spots  
|                     | • Pain or pressure in the eyes |
| Glaucoma           | • Pain or pressure  
|                     | • Headaches  
|                     | • Loss of peripheral vision, or difficulty seeing objects outside of your direct line of vision  
|                     | • Nausea or vomiting |
| Cataracts          | • Cloudy or double vision  
|                     | • Poor night vision  
|                     | • Seeing faded colors |

It is important to have annual eye exams by an eye doctor who is familiar with diabetes care. If you experience any problems with vision, contact your eye doctor right away; don’t wait for your next scheduled check-up. By finding the problem early, you have a better chance of preventing serious problems, including blindness.

Q. How does diabetes affect my eyes?
A. When blood glucose levels and blood pressure are high, the blood vessels in the eyes can be affected. The blood vessel walls may balloon out and sometimes leak, producing areas of bleeding on the retina. Eye complications can affect one or both eyes. It is important to keep your A1C and blood pressure as close to target levels as possible to help prevent eye problems and other complications related to diabetes.

Q. How do I know if I am having eye problems?
A. There are often no symptoms in the early stages of eye disease, so annual eye exams are critical. Symptoms that may occur with diabetic retinopathy, glaucoma and cataracts are listed in the table below. You may experience none, some or all of these symptoms.
Q. Why is foot care important for people with diabetes?
A. Most people with diabetes will have some degree of nerve damage, which often affects the feet. You may experience pain, tingling or loss of sensation in your feet. Or you may not feel any pain in your feet. If you do not feel pain, you may not notice foot injuries or infections. Injuries may also be slow to heal because diabetes affects your immune system and your circulation. As a result, people with diabetes are 10 times more likely to require amputation, or a limb removal, than those without diabetes. Thorough foot care can greatly reduce your risk of foot-related problems. Controlling blood glucose and quitting tobacco use are essential to foot health. Although improving blood glucose control can help prevent future nerve damage, it cannot reverse damage that has already occurred.

Q. How should I care for my feet?
A. Inspect your feet every day at home. Look for blisters, calluses, redness, cuts, infection or other problem areas.
- Pay special attention to the balls of your feet and big toes. Don’t forget to check between toes.
- Have your doctor or podiatrist remove any corns or calluses. Do not remove them yourself or they may become infected.
- Squeeze or push lightly on your feet to see if the feeling in your feet has changed.
- Wash your feet every day with mild soap and warm water. Unclean feet can lead to infection.
- Protect your feet by wearing shoes and socks. Bare feet are more likely to be injured, even inside your home.
- Do not warm your feet with hot water, a heating pad or a heater. You may burn yourself without feeling it.
- Make sure your shoes are snug, comfortable and properly fitted. Improper fit can cause blisters and calluses.
- Keep your toenails neat and trimmed straight across.
- Have your feet checked at every doctor visit.
- If problem areas do not heal quickly or if parts of your feet become numb, call your doctor.

Q. Why are dental visits important?
A. Poor blood glucose control allows bacteria in your mouth to thrive and causes infection in your gums. Gum disease is twice as common in people with diabetes compared to those without diabetes. Controlling blood glucose helps prevent gum disease. Gum disease increases your risk of heart disease by allowing bacteria in your mouth to enter your bloodstream. Dental problems such as gingivitis or periodontal disease, fungal infection and dry mouth can occur when blood glucose is uncontrolled.

Q. What are the signs and symptoms of dental problems?
A. Signs and symptoms of dental problems, such as gingivitis or periodontal disease, include:
- Bleeding gums when you brush or floss
- Red, sore and swollen gums
- Appearance of longer teeth (because gums are pulling away from teeth)
- Pus in your mouth
- Bad breath
- Feelings of teeth being loose, shifting, moving or separating
- Changes in your bite or the way dentures fit
Q. What can I do to prevent dental problems?
A. There are many things you can do to keep your gums and teeth healthy and avoid dental problems:

• Keep your A1C as close to goal as possible. If there is no glucose for the bacteria to feed on, bacteria will not multiply as fast.
• Don’t smoke or use tobacco products.
• Brush your teeth and floss at least twice a day to help remove bacteria from your mouth.
• Visit your dentist twice a year for teeth cleaning and a gum exam.
• If your gums become red or swollen or bleed easily, contact your dentist.

For additional information about diabetes-related complications, visit the American Diabetes Association at diabetes.org, or Joslin Diabetes Center at joslin.org.

References
Q. What is type 1 diabetes?
A. Type 1 diabetes (formerly known as juvenile or insulin-dependent diabetes) occurs when the body loses its ability to produce insulin. Insulin is a hormone that converts glucose from food to energy and is necessary to maintain appropriate blood glucose levels in the body. Very high and very low blood glucose can cause life-threatening situations. Type 1 diabetes can occur at any age, but is most commonly diagnosed in children and young adults. The exact cause is not known.

Q. What are the signs and symptoms of type 1 diabetes?
A. The signs and symptoms are:
• Blurred vision
• Fatigue
• Increased hunger
• Increased thirst
• Increased urination, especially at night
• Sores that do not heal
• Unexplained weight loss
• Frequent infections such as urinary tract infections or yeast infections

Some people may not experience any of these signs or symptoms. However, a doctor may detect diabetes on a routine blood test.

Q. How do I check my blood glucose?
A. Blood glucose can be checked at home and in the doctor’s office. Checking your blood glucose regularly at home (self-monitoring) with a glucose meter, lancets and test strips helps you recognize when your blood glucose is too high or too low. Sharing those results with your doctor is recommended to help manage your diabetes. Follow your doctor’s instructions on how often to self-monitor your blood glucose level.

Q. What are goal blood glucose levels?
A. Goal blood glucose levels are shown in the table below. Talk to your doctor about your individual blood glucose goals. In addition to blood glucose testing, your doctor will use the A1C blood test to measure how well your blood glucose has been controlled over a three-month period. The goal A1C level is less than 7 percent. This test should be done every three to six months.

<table>
<thead>
<tr>
<th>Test</th>
<th>Goal Levels*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fasting (on an empty stomach)</td>
<td>90 to 130 mg/dL</td>
</tr>
<tr>
<td>Postprandial (two hours after a meal)</td>
<td>Less than 160 mg/dL</td>
</tr>
<tr>
<td>Bedtime</td>
<td>110 to 150 mg/dL</td>
</tr>
<tr>
<td>A1C level (not affected by time taken)</td>
<td>Less than 7%</td>
</tr>
</tbody>
</table>

*Blood glucose recommendations from the American Diabetes Association and Joslin Diabetes Center

Continued
Q. Why is it important to keep my blood glucose levels within the goal range?
A. Keeping blood glucose within the goal range helps you feel better and reduces your risk of developing long-term complications. Long-term health problems associated with uncontrolled blood glucose may include:
- Heart disease, peripheral vascular disease and stroke
- Nerve damage causing numbness or pain in the hands and feet
- Eye damage that can lead to vision loss
- Kidney disease that can lead to kidney failure and dialysis
- Poor wound healing
- Foot ulcers that can lead to infection and amputation
- Gum disease

Q. What can affect blood glucose?
A. Blood glucose levels are always changing. The key is to stay within the goal range. The following can have an effect on blood glucose:
- **Food.** Avoid large food portion sizes and highly processed carbohydrate foods and sweets. Add more lean protein and healthy fats to your diet. Talk to your doctor or dietitian to develop a meal plan and determine correct serving sizes.
- **Alcohol.** Talk to your doctor about whether you should limit alcohol intake.
- **Medications.** Always ask your pharmacist before starting any new medications, including over-the-counter medications, supplements and herbal products, because they may interact with your current medications.
- **Illness.** Common illnesses may cause high or low blood glucose, so check your blood glucose more often when you are ill.
- **Exercise.** Lack of exercise may increase blood glucose while exercising regularly will help keep blood glucose under control. If your blood glucose is low before exercising, you should eat a small carbohydrate snack such as fruit or crackers before you start exercising.
- **Overweight.** Being overweight makes it difficult for the body to use insulin to convert food into energy.
- **Taking diabetes medication improperly.** It is important to understand how to give yourself an insulin injection. Food, exercise and illness may affect the insulin dose you need. Talk with your doctor about how to adjust your insulin dose for these everyday situations.

Q. How do diet and portion sizes affect blood glucose?
A. Your food choices and portion sizes directly affect blood glucose levels:
- **Refined carbohydrates and highly processed foods such as white rice, potatoes, dried fruits, packaged foods and sweets will cause swings in blood glucose.** This type of diet does not promote good health and will leave you feeling unsatisfied and hungry, which may cause you to eat more calories than your body needs, leading to weight gain.
- **Incorporating lean protein, low-fat dairy, vegetables, legumes such as beans and peas, and healthy fats will help keep your blood glucose steady and leave you feeling satisfied.**
- **Controlling the portion sizes of all the foods you eat makes it easier to control your calorie intake and will improve your blood glucose control.**
Talk to your doctor or dietitian to determine correct serving sizes and help with meal planning.

Q. Why is exercise important in diabetes?
A. Exercise can help insulin work better and lower your blood glucose. Regular activity can also lower your blood pressure and cholesterol levels, which will reduce your risk for heart disease and stroke. If you are trying to lose weight, exercise and healthy eating can help you reach your target weight.
- Most people should do 30 to 60 minutes of physical activity most days of the week. This can be done by taking three to four 15-minute walks, as it is the amount, not the intensity of the exercise that is important.
- Talk to your doctor before starting any exercise program.
- Remember to check your blood glucose before starting exercise.
- Eat a small healthy snack before you exercise if your blood glucose is below 100 mg/dL.

Q. What can I do to have a healthier lifestyle?
A. Your everyday choices can make a big difference in your health.
- Ask your doctor or dietitian about a diabetes meal plan that is high in fiber and complex carbohydrates and low in sugar, highly processed foods, saturated fat and salt.
- Talk with your doctor about weight management if you are overweight.
- Ask your doctor about whether you should limit alcohol intake.
- If you smoke, ask your doctor for help quitting.
- Learn coping methods to reduce stress.
- Engage in physical activity for 30 to 60 minutes most days of the week with your doctor’s approval.

Q. How does being sick affect my blood glucose levels?
A. Being sick, experiencing severe stress and even having dental work done can increase your blood glucose levels. It is important to develop a “sick day” plan with your doctor that you can follow during times when any of the following are affecting you:
- Colds
- Dental work
- Infection
- Influenza (flu)
- Nausea, vomiting or diarrhea
- Severe stress
- Surgery

To be prepared for sick days:
- Keep an adequate amount of testing supplies on hand at all times.
- Ask your doctor what your blood glucose goals should be when you are sick.
- Talk to your doctor about how to adjust your insulin and other medication doses for sick days.

When you are sick:
- Check your blood glucose four times per day during mild illnesses or every three to four hours for more severe illnesses (or as directed by your doctor).
- Check your urine for ketones if your blood glucose is 250 mg/dL or above (or as directed by your doctor).

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### Estimating Portion Size

- One cup of fruit is about the size of a baseball.
- A half-cup of grapes is about the size of a light bulb.
- A medium apple or orange is about the size of a tennis ball.
- A serving size of almonds or walnuts fits in your closed hand.
- Three ounces of meat, poultry or fish is about the size of a deck of cards.
- One tablespoon of peanut butter is about the size of a walnut.
- A medium potato is about the size of a computer mouse.
• Write down your blood glucose and urine ketone results to share with your doctor.
• If your blood glucose is above 250 mg/dL for two readings in a row (or as directed by your doctor), call your doctor because you may need additional medication.
• Follow your doctor’s instructions when your blood glucose is above or below your target range or when ketones are present.
• Let a friend or family member know when you are ill and ask that person to check on you throughout the day.
• Call 911 if you have chest pain or difficulty breathing.

Q. How is type 1 diabetes treated?
A. The daily use of insulin is required for everyone with type 1 diabetes. There are several different types of insulin available. They vary based on the length of time that the insulin remains active in the body. Many people use a combination of different types to best manage their blood glucose. Insulin can be given in different ways. It can be injected under the skin with a needle and syringe, which is called subcutaneous injection. Some types come in prefilled pens or can be given through an insulin pump. Work closely with your doctor to determine the insulin regimen that best suits you and your needs. The following table lists the types of insulin.

<table>
<thead>
<tr>
<th>Type of Insulin</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid-acting</td>
<td>• Humalog® (lispro)</td>
</tr>
<tr>
<td></td>
<td>• NovoLog® (aspart)</td>
</tr>
<tr>
<td></td>
<td>• Apidra® (glulisine)</td>
</tr>
<tr>
<td>Short-acting</td>
<td>• Humulin® R (regular)</td>
</tr>
<tr>
<td></td>
<td>• Novolin® R (regular)</td>
</tr>
<tr>
<td>Intermediate-acting</td>
<td>• Humulin® N (NPH)</td>
</tr>
<tr>
<td></td>
<td>• Novolin® N (NPH)</td>
</tr>
<tr>
<td>Long-acting</td>
<td>• Lantus® (glargine)</td>
</tr>
<tr>
<td></td>
<td>• Levemir® (detemir)</td>
</tr>
<tr>
<td>Premixed analogs</td>
<td>• Humalog® Mix 75/25</td>
</tr>
<tr>
<td></td>
<td>• NovoLog® Mix 70/30</td>
</tr>
<tr>
<td>Premixed NPH-regular combinations</td>
<td>• Humulin® 70/30</td>
</tr>
<tr>
<td></td>
<td>• Novolin® 70/30</td>
</tr>
<tr>
<td></td>
<td>• Humulin® 50/50</td>
</tr>
</tbody>
</table>

Q. What are the most important points to remember about managing my blood glucose levels day to day?
A. Keep the following points in mind:
• Take your medication exactly as prescribed by your doctor.
• Check your blood glucose regularly and keep your blood glucose within the goal range as recommended by your doctor to help prevent or delay complications.
• Keep a record of your blood glucose values in a logbook or diary.
• Have a plan on how to treat hypoglycemia (low blood glucose) if this occurs. Always carry at least one form of hypoglycemia treatment with you.
• Wear a medical identification bracelet that designates you as a person with type 1 diabetes and keep a medication list in your wallet to alert others in case of an emergency.
Q. What should I do to take care of my diabetes when traveling?
A. In addition to your daily regimen, you should:
- Make sure you pack enough medication and testing supplies.
- Make sure all your medications are labeled with the pharmacy label or bring a prescription from your doctor.

Q. What is hypoglycemia?
A. Hypoglycemia is another name for low blood glucose. It typically happens when your blood glucose drops below 70 mg/dL. Some people may experience symptoms slightly above or below 70 mg/dL. Diabetes does not cause hypoglycemia. Rather, some medications used to treat diabetes can cause blood glucose to drop. It can happen even when you are doing all that you can to manage your diabetes. If hypoglycemia is untreated, you could even lose consciousness or have a seizure. The important thing is to recognize the symptoms and get treated before it gets worse. Symptoms of low blood glucose can include:
- Confusion
- Dizziness
- Hunger
- Shakiness
- Sweating

Develop a treatment plan with your doctor about what to do if you develop hypoglycemia. Let your doctor know if this happens often.

Q. How do I treat hypoglycemia?
A. Follow these steps to treat low blood glucose, unless your doctor has given you different directions.

1. Measure blood glucose to confirm that it is low (less than 70 mg/dL).
   - If you don’t have access to blood glucose monitoring supplies, treat yourself for hypoglycemia anyway.
   - If your blood glucose is less than 70 mg/dL, treat immediately.
2. Stop activity and sit down.
3. Eat or drink one of the following (this counts as one form of hypoglycemia treatment):
   - Four ounces (½ cup) of fruit juice
   - 1 tablespoon of sugar, honey or jelly
   - Eight ounces of skim milk
   - Two tablespoons of raisins (about one small box)
   - Six ounces of regular soda
   - Three glucose or four dextrose tablets
4. Recheck blood glucose after 10 to 15 minutes.
   - If blood glucose is less than 70 mg/dL, repeat Step 3.
   - If blood glucose is back to normal, go to Step 5.
5. Follow with a meal or snack. This snack should contain 15 grams of carbohydrate, such as one of the following:
   - One ounce of bread
   - Small orange
   - Eight ounces of milk

If your meal is more than an hour away, make sure you have 30 grams of carbohydrate.
6. Think about why low blood glucose may have occurred. Call your doctor. You may need a change in your diabetes medication dose.

Q. What are other important points to remember about hypoglycemia?
A. This is what you should do to be prepared in case hypoglycemia occurs:
   - Always carry at least one form of hypoglycemia treatment with you.
   - Check your blood glucose before you drive or use heavy machinery.
   - Teach your family, friends and co-workers the signs and symptoms of hypoglycemia and what to do if you become unconscious or unable to swallow:
     - They should call 911 for emergency assistance.
     - They should give you a glucagon injection if your doctor has recommended that you keep a glucagon emergency kit on hand and you have taught others how to use it.
They should **not** give you insulin because that will make your condition worse.
- They should **not** give you anything to eat or drink because of the risk of choking.

**Q.** When is high blood glucose considered an emergency?

**A.** The combination of uncontrolled blood glucose levels and an illness or infection may result in life-threatening conditions known as diabetic ketoacidosis (DKA) and hyperosmolar hyperglycemic nonketotic syndrome (HHNS).
- DKA occurs most frequently in people with type 1 diabetes.
- Although HHNS is most common in older adults with type 2 diabetes, it can also occur in younger people.

It is important that you recognize DKA and HHNS and get immediate medical care if you experience signs and symptoms. Talk with your doctor about what to do if you develop DKA or HHNS.

**Q.** What are the “ABCs” of type 1 diabetes?

**A.** You should know and manage your diabetes ABCs:
- **A1C.** Have your doctor perform an **A1C** test every three to six months; the goal is less than 7 percent.
- **Blood pressure.** Measure and record your **blood pressure** at every doctor’s visit as well as at home if recommended by your doctor; the target blood pressure for people with diabetes is less than 130/80 mm Hg (or 125/75 mm Hg in people with certain kidney problems).
- **Cholesterol.** Have your doctor measure your **cholesterol** at least once a year. Cholesterol and triglyceride goals are shown in the following table. Talk to your doctor about your personal cholesterol goals.

<table>
<thead>
<tr>
<th>Test</th>
<th>Goal</th>
<th>Other Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDL (&quot;bad&quot; cholesterol)</td>
<td>Less than 100 mg/dL</td>
<td>The recommended goal for people with heart disease or at high risk for heart disease is less than 70 mg/dL</td>
</tr>
<tr>
<td>HDL (healthy cholesterol)</td>
<td>Men - Above 40 mg/dL; Women - Above 50 mg/dL</td>
<td>An HDL above 60 mg/dL may reduce your health risks</td>
</tr>
<tr>
<td>Triglycerides (fat)</td>
<td>Less than 150 mg/dL</td>
<td></td>
</tr>
</tbody>
</table>

Source: American Diabetes Association

For more information about diabetes, visit the American Diabetes Association at diabetes.org or Joslin Diabetes Center at joslin.org.
References

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Drug names are the property of their respective owners.
Q. What is type 2 diabetes?
A. Type 2 diabetes (formerly known as adult-onset or noninsulin-dependent diabetes) occurs when the body does not produce enough insulin and/or is unable to use insulin properly (also called insulin resistance). Insulin is a hormone that converts glucose from food to energy in the body. When there is not enough insulin or insulin is not used effectively, blood glucose levels cannot be controlled. Very high and very low blood glucose can cause life-threatening situations.

Type 2 diabetes is the most common form of diabetes. It is usually diagnosed in people over 40, those who are overweight or those who have a family history of the disease. It is also becoming more common in children and teenagers.

Q. What are the signs and symptoms of type 2 diabetes?
A. The signs and symptoms are:
   - Blurred vision
   - Fatigue
   - Increased hunger
   - Increased thirst
   - Increased urination, especially at night
   - Sores that do not heal
   - Unexplained weight loss
   - Frequent infections such as urinary tract infections or yeast infections

Some people may not experience any of these signs or symptoms. However, a doctor may detect diabetes on a routine blood test.

Q. How do I check my blood glucose?
A. Blood glucose can be checked at home and in the doctor’s office. Checking your blood glucose regularly at home (self-monitoring) with a glucose meter, lancets and test strips helps you recognize when your blood glucose is too high or too low. Sharing those results with your doctor is recommended to help manage your diabetes. Follow your doctor’s instructions on how often to self-monitor your blood glucose level.

Q. What are goal blood glucose levels?
A. Goal blood glucose levels are shown in the table below. Talk to your doctor about your individual blood glucose goals. In addition, your doctor will use the A1C blood test to measure how well your blood glucose has been controlled over a three-month period. The goal A1C level is less than 7 percent. This test should be done every three to six months.

<table>
<thead>
<tr>
<th>Test</th>
<th>Goal Levels*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fasting (on an empty stomach)</td>
<td>90 to 130 mg/dL</td>
</tr>
<tr>
<td>Postprandial (two hours after a meal)</td>
<td>Less than 160 mg/dL</td>
</tr>
<tr>
<td>Bedtime</td>
<td>110 to 150 mg/dL</td>
</tr>
<tr>
<td>A1C level (not affected by time taken)</td>
<td>Less than 7%</td>
</tr>
</tbody>
</table>

*Recommendations from the American Diabetes Association and Joslin Diabetes Center
Q. Why is it important to keep my blood glucose levels within the goal range?
A. Keeping blood glucose within the goal range helps you feel better and reduces your risk of developing long-term complications. Long-term health problems associated with uncontrolled blood glucose may include:
- Heart disease, peripheral vascular disease and stroke
- Nerve damage causing numbness or pain in the hands and feet
- Eye damage that can lead to vision loss
- Kidney disease that can lead to kidney failure and dialysis
- Poor wound healing
- Foot ulcers that can lead to infection and amputation
- Gum disease

Q. What can affect blood glucose?
A. Blood glucose levels are always changing. The key is to stay within the goal range. The following can have an effect on blood glucose:
- **Food.** Avoid large food portion sizes and highly processed carbohydrate foods and sweets. Add more lean protein and healthy fats to your diet. Talk to your doctor or dietitian to develop a meal plan and determine correct serving sizes.
- **Alcohol.** Talk to your doctor about whether you should limit alcohol intake.
- **Medications.** Always ask your pharmacist before starting any new medications, including over-the-counter medications, supplements and herbal products, because they may interact with your current medications.
- **Illness.** Common illnesses may cause high or low blood glucose, so check your blood glucose more often when you are ill.
- **Exercise.** Lack of exercise may increase blood glucose while exercising regularly will help keep blood glucose under control. If your blood glucose is low before exercising, you should eat a small carbohydrate snack such as fruit or crackers before you start exercising.
- **Overweight.** Being overweight makes it difficult for the body to use insulin to convert food into energy.
- **Taking diabetes medication improperly.** It is important to understand how and when to take your medications. Always take your medications exactly as prescribed by your doctor and talk with your doctor about whether you need to adjust your medications when you are sick.

Q. How do diet and portion sizes affect blood glucose?
A. Your food choices and portion sizes directly affect blood glucose levels.
- **Refined carbohydrates and highly processed foods such as white rice, potatoes, dried fruits, packaged foods and sweets will cause swings in blood glucose.** This type of diet does not promote good health and will leave you feeling unsatisfied and hungry, which may cause you to eat more calories than your body needs, leading to weight gain.
- **Incorporating lean protein, low-fat dairy, vegetables, legumes such as beans and peas, and healthy fats will help keep your blood glucose steady and leave you feeling satisfied.**
- **Controlling the portion sizes of all the foods that you eat makes it easier to control your calorie intake and will improve your blood glucose control.**

### Estimating Portion Size

- One cup of fruit is about the size of a baseball.
- A half-cup of grapes is about the size of a light bulb.
- A medium apple or orange is about the size of a tennis ball.
- A serving size of almonds or walnuts fits in your closed hand.
- Three ounces of meat, poultry or fish is about the size of a deck of cards.
- One tablespoon of peanut butter is about the size of a walnut.
- A medium potato is about the size of a computer mouse.
Talk to your doctor or dietitian to determine correct serving sizes and help with meal planning.

Q. Why is exercise important in diabetes?
A. Exercise can help insulin work better and lower your blood glucose. Regular activity can also lower your blood pressure and cholesterol levels, which will reduce your risk for heart disease and stroke. If you are trying to lose weight, exercise and healthy eating can help you reach your target weight.

• Most people should do 30 to 60 minutes of physical activity most days of the week. This can be done by taking three to four 15-minute walks, as it is the amount, not the intensity of the exercise that is important.
• Talk to your doctor before starting any exercise program.
• Remember to check your blood glucose before starting exercise.
• Eat a small healthy snack before you exercise if your blood glucose is below 100 mg/dL.

Q. What can I do to have a healthier lifestyle?
A. Your everyday choices can make a big difference in your health.
• Ask your doctor or dietitian about a diabetes meal plan that is high in fiber and complex carbohydrates and low in sugar, highly processed foods, saturated fat and salt.
• Talk with your doctor about weight management if you are overweight.
• Ask your doctor about whether you should limit alcohol intake.
• If you smoke, ask your doctor for help quitting.
• Learn coping methods to reduce stress.
• Engage in physical activity for 30 to 60 minutes most days of the week with your doctor’s approval.

Q. How does being sick affect my blood glucose levels?
A. Being sick, experiencing severe stress and even having dental work done can increase your blood glucose levels. It is important to develop a “sick day” plan with your doctor that you can follow during times when any of the following are affecting you:
• Colds
• Dental work
• Infection
• Influenza (flu)
• Nausea, vomiting or diarrhea
• Severe stress
• Surgery

To be prepared for sick days:
• Keep an adequate amount of testing supplies on hand at all times.
• Ask your doctor what your blood glucose goals should be when you are sick.
• Talk to your doctor about how to adjust your insulin and other medication doses for sick days.

When you are sick:
• Check your blood glucose four times per day during mild illnesses or every three to four hours for more severe illnesses (or as directed by your doctor).
• Check your urine for ketones if your blood glucose is 250 mg/dL or above (or as directed by your doctor).
• Write down your blood glucose and urine ketone results to share with your doctor.
• If your blood glucose is above 250 mg/dL for two readings in a row (or as directed by your doctor), call your doctor because you may need additional medication.
• Follow your doctor’s instructions when your blood glucose is above or below your target range or when ketones are present.
• Let a friend or family member know when you are ill and ask that person to check on you throughout the day.
• Call 911 if you have chest pain or difficulty breathing.
Q. How is type 2 diabetes treated?
A. Making healthy lifestyle choices about diet and exercise is very important. Some people may control their diabetes through diet and exercise alone while others need medication.

The table below lists common medications. This is not a complete list of medications or side effects. Not everyone experiences the listed side effects. Talk to your doctor or pharmacist for more information.

<table>
<thead>
<tr>
<th>Drug Class</th>
<th>Generic Name (Brand Name)</th>
<th>How It Works</th>
<th>Common Side Effects</th>
</tr>
</thead>
</table>
| Alpha-glucosidase inhibitors | • acarbose (Precose®)  
  • miglitol (Glyset®)                              | Slows the breakdown of food and reduces the increase in blood glucose after a meal | Abdominal pain, bloating, diarrhea, gas, rash |
| Biguanides                | metformin (Glucophage®)                                                                   | Directly enhances insulin sensitivity in liver and muscle tissues             | Weight loss, stomach upset, nausea, diarrhea, gas |
| DPP-4 inhibitors          | sitagliptin (Januvia®)                                                                   | Indirectly enhances insulin release                                           | Low blood glucose, headache, rash    |
| Incretin mimetics         | exenatide (Byetta®)                                                                      | Stimulates insulin secretion and reduces the increase in blood glucose after a meal | Low blood glucose, diarrhea, nausea, vomiting, headache, dizziness, feeling nervous |
| Insulin*                  | • glargine (Lantus®)  
  • lispro (Humalog®)  
  • premixed analogs (Novolog® Mix 70/30)  
  • regular (Novolin® R) | Replaces insulin that is lacking in the body                                  | Low blood glucose, injection site reaction |
| Meglitinides              | • nateglinide (Starlix®)  
  • repaglinide (Prandin®)                  | Stimulates the body to produce more insulin but only works when taken after eating | Low blood glucose, weight gain, nausea, diarrhea |
| Sulfonylureas             | • glimepiride (Amaryl®)  
  • glipizide (Glucotrol®)  
  • glyburide (Micronase®)                  | Stimulates the body to produce more insulin                                  | Low blood glucose, stomach upset, weight gain or skin rash |
| Thiazolidinediones        | • pioglitazone (Actos®)  
  • rosiglitazone (Avandia®)                  | Indirectly enhances insulin sensitivity in liver, muscle and fat tissues     | Weight gain, muscle pain or aches, fluid retention, headache                |
| Combination products      | • glipizide/metformin (Metaglip®)  
  • glyburide/metformin (Glucovance®)  
  • pioglitazone/glimepiride (Duetact®)  
  • pioglitazone/metformin (Actoplus Met®)  
  • rosiglitazone/glimepiride (Avandaryl®)  
  • rosiglitazone/metformin (Avandamet®)  
  • sitagliptin/metformin (Janumet®)       | Same actions as medications taken individually                               | Same side effects as medications taken individually |

*Not a complete listing of insulin
Q. What are the most important points to remember about managing my blood glucose levels day to day?

A. Keep the following points in mind:
   - Take your medication exactly as prescribed by your doctor.
   - Check your blood glucose regularly and keep your blood glucose within the goal range as recommended by your doctor to help prevent or delay complications.
   - Keep a record of your blood glucose values in a logbook or diary.
   - Have a plan on how to treat hypoglycemia (low blood glucose) if this occurs. Always carry at least one form of hypoglycemia treatment with you.
   - Wear a medical identification bracelet that designates you as a person with type 2 diabetes and keep a medication list in your wallet to alert others in case of an emergency.

Q. What should I do to take care of my diabetes when traveling?

A. In addition to your daily regimen, you should:
   - Make sure you pack enough medication and testing supplies.
   - Make sure all your medications are labeled with the pharmacy label or bring a prescription from your doctor.

Q. What is hypoglycemia?

A. Hypoglycemia is another name for low blood glucose. It typically happens when your blood glucose drops below 70 mg/dL. Some people may experience symptoms slightly above or below 70 mg/dL. Diabetes does not cause hypoglycemia. Rather, some medications used to treat diabetes can cause blood glucose to drop too low or unexpectedly. It can happen even when you are doing all that you can to manage your diabetes. If hypoglycemia is untreated, you could even lose consciousness or have a seizure. The important thing is to recognize the symptoms and get treated before it gets worse. Symptoms of low blood glucose can include:
   - Confusion
   - Dizziness
   - Hunger
   - Shakiness
   - Sweating

Develop a treatment plan with your doctor about what to do if you develop hypoglycemia. Let your doctor know if this happens often.

Q. How do I treat hypoglycemia?

A. Follow these steps to treat low blood glucose, unless your doctor has given you different directions.

1. Measure blood glucose to confirm that it is low (less than 70 mg/dL).
   - If you don’t have access to blood glucose monitoring supplies, treat yourself for hypoglycemia anyway.
   - If your blood glucose is less than 70 mg/dL, treat immediately.

2. Stop activity and sit down.

3. Eat or drink one of the following (this counts as one form of hypoglycemia treatment):
   - Four ounces (½ cup) of fruit juice
   - One tablespoon of sugar, honey or jelly
   - Eight ounces of skim milk
   - Two tablespoons of raisins (about one small box)
   - Six ounces of regular soda
   - Three glucose or four dextrose tablets

4. Recheck blood glucose after 10 to 15 minutes.
   - If blood glucose is less than 70 mg/dL, repeat Step 3.
   - If blood glucose is back to normal, go to Step 5.

5. Follow with a meal or snack. This snack should contain 15 grams of carbohydrate, such as one of the following:
   - One ounce of bread
   - Small orange
   - Eight ounces of milk
If your meal is more than an hour away, make sure you have 30 grams of carbohydrate.

6. Think about why low blood glucose may have occurred. Call your doctor. You may need a change in your diabetes medication dose.

Q. What are other important points to remember about hypoglycemia?
A. This is what you should do to be prepared in case hypoglycemia occurs:
• Always carry at least one form of hypoglycemia treatment with you.
• Check your blood glucose before you drive or use heavy machinery.
• Teach your family, friends and co-workers the signs and symptoms of hypoglycemia and what to do if you become unconscious or unable to swallow:
  ▪ They should call 911 for emergency assistance.
  ▪ They should give you a glucagon injection if your doctor has recommended that you keep a glucagon emergency kit on hand and you have taught others how to use it.
  ▪ They should not give you insulin because that will make your condition worse.
  ▪ They should not give you anything to eat or drink because of the risk of choking.

Q. When is high blood glucose considered an emergency?
A. The combination of uncontrolled blood glucose levels and an illness or infection may result in life-threatening conditions known as hyperosmolar hyperglycemic nonketotic syndrome (HHNS) and diabetic ketoacidosis (DKA). HHNS is most common in older adults with type 2 diabetes, but it can also occur in younger people. Although DKA occurs most frequently in people with type 1 diabetes, it is important that you recognize HHNS and DKA and get immediate medical care if you experience signs and symptoms. Talk with your doctor about what to do if you develop HHNS or DKA.

Q. What are the “ABCs” of type 2 diabetes?
A. You should know and manage your diabetes ABCs:
• A1C. Have your doctor perform an A1C test every three to six months; the goal is less than 7 percent.
• Blood pressure. Measure and record your blood pressure at every doctor’s visit as well as at home if recommended by your doctor; the target blood pressure for people with diabetes is less than 130/80 mm Hg (or 125/75 mm Hg in people with certain kidney problems).
• Cholesterol. Have your doctor measure your cholesterol at least once a year. Cholesterol and triglyceride goals are shown in the following table. Talk to your doctor about your cholesterol and triglyceride goals.

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Q. What is heart failure?
A. Heart failure means that the heart is not pumping as it normally should. Without proper pumping, the heart is unable to provide enough blood, oxygen and nutrients to the rest of the body. The body responds by signaling the heart to work harder and the heart muscle begins to weaken due to increasing stress. In most cases, heart failure worsens over time.

Q. What causes heart failure?
A. Many conditions can contribute to heart failure, including high blood pressure, high cholesterol, diabetes, various forms of heart disease (including heart attacks, clogged heart vessels and heart valve disorders), viral infections, being obese or overweight and in rare cases, pregnancy. Smoking and using alcohol or illegal drugs can also increase the risk of heart failure.

Q. What are the symptoms of heart failure?
A. The following are some common symptoms:
- Shortness of breath, which may occur during activity or at rest
- Fatigue (extreme tiredness)
- Loss of appetite
- Persistent cough or wheeze
- Reduced ability to exercise
- Swelling in the legs, feet or abdomen (belly), which is called edema
- Sudden weight gain due to fluid retention
- Trouble sleeping

Q. What lifestyle changes should I make to help manage my heart failure?
A. Heart failure is a lifelong condition. Making the following changes in your daily habits can reduce symptoms and help prevent the condition from getting worse.
- If you smoke or use tobacco, ask your doctor about help for quitting.
- Reduce your alcohol and caffeine intake.
- Talk with your doctor or a dietitian about a healthy eating plan.
- Limit your sodium (salt) intake to 2,000 to 4,000 mg per day, including the sodium in packaged or processed foods.
- Maintain a healthy weight and lose weight, if needed.
- Ask your doctor about whether you should limit the amount of fluids you drink.
- Weigh yourself every day. A sudden weight gain can be due to fluid retention, which may be a sign of worsening heart failure.
- Start or continue a mild to moderate exercise routine (such as walking or gardening), with your doctor’s approval.
- Ask your doctor or pharmacist about flu and pneumonia vaccinations.
Q. What medications are available to manage heart failure?
A. There are different types of heart failure. Treatment is not the same for everyone. You may need more than one medication; your doctor will decide which medications are best for you. The types or classes of medications include the following:
- Diuretics (water pills)
- Angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARBs)
- Beta blockers
- Heart contractility medications (such as digoxin)
- Blood vessel dilators (such as nitroglycerin)
- Blood thinners (such as aspirin)
- Cholesterol-lowering medications (such as simvastatin)

Q. When should I contact my doctor?
A. Contact your doctor if you experience one of the following:
- Medication side effects become too bothersome
- You experience increasing difficulty with activities of daily living, such as bathing, dressing or eating
- Your symptoms worsen or you develop new symptoms, such as increasing shortness of breath or onset of chest pain. This may mean your heart failure is getting worse or not responding to treatment. Some people may need surgery to improve blood flow.

Q. How can I receive the most benefit from my medication?
A. Here are some helpful tips:
- Take all your medications as prescribed by your doctor. Don't stop taking medication without talking to your doctor or pharmacist first.
- Fill all your prescriptions at the same pharmacy so the pharmacist is aware of all your current medications.
- Tell your doctor about all your medications, especially if you are receiving medications from more than one doctor. Make sure to mention over-the-counter medications and herbal products because these may affect the way your other medications work.

The table on the next page describes some of the medications that may be used for treatment of heart failure. It lists commonly used medications in each class, the benefits, common side effects and other helpful information. This is not a complete list of all the medications used for heart failure or a complete list of side effects. Not everyone experiences the listed side effects. Talk to your doctor or pharmacist for more information.
### Heart Failure Medications

<table>
<thead>
<tr>
<th>Medication Class</th>
<th>Generic Name (Brand Name)</th>
<th>Benefits and How They Work</th>
<th>Common Side Effects</th>
<th>Other Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diuretics</strong></td>
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<tr>
<td></td>
<td>bumetanide (Bumex®)</td>
<td>● Remove excess water and sodium from the body through urine</td>
<td>● Decrease in blood pressure</td>
<td>● Take doses earlier in the day to prevent frequent urination at night.</td>
</tr>
<tr>
<td></td>
<td>eplerenone (Inspra®)</td>
<td>● Decrease symptoms of fluid retention more quickly than other heart failure medications</td>
<td>● Dizziness, Frequent urination, Headache, Sensitivity to sunlight</td>
<td></td>
</tr>
<tr>
<td></td>
<td>furosemide (Lasix®)</td>
<td>● Improve ability to exercise</td>
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<td></td>
<td>hydrochlorothiazide (HCTZ)</td>
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<td></td>
<td>metolazone (Zaroxolyn®)</td>
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<td></td>
<td>spironolactone (Aldactone®)</td>
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<td>torsemide (Demadex®)</td>
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<tr>
<td><strong>Angiotensin-converting enzyme (ACE) inhibitors</strong></td>
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<td></td>
<td>benazepril (Lotensin®)</td>
<td>● Block the effect of a hormone called angiotensin II, which normally causes blood vessels to narrow</td>
<td>● Decrease in blood pressure</td>
<td>● Tell your doctor if you are receiving potassium supplements or using salt substitutes, which often contain potassium, because taking ACE inhibitors or ARBs with these products can cause excessive levels of potassium in the blood.</td>
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<tr>
<td></td>
<td>captopril (Capoten®)</td>
<td>● Reduce stress on the heart and improve blood flow</td>
<td>● Dizziness, Dry, persistent cough*</td>
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<tr>
<td></td>
<td>enalapril (Vasotec®)</td>
<td>● Shown to improve symptoms, slow down the progression of heart failure, reduce hospitalizations and reduce risk of death</td>
<td>● Headache, Increased potassium in blood, Rash, Unusual tiredness</td>
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<td></td>
<td>fosinopril (Monopril®)</td>
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<td>lisinopril (Zestril®, Prinivil®)</td>
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<td>moexipril (Univasc®)</td>
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<td>perindopril (Aceon®)</td>
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<td>ramipril (Altace®)</td>
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<td>trandolapril (Mavik®)</td>
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<td><strong>Angiotensin receptor blockers (ARBs)</strong></td>
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<tr>
<td></td>
<td>candesartan (Atacand®)</td>
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<tr>
<td></td>
<td>eprosartan (Teveten®)</td>
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<tr>
<td></td>
<td>irbesartan (Avapro®)</td>
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<tr>
<td></td>
<td>losartan (Cozaar®)</td>
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<tr>
<td></td>
<td>olmesartan (Benicar®)</td>
<td></td>
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<tr>
<td></td>
<td>telmisartan (Micardis®)</td>
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<tr>
<td></td>
<td>valsartan (Diovan®)</td>
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<tr>
<td><strong>Beta blockers</strong></td>
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<tr>
<td></td>
<td>bisoprolol (Zebeta®)</td>
<td>● Decrease heart rate and blood pressure by blocking the effects of a hormone called norepinephrine</td>
<td>● Depression, Dizziness, Headache, Fluid retention, Possible narrowing of airways, Unusual tiredness</td>
<td>● Weigh yourself daily to monitor for fluid retention, especially when you are starting on a beta blocker or when your doctor is increasing the dose.</td>
</tr>
<tr>
<td></td>
<td>carvedilol (Coreg®)</td>
<td>● Shown to improve symptoms, slow down the progression of heart failure, reduce hospitalizations and reduce risk of death</td>
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<tr>
<td></td>
<td>metoprolol extended-release (Toprol XL®)</td>
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<tr>
<td><strong>Digitalis</strong></td>
<td></td>
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<tr>
<td></td>
<td>digoxin (Lanoxin®, Digitek®)</td>
<td>● Increase the strength of heart muscle contractions</td>
<td>● Vision changes, Decrease in heart rate, Diarrhea, Dizziness, Headache, Loss of appetite</td>
<td>● Contact your doctor immediately if you experience any unusually fast, slow or irregular heartbeats.</td>
</tr>
</tbody>
</table>
References


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Q. What is asthma and what causes it?
A. Asthma is a chronic (long-term) condition that affects the bronchial passages, the tubes that carry air in and out of the lungs. Asthma involves inflammation (swelling) that may lead to difficulty breathing due to constriction (narrowing) of the airways. Inflammation of airways may be caused by things that you are allergic to or find irritating, which are known as triggers. Triggers can cause airways to swell, become tighter and produce excess mucus. Asthma symptoms often go away with treatment or even on their own.

Q. What are the symptoms of asthma?
A. Common asthma symptoms include:
   - Coughing
   - Wheezing, a whistling or squeaky sound while breathing
   - Chest tightness
   - Difficulty breathing or shortness of breath

You may experience one or more of the above symptoms at one time, and symptoms may be different from one asthma attack to another. Sometimes asthma may be present without symptoms. Sometimes, these symptoms may be caused by other conditions. So it is important to see your doctor when asthma symptoms do not improve with treatment.

Q. How severe is my asthma?
A. The following chart describes the different severities:

<table>
<thead>
<tr>
<th>Severity</th>
<th>Daytime Symptoms</th>
<th>Nighttime Symptoms</th>
<th>Use of Quick-Relief &quot;Rescue&quot; Medication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermittent asthma</td>
<td>No more than two days each week</td>
<td>No more than two nights each month</td>
<td>Two days or less each week</td>
</tr>
<tr>
<td>Mild persistent asthma</td>
<td>Three days or more a week but no more than one episode of symptoms on any one day</td>
<td>Three nights or more a month</td>
<td>Two or more days each week but not more than once a day</td>
</tr>
<tr>
<td>Moderate persistent asthma</td>
<td>Every day</td>
<td>More than one night a week</td>
<td>Daily</td>
</tr>
<tr>
<td>Severe persistent asthma</td>
<td>Throughout the day every day</td>
<td>Often</td>
<td>Several times per day</td>
</tr>
</tbody>
</table>
Q. **What are the triggers of asthma?**
A. Some common triggers are listed in the following table. This is not a complete list. Asthma symptoms may be caused by other triggers.

<table>
<thead>
<tr>
<th>Type of Trigger</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allergens</td>
<td>• Animal dander (from the skin, hair or feathers of animals)</td>
</tr>
<tr>
<td></td>
<td>• Cockroaches</td>
</tr>
<tr>
<td></td>
<td>• Dust mites</td>
</tr>
<tr>
<td></td>
<td>• Food additives</td>
</tr>
<tr>
<td></td>
<td>• Grass and tree pollen</td>
</tr>
<tr>
<td></td>
<td>• Mold (indoor and outdoor)</td>
</tr>
<tr>
<td>Environmental conditions</td>
<td>• Air pollution</td>
</tr>
<tr>
<td></td>
<td>• Cigarette smoke</td>
</tr>
<tr>
<td></td>
<td>• Strong odors from paint or cooking</td>
</tr>
<tr>
<td></td>
<td>• Weather changes</td>
</tr>
<tr>
<td>Indoor pollutants</td>
<td>• Cleaning agents</td>
</tr>
<tr>
<td></td>
<td>• Perfumes</td>
</tr>
<tr>
<td></td>
<td>• Unvented stoves or heaters</td>
</tr>
<tr>
<td></td>
<td>• Other chemicals</td>
</tr>
<tr>
<td>Respiratory infections</td>
<td>• Colds</td>
</tr>
<tr>
<td></td>
<td>• Flu</td>
</tr>
<tr>
<td></td>
<td>• Pneumonia</td>
</tr>
<tr>
<td>Strong emotions</td>
<td>• Crying or laughing hard</td>
</tr>
<tr>
<td></td>
<td>• Stress or anxiety</td>
</tr>
<tr>
<td>Other medical conditions</td>
<td>Heartburn (can worsen asthma symptoms, especially at night)</td>
</tr>
<tr>
<td>Other medications</td>
<td>Rarely, medications such as aspirin and nonsteroidal anti-inflammatory</td>
</tr>
<tr>
<td></td>
<td>drugs (NSAIDs) such as ibuprofen (for example, Motrin® or Advil®) that</td>
</tr>
<tr>
<td></td>
<td>are used to treat other conditions, may trigger or worsen asthma</td>
</tr>
<tr>
<td></td>
<td>symptoms</td>
</tr>
<tr>
<td>Physical activity</td>
<td>Overexertion (lifting, pulling or pushing heavy objects)</td>
</tr>
</tbody>
</table>

Q. **How can triggers be avoided?**
A. You should identify and avoid things that bring on your asthma symptoms. To help reduce the effects of triggers, you can do the following:
• Do not smoke or allow smoking in your home.
• Keep pets out of the bedroom.
• Remove carpeting where possible.
• Stay indoors on high air pollution-alert days or if pollen or mold counts are high.
• Use a dehumidifier.
• Use dust-proof furniture covers.
• If you have symptoms while exercising or climbing stairs, talk with your doctor about ways you can be active without having asthma symptoms.
Q. How is asthma treated?
A. Asthma is treated with quick-relief medication and medication for long-term control. You and your doctor can work together to develop a treatment plan that may include medication, lifestyle changes, avoiding triggers and developing an asthma action plan with specific instructions on how to manage your asthma. Everyone with asthma should carry a “rescue” medication for quick relief of asthma symptoms. Your doctor may also prescribe other medications for a short period of time for acute asthma attacks.

Long-term controller medications do not work instantly to relieve asthma symptoms. Because they work slowly, they must be used every day, even when you are not experiencing any symptoms. The differences between quick-relief and long-term controller medication are shown in the table below.

<table>
<thead>
<tr>
<th>Generic Name (Brand Name)*</th>
<th>When to Take the Medication</th>
<th>How the Medication Works</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick-relief &quot;rescue&quot; medication (bronchodilators)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| albuterol (including Proventil®, ProAir® or Ventolin®) | • When asthma symptoms first start  
• Before exercise if directed by your doctor  
• As directed by your doctor | • Relieves symptoms by relaxing the airways quickly  
• Allows more air to come in and out of the lungs so breathing is easier |
| Long-term controller medication | | |
| • budesonide (Pulmicort®)  
• cromolyn (Intal®)  
• fluticasone (Flovent® HFA)  
• montelukast (Singulair®)  
• salmeterol (Serevent®)  
• fluticasone/salmeterol (Advair®) | • Must be taken every day even when you are symptom free  
• Will not relieve asthma symptoms during an asthma attack | • Works slowly over time to help prevent asthma attacks  
• Reduces swelling and mucus production in the airways  
• Helps make airways less sensitive |

*This is not a complete list. Talk to your doctor or pharmacist for more information.

Q. How can I manage my asthma?
A. It is important to learn how to take care of yourself. Doing the following can be helpful:
- Review your inhaler technique with your doctor or pharmacist.
- If you have difficulty using your inhaler, speak to your doctor or pharmacist about other ways to take your medication. Ask about a spacer, a device that can make it easier to use an inhaler.
- Be sure you know which medications are for quick relief during an asthma attack and which are long-term controllers.
- Take your medications exactly as prescribed by your doctor.
- Ask your doctor if you should monitor your asthma at home using a peak flow meter, a device that measures your ability to forcefully blow air out of your lungs (your peak air flow).
- Create an asthma action plan with your doctor.
- Exercise, eat healthy, well-balanced meals and quit smoking if you are a smoker.
- Ask your doctor if you should receive flu and pneumonia vaccinations.
Q. When should I seek emergency medical help for my asthma?
A. Watch for warning signs of asthma symptoms or attacks and follow your asthma action plan. If your medication does not relieve your symptoms, stay calm and seek medical care immediately. Make sure your family, friends and co-workers know how to assist you if urgent help is needed. Be sure to keep emergency information and telephone numbers handy. If you experience any of the following symptoms, you should call 911 or go to the emergency room right away:
- You have trouble talking.
- You have difficulty breathing.
- Your lips and fingernails turn blue.
- Quick-relief medications do not provide relief within minutes.
- Your symptoms return after you take medication.
- Your symptoms get worse.

References

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Q. What is chronic obstructive pulmonary disease (COPD)?
A. COPD is an obstructive lung disease in which the lungs are damaged, making it difficult for a person to breathe and exhale. COPD is a condition whereby lung function may continue to worsen over time. It is generally diagnosed in smokers or former smokers who are middle aged or older. A person having COPD may suffer from chronic bronchitis, emphysema, or a combination of these diseases.

In healthy people, airways are clear and open. The small air sacs at the end of each branch in our lungs are normally elastic and springy. In COPD, the airways and air sacs lose their shape and become floppy, which makes it harder for them to work properly.

Q. How does COPD differ from asthma?
A. Asthma
- Onset typically is in childhood or adolescence, but can be diagnosed at any age.
- Airway obstruction is at least in part reversible.
- Allergies may play a role in triggering asthma symptoms.

COPD
- Onset generally is at an older age in smokers or former smokers.
- Airway obstruction is largely irreversible.
- Lung infections generally trigger worsening symptoms.

Q. What is the difference between emphysema and chronic bronchitis and how are they diagnosed?
A. When a person has emphysema, the walls between many of the air sacs are destroyed, which leads to having few large air sacs instead of many tiny ones. Unfortunately, these larger air sacs become floppy and tend to trap air, which causes shortness of breath. The lungs poorly exchange carbon dioxide for oxygen.

Diagnosis of emphysema is best done through lung function tests, which measure how well the lungs both take in and exhale air and how efficiently they transfer oxygen into the blood. One particular test, spirometry, measures the amount and/or the speed of air being inhaled and exhaled. If you are a smoker or former smoker, you should have spirometry testing.

In chronic bronchitis, the airways become inflamed and thickened, and there is an increase in the number, activity, and size of mucus-producing cells. This results in excessive mucus production, which in turn contributes to coughing and difficulty getting air in and out of the lungs.

Diagnosis of chronic bronchitis also can be done through lung function tests. However, a doctor also can make a clinical diagnosis for people reporting coughing up sputum on most days for at least three consecutive months each year for two consecutive years.
Q. **What causes COPD?**
A. Cigarette smoking is the most common cause. Most people with COPD are either active smokers or former smokers. People exposed to other types of lung irritants like pollution, dust, or chemicals over a long period of time also may develop COPD. Family genetics, in the form of a hereditary deficiency of the protein alpha-1 antitrypsin, also may play a role.

Q. **What are the symptoms of COPD?**
A. Symptoms may include:
- Chest tightness
- Coughing
- Shortness of breath, especially with exercise
- Sputum (mucus) production
- Wheezing (a whistling or squeaky sound when you breathe)

Q. **How is COPD treated?**
A. Quitting smoking is the single most important thing you can do to slow the progress of the disease. Medications that may be used to treat COPD include:
- **Bronchodilators** (includes beta-2 agonists, anticholinergics, and methylxanthines) – This type of medication helps to open your airways and make breathing easier. Bronchodilators can be either short- or long-acting and most are inhaled.
  - Short-acting beta-2-agonists – albuterol (available in ProAir® HFA, Proventil® HFA, and Ventolin® HFA)
  - Long-acting beta-2-agonists – salmeterol (found in Advair® and Serevent®) and formoterol (Foradil®)
- Anticholinergics – ipratropium (Atrovent® HFA) and tiotropium (Spiriva®)
- Methylxanthines – theophylline
- **Corticosteroids** – This type of medication works to reduce airway inflammation. Corticosteroids are available in several dosage forms.
  - Oral tablet – prednisone and methylprednisolone
- **Oxygen therapy** – Your doctor will determine if you need oxygen therapy. When indicated and used appropriately, oxygen therapy is the only COPD treatment proven to prolong life.

Q. **Should those with COPD receive flu and pneumonia shots?**
A. Yes. Flu is especially serious for people who have health conditions such as COPD. It is important to get a flu shot every year, preferably in October or early November. Those with COPD also should receive a one-time pneumonia shot. A second pneumonia shot is recommended if you are over 65 years old and were vaccinated more than five years before the age of 65. You are less likely to get flu or pneumonia if you have these vaccinations. Staying up-to-date with your vaccinations may help prevent you from getting sick and worsening your COPD.

Q. **How can I prevent my COPD from getting worse?**
A. If you smoke, the most important thing you can do to slow down the damage to your lungs is to quit smoking. Remember, COPD is a condition that will get worse as time goes on. Continuing to smoke will cause COPD to worsen faster. Your goal is to slow down that process by avoiding things that will irritate your lungs. Therefore, staying away from other lung irritants such as pollution, dust, and certain cooking or heating fumes is important.
Q. What should I do if my COPD symptoms suddenly worsen?
A. Seek medical attention immediately. There are several therapies your doctor may consider. Treatment may include taking antibiotics, if there are signs of an airway infection. Bronchodilators and possibly oral steroids (for example, prednisone) are commonly used to treat sudden worsening of COPD. If the situation is life-threatening and involves an emergency room visit, oxygen therapy and possibly intravenous steroids may be needed.

Q. When should I get emergency help?
A. You should get emergency help if:
   • You find it hard to talk or walk.
   • Your heart is beating very fast or irregularly.
   • You are not responding to your emergency medications (for example, albuterol).
   • Your lips or fingernails are gray or blue.
   • Your breathing is fast and hard, even though you are taking your medications.

References

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Q. What is a peak flow meter?
A. A peak flow meter is a portable device that measures how well air flows through your airways and out of your lungs. This device is a useful tool to help you determine if your asthma is under control, if you need any additional treatment, or if you are likely to have an asthma attack soon. A peak flow meter is available over-the-counter and without a prescription. However, you should speak with your doctor before purchasing a meter.

Q. Why should I use a peak flow meter?
A. A peak flow meter can provide information that may help you:
- Avoid an asthma attack by detecting decreasing lung function early, so you can follow your doctor’s directions for treatment
- Determine how well your medication is working and whether a change is needed
- Determine the severity of your asthma
- Identify your asthma triggers, for example, pets or dust
- Know when to seek emergency care
- Understand the patterns of your asthma symptoms

Q. What does a peak flow meter look like?
A. A traditional peak flow meter is a hollow tube with an attached spring scale. When you blow air into the tube, the force of the air will push a marker or indicator on the numbered scale to a certain number. That number indicates your peak flow, or the amount of air that comes out of your lungs. It is important to remember that depending on who is using the meter (child or adult), the scale on the meter will be different. In addition, you should be aware that there are newer electronic meters available which may look slightly different.

Q. How do I use a peak flow meter?
A. It is very important to use proper techniques to get accurate readings from your peak flow meter. You can learn proper techniques from your doctor, nurse, pharmacist, or respiratory therapist. The following are general guidelines for using a traditional peak flow meter:
1. Before use, read the manufacturer’s directions to become familiar with assembling and operating the meter.
2. Assemble the meter according to the manufacturer’s instructions.
3. Make sure the indicator is at the base level or reads zero. If not at base level or zero, move the indicator to base level or zero as directed in the manufacturer's instructions.
4. Use the meter while standing up. If you are unable to stand, perform the test sitting upright. Always perform the test in the same position.
5. Take a slow, deep breath, filling your lungs completely.
6. Close your lips around the mouthpiece.
7. Make sure your tongue is not blocking the mouthpiece.
8. Exhale completely through your mouth, as forcefully as possible, for at least one to two seconds.
9. Write down the reading you get from your peak flow meter.
10. Repeat the above process two more times and record the highest of the three readings.
11. If you cough in the middle of performing the test, repeat that test from the beginning.

Q. When should I use my peak flow meter?
A. Peak flow readings are usually taken once or twice a day, depending on the severity of your asthma. Talk to your doctor about how often and at what time of day you should use your peak flow meter.
   • If your doctor recommends that you use your peak flow meter once a day, do so first thing in the morning before taking any quick-relief medication (such as an albuterol inhaler).
   • If you take your measurements twice a day, take one reading first thing in the morning unless otherwise directed by your doctor. Then, take another reading either in the early afternoon or 10 to 12 hours after the first reading. The peak flow meter results will usually be the best in the afternoon.
   • If you use a quick-relief medication around the same time you plan to take a peak flow reading, take the reading before and after using your medication, unless your doctor advises otherwise. Be sure to record the before-and-after readings.

Q. How should I care for my peak flow meter?
A. Refer to the manufacturer’s instructions for complete details about cleaning your peak flow meter. In general, the steps are as follows. Clean the mouthpiece of the peak flow meter with warm water and soap weekly. Be sure to clean, rinse, and air dry it well. Some peak flow meters are dishwasher safe and should be placed on the top rack of the dishwasher only. However, you should check the manufacturer’s guidelines to be sure. Also, be careful not to dunk the meter in water as it can damage it.

Q. What do peak flow readings mean?
A. Using the peak flow meter will help you determine changes in your asthma, and may indicate if an attack is beginning—before symptoms appear. To monitor your asthma, you should establish a “personal best” peak flow reading to compare with all your other peak flow readings. Your personal best peak flow reading is the highest number you achieve on your peak flow meter after continued use. To establish your personal best reading, record your peak flow reading numbers at least twice a day for two to three weeks. Your personal best is the highest number you can achieve while your asthma is under control.

Once your personal best is established, your goal is to maintain your peak flow readings at 80 percent or more of this number. For example, if your personal best is
500 Liters/minute, your goal is to maintain a reading between 500 and 400 Liters/minute (500 multiplied by .8 [or 80 percent] = 400). You should try to meet or exceed that number every time you monitor your peak flow readings.

A variety of peak flow meters are available for purchase and readings may vary from brand to brand. For accurate and dependable readings, use the same peak flow meter each time. If your change your meter, even if it is the same brand, you need to establish a new personal best reading with the new meter.

It is also important to remember that your personal best can improve or change over time. If this happens, you should speak with your doctor to determine if your current medication regimen is appropriate.

Q. What does it mean when my peak flow reading doesn't meet my personal best?

A. If any peak flow reading decreases by more than 20 percent from the previous reading or your personal best reading, it may be a sign of decreasing lung function, or an impending asthma episode. Talk to your doctor about what you should do when readings decrease.

A color-coded zone system, similar to a traffic light, has been established to help you interpret your peak flow meter readings and better manage your asthma.

• Green (O.K.) zone: Indicates a peak flow reading that is 80 percent to 100 percent of your personal best reading, or no symptoms of an asthma attack
• Yellow (caution) zone: Indicates either a peak flow reading that is 50 percent to 80 percent of your personal best reading, or an increase in asthma symptoms
• Red (danger) zone: Indicates either a peak flow reading that is below 50 percent of your personal best reading, or that asthma symptoms are greatly limiting your ability to do your usual activities

Work with your doctor to determine your asthma action plan, which indicates what action you should take based on your peak flow reading and zone. For example, in the green zone, you may be instructed to continue taking your medication as usual. In the yellow zone, you may need to adjust your medication according to your doctor’s directions. In the red zone, your doctor may tell you to seek emergency medical care and adjust your medication.

References

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Q. What is a spacer?
A. A spacer (also known as holding chamber) is a special device that attaches onto metered-dose inhalers to help you breathe in medication better. It allows more of the medication to enter your lungs and helps prevent a mouth and throat infection called thrush that can occur when too much of this medication stays in your mouth.

Several types of spacers are available at your pharmacy. Some inhalers are packaged with a spacer already connected to the inhaler. Talk to your doctor to determine if a spacer is right for you.

Q. Who uses spacers?
A. For people with asthma or chronic obstructive pulmonary disease (COPD) who use metered-dose inhalers and have problems coordinating their breathing with the spray of medication, a spacer can allow a few extra seconds to inhale the medication. This helps the medication get into the lungs. Also, for those who are taking inhaled corticosteroids such as flunisolide (AeroBid®), or fluticasone (Flovent®), using a spacer may help reduce the chances of side effects such as thrush and coughing. Note that spacers are only used with certain types of metered-dose inhalers, such as metered-dose inhalers that use chlorofluorocarbons (CFCs) as a propellant to help deliver the medication. Talk to your doctor to determine if a spacer is appropriate for your inhaler.

Q. How does a spacer work?
A. A spacer is a tube or bag usually connected to the mouthpiece or the canister of an inhaler. Once the medication is ejected from the canister, it is held in the spacer for three to five seconds. This allows a person to take one or two deep breaths of medication. Spacers do not work with aerosol breath-activated inhalers (such as the Pulmicort Turbuhaler®) or dry powder inhalers (such as Advair Diskus®).
Q. How do I use a spacer?
A. Refer to the manufacturer’s instructions for complete details about your spacer. In general, the steps to use a spacer are:
1. Assemble the spacer as directed by your doctor or the manufacturer’s instructions included with the spacer.
2. Attach the spacer to the inhaler as directed. In some cases, you will need to remove the canister of medication from the inhaler and attach it to the spacer.
3. Shake the assembled spacer-inhaler device for at least five seconds.
4. Tilt your head back slightly.
5. Press down on the canister, releasing one spray of medication into the spacer.
6. Breathe out, but not into the spacer. Close your lips around the spacer mouthpiece. Hold your tongue flat against the bottom of your mouth.
7. Breathe in deeply and slowly. Hold your breath for about 10 seconds, or as long as you can.
8. Breathe out slowly through narrowed or pursed lips, like slowly blowing out a candle.
9. Repeat steps 6 through 8, if possible. Some spacers will not allow you to inhale more than once during a single spray.
10. If you need to inhale more than once, wait one minute between puffs. Then repeat steps 3 through 9. This allows the airways a chance to open wider and deliver more medication from the second puff deeper into the lungs.

Q. How do I clean my spacer?
A. Your spacer should be cleaned at least once every week or two (depending upon the manufacturer’s instructions). Refer to the manufacturer’s instructions for complete details about cleaning your spacer. In general, the steps used to clean a spacer are as follows. Take apart your spacer and clean all parts with warm water and mild soap. Rinse well and let it air dry. Do not towel dry your spacer as it can decrease the amount of medication that enters the lungs. Once it is completely dry, you may put your spacer back together. Do not use a dishwasher to wash your spacer as it may damage it.

Q. What else should I know about my spacer?
A. Don’t share your spacer with anyone else. If any part of your spacer is broken, don’t use it. You should get a new spacer instead.

References

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Q. What is osteoporosis?
A. Osteoporosis thins and weakens the bones, making them more likely to break. The disease is considered “silent” because there are no symptoms until you break a bone. Osteoporosis can affect both men and women, and the risk increases with age. People over the age of 50 are most at risk for osteoporosis and broken bones. With osteoporosis, broken bones can occur even after a minor injury, such as a fall. The most commonly fractured bones include the back (spine), wrist and hip. Spine and hip fractures can cause chronic (long-term) pain or serious injury that is generally slow and difficult to heal.

Q. How many people have osteoporosis?
A. In the United States, 10 million people have been diagnosed with osteoporosis. Millions more have low bone mass and other conditions that make them more likely to develop the condition. Osteoporosis can develop at any age, but it is most common among older people, especially older women.

Q. Why are women at greater risk for osteoporosis than men?
A. Women are at higher risk for osteoporosis because they have smaller bones and lose bone more rapidly than men due to hormone changes that occur after menopause.

Q. Who is at risk for developing osteoporosis?
A. Many factors increase the risk of developing osteoporosis and breaking a bone. Some of these risk factors can be changed or controlled, while others cannot. The most common risk factors include:
- Smoking cigarettes or using other tobacco products
- Drinking three or more alcoholic drinks a day
- Menopause
- Lack of physical activity
- Low levels of calcium or vitamin D
- Certain medications, such as corticosteroids, when taken for a long time

Q. What can I do to help prevent osteoporosis?
A. There are many lifestyle changes you can make to strengthen your bones and help prevent osteoporosis.
- **Stop smoking.** Smoking weakens the bones. It may prevent bones from absorbing calcium.
- **Avoid drinking excess alcohol.** Too much alcohol can affect calcium and vitamin levels and lead to weak bones.
- **Do weight-bearing exercise.** This includes activities like walking, jogging and stair climbing. Exercise improves bone health and increases muscle strength and balance to prevent falls. Talk to your doctor about activities that may be appropriate for you.
• **Choose calcium-rich foods every day.** Good sources of calcium include low-fat dairy products such as milk and yogurt, vegetables such as spinach and broccoli, and foods fortified with calcium such as orange juice and certain breakfast cereals.

• **Take calcium supplements.** Talk to your doctor before you start taking calcium supplements. Calcium should be taken with vitamin D because vitamin D is necessary for the body to absorb calcium.

• **Get enough vitamin D each day.** The National Osteoporosis Foundation recommends that adults under 50 get 400 to 800 International Units (IU) of vitamin D daily, and that adults 50 and over get 800 to 1,000 IU of vitamin D daily. Some people may need more. A blood test is available to see if you are getting enough vitamin D. Talk to your doctor about taking vitamin D supplements.

Q. **How can I know if I have osteoporosis?**
A. A special X-ray called a bone mineral density test is used to diagnose osteoporosis. This test measures how strong or dense your bones are. Bone density tests are simple and painless. They may be done on different parts of your body, such as the hip or spine.

Q. **How is osteoporosis treated?**
A. A number of medications may be prescribed to treat osteoporosis. Some examples of osteoporosis medications include:

  - **bisphosphonates**
    - alendronate (Fosamax®, Fosamax plus D™)
    - ibandronate (Boniva®)
    - risedronate (Actonel®, Actonel® with Calcium)
  - calcitonin (Miacalcin®)
  - raloxifene (Evista®)
  - teriparatide (Forteo®)
  - zoledronic acid (Reclast®)

Alendronate, ibandronate and risedronate belong to a class of medications called bisphosphonates, which are used for both prevention and treatment of osteoporosis in postmenopausal women.

Q. **What should I know about bisphosphonates?**
A. Most of these medications are taken by mouth, usually once a week or once a month. For the medication to be most effective, you must take it on a totally empty stomach. You must not eat or drink anything other than plain water, and you must remain upright for at least 30 minutes. Sitting, standing or walking helps ensure the medication reaches your stomach quickly. It also helps prevent the drug from irritating your esophagus, which could happen if you bend over or lie down during those first 30 minutes. Talk to your doctor if you have trouble remaining upright. Contact your doctor if you experience chest pain, worsening heartburn or pain when you swallow.

Your doctor may also recommend taking calcium and vitamin D supplements.

Q. **How much calcium and vitamin D do I need?**
A. The table below lists recommendations for people at different ages and stages of life.

<table>
<thead>
<tr>
<th>Age or Life Stage</th>
<th>Recommended Daily Calcium Intake (mg)</th>
<th>Recommended Daily Vitamin D Intake (IU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3 years</td>
<td>500</td>
<td>400</td>
</tr>
<tr>
<td>4-8 years</td>
<td>800</td>
<td>400</td>
</tr>
<tr>
<td>9-18 years</td>
<td>1,300</td>
<td>400</td>
</tr>
<tr>
<td>19-50 years</td>
<td>1,000</td>
<td>400-800</td>
</tr>
<tr>
<td>Older than 50 years</td>
<td>1,200</td>
<td>800-1,000</td>
</tr>
<tr>
<td>Pregnant or nursing women (same amount of calcium as other women of the same age.)</td>
<td>1,000-1,300</td>
<td>400-800</td>
</tr>
<tr>
<td>Diagnosed with osteoporosis</td>
<td>1,200</td>
<td>400-800</td>
</tr>
</tbody>
</table>
Q. What kinds of calcium and vitamin D supplements are available?
A. The table below lists commonly used calcium and vitamin D supplements. Calcium and vitamin D supplements should be taken with each meal.

<table>
<thead>
<tr>
<th>Supplement</th>
<th>Calcium per Tablet (mg)</th>
<th>Vitamin D per Tablet (IU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium carbonate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caltrate® 600</td>
<td>600</td>
<td>None</td>
</tr>
<tr>
<td>OsCal® 500</td>
<td>500</td>
<td>None</td>
</tr>
<tr>
<td>Tums E-X® 750</td>
<td>750</td>
<td>None</td>
</tr>
<tr>
<td>Calcium carbonate with vitamin D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caltrate® 600 + D</td>
<td>600</td>
<td>400</td>
</tr>
<tr>
<td>OsCal® 500 + D</td>
<td>500</td>
<td>200</td>
</tr>
<tr>
<td>Oscal® 500 + Extra D</td>
<td>500</td>
<td>400</td>
</tr>
<tr>
<td>Oscal® Ultra 600 + D</td>
<td>600</td>
<td>200</td>
</tr>
<tr>
<td>VIACTIV® Flavor Glides™</td>
<td>500</td>
<td>200</td>
</tr>
<tr>
<td>VIACTIV® Soft Chews</td>
<td>500</td>
<td>100</td>
</tr>
<tr>
<td>Calcium carbonate/vitamin D with minerals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caltrate® 600 + D PLUS Minerals Chewables</td>
<td>600</td>
<td>400</td>
</tr>
<tr>
<td>Calcium citrate with vitamin D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citracal® + D</td>
<td>315</td>
<td>200</td>
</tr>
<tr>
<td>Citracal® 250 mg + D</td>
<td>250</td>
<td>200</td>
</tr>
<tr>
<td>Calcium and vitamin D combination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posture®-D</td>
<td>600</td>
<td>125</td>
</tr>
</tbody>
</table>

References

This publication should be used for general educational purposes only and is not intended to be a substitute for professional medical advice. Be sure to contact your doctor, pharmacist or other healthcare provider for more information about osteoporosis. Although it is intended to be accurate, neither Walgreen Co., its subsidiaries or affiliates, nor any other party assumes liability for loss or damage due to reliance on this publication.

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What You Need To Know About Proton Pump Inhibitors
Frequently Asked Questions

Q. How do proton pump inhibitors work?
A. Your stomach produces acid to help break down food. Sometimes, this acid can irritate the lining of your stomach, esophagus, or duodenum (top end of your small intestine). This can result in heartburn, acid reflux disease, ulcers, and other digestive problems. Medications called proton pump inhibitors shut down a system in the stomach known as the proton pump and completely block the production of stomach acid.

Q. What are some common side effects of proton pump inhibitors?
A. Proton pump inhibitors are usually well tolerated. However, the most common side effects are headache, diarrhea, upset stomach, nausea, and abdominal pain.

Q. What medications do proton pump inhibitors interact with?
A. Certain antifungal, antibiotic, anti-seizure, blood thinning, and diabetes medications may interact with proton pump inhibitors, which can affect how well the medications work or cause other unwanted effects. Let your doctor or pharmacist know about all the medications you are taking. Do not start, stop, or change the dosage of any medication before checking with your doctor or pharmacist first.

Q. How should proton pump inhibitors be taken?
A. These medications must be taken every day for the best results, and it may take a few days for them to start working.

Q. Are there any proton pump inhibitors that are available without a prescription?
A. Prilosec OTC® (omeprazole) is the only proton pump inhibitor available over the counter. It is used to treat frequent heartburn (defined as heartburn that occurs two or more days a week), and it is not intended for immediate relief. Unless otherwise directed by your doctor, Prilosec OTC is to be used once a day for 14 days. This 14-day course may be repeated every four months. Talk with your doctor if your symptoms last more than 14 days.

Continued
The following table lists proton pump inhibitors:

<table>
<thead>
<tr>
<th>Prescription Proton Pump Inhibitors</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brand Name</strong></td>
<td><strong>Generic Name</strong></td>
</tr>
<tr>
<td>AcipHex®</td>
<td>rabeprazole</td>
</tr>
<tr>
<td>Kapidex™</td>
<td>dexlansoprazole</td>
</tr>
<tr>
<td>Nexium®</td>
<td>esomeprazole</td>
</tr>
<tr>
<td>Prevacid®</td>
<td>lansoprazole</td>
</tr>
<tr>
<td>Prilosec®</td>
<td>omeprazole</td>
</tr>
<tr>
<td>Protonix®</td>
<td>pantoprazole</td>
</tr>
</tbody>
</table>

**Over-the-Counter Proton Pump Inhibitors**

| Prilosec OTC® | omeprazole | 20 mg | No |

This information is not intended to be a substitute for professional medical advice. Please contact your doctor, pharmacist, or healthcare provider for more information.

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Q. How do H₂ blockers work?
A. Your stomach produces acid to help break down food. Sometimes, this acid can irritate the lining of your stomach, esophagus, or duodenum (top end of your small intestine). This can result in heartburn, acid reflux disease, ulcers, and other digestive problems. Histamine (H), a chemical produced naturally by the body, stimulates certain cells in the stomach to produce acid. It does this by attaching to a particular place on those cells, known as an H₂ receptor, which makes the cells produce more acid. The H₂ blockers attach to the H₂ receptors and reduce the amount of acid produced in the stomach. The table on the next page lists H₂ blockers.

Q. What are some common side effects of H₂ blockers?
A. H₂ blockers are generally well tolerated. However, the most common side effects are diarrhea, headache, and dizziness.

Q. What medications do they interact with?
A. H₂ blockers, especially cimetidine (Tagamet®), may interact with other medications. Let your doctor or pharmacist know about all the medications you are taking. Do not start, stop, or change the dosage of any medication without checking with your doctor or pharmacist first.

Q. How should H₂ blockers be taken?
A. H₂ blockers are generally taken an hour before meals, once or twice daily. They are available as tablets, capsules, and liquid. H₂ blockers can also be purchased in lower doses over the counter without a prescription. The over-the-counter H₂ blockers are recommended for the short-term relief of symptoms of heartburn and should not be taken for longer than two weeks at a time unless otherwise directed by your doctor. Talk with your doctor if your symptoms last more than 14 days.
The following table lists H$_2$ blockers:

<table>
<thead>
<tr>
<th>Prescription H$_2$ Blockers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brand Name</strong></td>
<td><strong>Generic Name</strong></td>
</tr>
<tr>
<td>Axid®</td>
<td>nizatidine</td>
</tr>
<tr>
<td>Pepcid®</td>
<td>famotidine</td>
</tr>
<tr>
<td>Tagamet®</td>
<td>cimetidine</td>
</tr>
<tr>
<td>Zantac®</td>
<td>ranitidine</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Over-the-Counter H$_2$ Blockers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brand Name</strong></td>
<td><strong>Generic Name</strong></td>
</tr>
<tr>
<td>Axid AR®</td>
<td>nizatidine</td>
</tr>
<tr>
<td>Pepcid® AC, Pepcid® AC Maximum Strength</td>
<td>famotidine</td>
</tr>
<tr>
<td>Pepcid® Complete</td>
<td>famotidine/calcium carbonate/magnesium hydroxide</td>
</tr>
<tr>
<td>Tagamet HB 200®</td>
<td>cimetidine</td>
</tr>
<tr>
<td>Zantac® 75, Zantac® 150 Maximum Strength</td>
<td>ranitidine</td>
</tr>
</tbody>
</table>

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Q. What is blood pressure?
A. Each time your heart beats, your arteries carry blood from your heart to your tissues and organs. Blood pressure is the force of the blood pushing against the walls of your arteries. Your blood pressure is measured in two numbers (for example, 120/80 mm Hg, or millimeters of mercury). The top number (systolic blood pressure) is the pressure in your arteries when your heart contracts. The bottom number (diastolic blood pressure) is the pressure in your arteries when your heart is at rest between beats.

Q. What is high blood pressure?
A. Normal blood pressure is less than 120/80 mm Hg. High blood pressure, also called hypertension, is defined as blood pressure greater than or equal to 140/90 mm Hg. If your blood pressure rises, your heart has to work harder to get blood throughout your body. In time, this may cause damage to your heart, as well as to other organs in your body.

Prehypertension is blood pressure between 120/80 and 139/89 mm Hg. Prehypertension means a person's risk for having high blood pressure is higher than it is for someone with a normal blood pressure. The table classifies blood pressure for adults who are not taking medications to lower blood pressure.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Systolic Blood Pressure (mm Hg)</th>
<th>Diastolic Blood Pressure (mm Hg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>under 120</td>
<td>under 80</td>
</tr>
<tr>
<td>Prehypertension</td>
<td>120 to 139</td>
<td>80 to 89</td>
</tr>
<tr>
<td>Hypertension</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 1</td>
<td>140 to 159</td>
<td>90 to 99</td>
</tr>
<tr>
<td>Stage 2</td>
<td>160 or above</td>
<td>100 or above</td>
</tr>
</tbody>
</table>

Q. What can increase my risk for developing high blood pressure?
A. In 90 percent to 95 percent of cases, the cause of high blood pressure is unknown. This is called primary or essential hypertension. In secondary hypertension, high blood pressure is related to another condition, such as a kidney disorder or abnormal levels of certain hormones or chemicals in the blood. In these situations, although rare, if the original cause is corrected, blood pressure often returns to normal.

Even when the cause of high blood pressure is unknown, there are risk factors, or conditions and behaviors that increase your chances of developing high blood pressure. The following are risk factors for developing high blood pressure:
- Being overweight or obese
- Diet high in sodium and fat
• Drinking too much alcohol
• Health conditions such as diabetes and kidney disorders
• Physical inactivity
• Stress
• Tobacco use

Q. Which medications can increase my risk for developing high blood pressure?
A. The following are examples of medications that may increase your blood pressure:
• Birth control pills
• Buspirone, which is used to treat anxiety
• Certain antidepressants
• Clozapine, which is used to treat the symptoms of schizophrenia
• Hormone therapy
• Medications used to prevent organ transplant rejection, such as cyclosporine and tacrolimus
• Metoclopramide, which is used to relieve nausea, vomiting, and heartburn
• Nonsteroidal anti-inflammatory drugs (such as ibuprofen)
• Sibutramine, which is used for weight loss
• Steroids such as prednisone

This list is not comprehensive.

Q. What are the effects of high blood pressure?
A. High blood pressure can damage blood vessels in many areas of the body. It damages the walls of arteries causing them to become stiff, which allows fat and cholesterol to attach to the artery wall. Over time, the arteries harden, leading to decreased blood flow. High blood pressure can lead to erectile dysfunction, blurred vision, and blindness over time. High blood pressure is a significant risk factor for heart attack, heart failure, stroke, and kidney disease. High blood pressure in combination with other risks such as smoking, diabetes, and high cholesterol, increases the chances of having a heart attack or stroke.

Q. Is there a cure for high blood pressure?
A. Although high blood pressure cannot be cured, it can be controlled through lifestyle changes and medication therapy. Specific treatment plans depend on a person's blood pressure, any related medical problems, and the presence of any other risk factors for heart disease. For many people, it may be necessary to take more than one medication to help lower blood pressure.

Q. What can I do to lower my blood pressure?
A. The first step toward lowering blood pressure is making lifestyle changes. The following are commonly recommended lifestyle changes:
• Maintain a healthy weight.
• Adopt the DASH (Dietary Approaches to Stop Hypertension) diet, which includes the following guidelines:
  • Reduce saturated fat, total fat, and cholesterol intake. Avoid foods like butter, margarine, fried foods, and many fast foods.
  • Eat plenty of whole grains, fruits, vegetables, and low-fat dairy foods.
  • Eat more skinless poultry, nuts, and fish. Reduce your intake of red meats.
  • Limit salt intake by not adding table salt to prepared foods or when cooking rice, cereals, and pasta. Choose low-sodium or sodium-free canned goods and avoid processed or cured meats when possible.
  • If you drink alcohol, do so in moderation. Limit alcohol intake to no more than two drinks for men and one drink for women per day. One drink is equal to 12 ounces of beer, 5 ounces of wine, or 1½ ounces of hard liquor such as vodka or whisky.
  • Reduce caffeine and sugar intake.
  • Keep a diary of everything you eat and drink.
• Become physically active. Engage in light to moderate exercise for at least 30 to 60 minutes most days of the week. Talk to your doctor before starting a new exercise program.

Continued
• Stop smoking and using tobacco. Ask your doctor or pharmacist about programs and medications that can help.
• Manage stress by taking time for relaxing activities and techniques such as yoga or meditation.

Q. What medications are available to help manage high blood pressure?
A. Medications that lower blood pressure work in different ways. The table on the next page describes various types, or classes, of blood pressure-lowering medications. In most cases, letters after the medication name, including ER, LA, XL, XT, refer to extended-release formulations of medications, which work over a longer period of time. Not everyone will experience the listed side effects and some side effects may decrease over time. This is not a comprehensive list of all medications used to treat high blood pressure. Talk to your doctor or pharmacist for more information.

Not all people reach their goal blood pressure levels using only one blood pressure-lowering medication. In fact, it is common to take two or more blood pressure medications. Your doctor may prescribe two medications or a combination product that includes medications from two different classes.

It is important to take your medications exactly as prescribed to experience the full benefits. Even if your blood pressure returns to normal, you must continue to take your medication every day. If you stop taking the medication, it is likely that your blood pressure will rise again, putting you at risk for a heart attack, stroke, or heart failure. If you have any questions about the proper use of your medication, ask your pharmacist or doctor. In addition, ask your doctor or pharmacist before using any over-the-counter cold medications.

Q. How do I know if my blood pressure is under control?
A. It's important for you to monitor your blood pressure regularly. Home blood pressure monitoring devices that use the arm to monitor blood pressure are generally accurate and most are available for purchase at your pharmacy. The manual type requires you to use a manual pump to inflate a cuff that goes around your arm. The digital type automatically inflates the cuff for you. Devices that use the wrist or fingertips to monitor blood pressure are less accurate and are not recommended.

When taking your blood pressure readings regularly, write them down in a notebook or diary. This can help you notice what affects your blood pressure and whether they are related to lifestyle changes or medication use. It is also important to share your blood pressure diary with your doctor during office visits to track your progress.
<table>
<thead>
<tr>
<th>Medication Class</th>
<th>Generic Name (Brand Name)</th>
<th>Benefits and How They Work</th>
<th>Common Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha blockers</td>
<td>doxazosin (Cardura®)</td>
<td>Reduce nerve impulses to blood vessels, causing relaxation and allowing blood to pass through more easily</td>
<td>- Diarrhea</td>
</tr>
<tr>
<td></td>
<td>terazosin (Hytrin®)</td>
<td></td>
<td>- Fainting after the first dose</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Peripheral edema or swelling in the ankles, feet, and legs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Sudden drop in blood pressure when standing up or sitting up, also called a “head rush” or “dizzy spell”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Weight gain</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Rise slowly from a lying or sitting position.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Take the first dose at bedtime.</td>
</tr>
<tr>
<td>Angiotensin II receptor blockers (ARBs)</td>
<td>candesartan (Atacand®)</td>
<td>Shield blood vessels from a hormone called angiotensin II</td>
<td>- Generally well tolerated</td>
</tr>
<tr>
<td></td>
<td>irbesartan (Avapro®)</td>
<td>Cause the blood vessels to dilate, or widen, decreasing pressure</td>
<td>- Increased potassium in blood</td>
</tr>
<tr>
<td></td>
<td>losartan (Cozaar®)</td>
<td></td>
<td>- These medications are recommended for people who find the dry cough bothersome.</td>
</tr>
<tr>
<td></td>
<td>olmesartan (Benicar®)</td>
<td></td>
<td>- If you have sudden swelling of the face, extremities, lips, tongue, or throat, seek medical attention immediately. You may be experiencing a medication reaction known as angioedema.</td>
</tr>
<tr>
<td></td>
<td>valsartan (Diovan®)</td>
<td></td>
<td>- If you have sudden swelling of the face, extremities, lips, tongue, or throat, seek medical attention immediately. You may be experiencing a medication reaction known as angioedema.</td>
</tr>
<tr>
<td>Angiotensin-converting enzyme (ACE) inhibitors</td>
<td>benazepril (Lotensin®)</td>
<td>Prevent the formation of angiotensin II, which causes blood vessels to narrow</td>
<td>- Generally well tolerated</td>
</tr>
<tr>
<td></td>
<td>captopril (Capoten®)</td>
<td>Cause the blood vessels to relax, decreasing blood pressure</td>
<td>- Chronic, dry cough</td>
</tr>
<tr>
<td></td>
<td>enalapril (Vaseretic®)</td>
<td></td>
<td>- Increased potassium in blood</td>
</tr>
<tr>
<td></td>
<td>fosinopril (Monopril®)</td>
<td></td>
<td>- If you have sudden swelling of the face, extremities, lips, tongue, or throat, seek medical attention immediately. You may be experiencing a medication reaction known as angioedema.</td>
</tr>
<tr>
<td></td>
<td>lisinopril (Prinivil®)</td>
<td></td>
<td>- If you have sudden swelling of the face, extremities, lips, tongue, or throat, seek medical attention immediately. You may be experiencing a medication reaction known as angioedema.</td>
</tr>
<tr>
<td></td>
<td>quinapril (Accupril®)</td>
<td></td>
<td>- If you have sudden swelling of the face, extremities, lips, tongue, or throat, seek medical attention immediately. You may be experiencing a medication reaction known as angioedema.</td>
</tr>
<tr>
<td></td>
<td>ramipril (Altace®)</td>
<td></td>
<td>- If you have sudden swelling of the face, extremities, lips, tongue, or throat, seek medical attention immediately. You may be experiencing a medication reaction known as angioedema.</td>
</tr>
<tr>
<td>Beta blockers</td>
<td>atenolol (Tenormin®)</td>
<td>Reduce nerve impulses to the heart and blood vessels</td>
<td>- Confusion</td>
</tr>
<tr>
<td></td>
<td>bisoprolol (Zebeta®)</td>
<td>Make the heart beat less often and with less force, lowering blood pressure and decreasing strain on the heart</td>
<td>- Depression</td>
</tr>
<tr>
<td></td>
<td>metoprolol (Lopressor®)</td>
<td></td>
<td>- Possible narrowing of respiratory airways</td>
</tr>
<tr>
<td></td>
<td>metoprolol extended release (Toprol XL®)</td>
<td>Reduce nerve impulses to the heart and blood vessels, causing relaxation and allowing blood to pass through more easily</td>
<td>- Slowing of heart rate</td>
</tr>
<tr>
<td></td>
<td>nadolol (Corgard®)</td>
<td></td>
<td>- Worsening of acute heart failure</td>
</tr>
<tr>
<td></td>
<td>nebivolol (Bystolic®)</td>
<td></td>
<td>- Do not suddenly stop taking these medications.</td>
</tr>
<tr>
<td></td>
<td>propranolol (Inderal®, Inderal® LA)</td>
<td>Reduce nerve impulses to the heart and blood vessels, causing relaxation and allowing blood to pass through more easily</td>
<td>- In people with diabetes, these medications may hide some symptoms of low blood glucose (sugar).</td>
</tr>
<tr>
<td>Medication Class</td>
<td>Generic Name (Brand Name)</td>
<td>Benefits and How They Work</td>
<td>Common Side Effects</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>---------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Calcium-channel blockers</td>
<td></td>
<td><strong>Benefits and How They Work</strong>: Cause the blood vessels to relax, which decreases blood pressure</td>
<td><strong>Common Side Effects</strong>: Constipation, Dizziness, Excessive decrease in blood pressure, Nausea, Swelling of the hands and feet</td>
</tr>
<tr>
<td>Central-acting agents</td>
<td></td>
<td><strong>Benefits and How They Work</strong>: Relax blood vessels by controlling nerve impulses</td>
<td><strong>Common Side Effects</strong>: Depression, Dry mouth, Sedation or tiredness, Sleep disturbances, Slowing of heart rate</td>
</tr>
<tr>
<td>Direct renin inhibitor</td>
<td>aliskiren (Tektuma®)</td>
<td><strong>Benefits and How They Work</strong>: Reduces the effect of an enzyme called renin and helps prevent the harmful process that narrows blood vessels, Causes blood vessels to relax and widen, which decreases blood pressure</td>
<td><strong>Common Side Effects</strong>: Cough, Diarrhea, Rash</td>
</tr>
<tr>
<td>Diuretics</td>
<td></td>
<td><strong>Benefits and How They Work</strong>: Sometimes called “water pills” because they work in the kidneys to flush excess water and sodium from the body through urine</td>
<td><strong>Common Side Effects</strong>: More frequent urination, Increased potassium in urine, Sensitivity to sunlight, Stomach upset</td>
</tr>
<tr>
<td>Vasodilators</td>
<td></td>
<td><strong>Benefits and How They Work</strong>: Directly open blood vessels by relaxing the muscle in the vessel walls</td>
<td><strong>Common Side Effects</strong>: Fluid retention or swelling of ankles and feet, Increased heart rate, Minoxidil may cause excessive hair growth, Sudden drop in blood pressure when standing up or sitting up, also called a “head rush” or “dizzy spell”</td>
</tr>
</tbody>
</table>
References

This information is not intended to be a substitute for professional medical advice. Please contact your doctor, pharmacist, or healthcare provider for more information.

Drug names are the property of their respective owners.
Q. What is insomnia?
A. Insomnia is the inability to fall asleep or stay asleep. It is the most common sleep problem in adults over the age of 60 but can occur in people of all ages. The condition can lead to daytime sleepiness and fatigue. There are three types of insomnia:
• Transient insomnia typically lasts for less than one month and is usually due to jet lag, illness, or stress.
• Short-term insomnia usually lasts for four to six weeks and is caused by ongoing stress or illness.
• Chronic insomnia can last for more than six months and may be due to underlying medical conditions.

Q. What causes insomnia?
A. Insomnia can be caused by many different things:
• Certain health conditions:
  • Allergies
  • Anxiety
  • Asthma
  • Chronic cough
  • Chronic pain
  • Depression
  • Diabetes
  • Gastroesophageal reflux disease (GERD)
  • Heart failure
• Menopause
• Postnasal drip
• Restless legs syndrome
• Sleep apnea
• Certain medications including but not limited to:
  • Certain antidepressants
  • Asthma medications
  • Decongestants
  • Diuretics (“water pills”)
  • Steroids
  • Stimulants
  • Thyroid medications
Ask your pharmacist or doctor if you have any questions regarding your medications.
• Concentrating too hard on trying to fall asleep
• Drinking caffeine, exercising, or smoking too close to bedtime
• Environmental factors, such as bright lights, room temperature, odors, and outside noises
• Napping during the day
• Not getting enough physical activity during the day
• Problems and stress in day-to-day life

There are other causes for insomnia. If you have questions about what might be affecting your ability to sleep, talk to your doctor or pharmacist.
Q. Can insomnia be treated without medication?
A. If you think you have insomnia, work with your doctor to figure out what is causing it. Your doctor can help you determine the best approach to treatment. You may first consider changing some of your sleep habits:
- Try to keep a consistent sleep schedule. Wake up and go to bed around the same time every day, even on weekends.
- Avoid napping during the day and get into bed only at bedtime.
- Exercise regularly, but at least four to six hours before bedtime.
- Try to avoid alcohol, caffeine, and nicotine.
- Don’t drink large amounts of fluids right before going to sleep.
- Remove bright clocks and other sources of light from your bedroom.
- Keep the room temperature comfortable.

You might also consider cognitive-behavioral therapy. This involves counseling, along with learning new ways to relax, and practicing good sleep habits. For some, this type of treatment works just as well as taking medication.

Q. What medications can treat insomnia?
A. If changing your sleep habits doesn’t help, your doctor might suggest prescription medication to help you sleep (see table).
- Sedative-hypnotics are the preferred prescription sleep medications because they do not lead to tolerance, or the need to increase dosage over time. However, they may still cause dependence, or a physical or psychological need.
  - These medications have no effect on concentration, memory, or movement for most people.
  - When taking these medications, try to get at least eight hours of sleep per night to avoid feeling groggy or tired the next day.
- You should not suddenly stop taking these medications because it may cause your insomnia to worsen.
- Take these medications as directed by your doctor.
- Benzodiazepines were commonly used before the sedative-hypnotics were developed.
  - These medications may cause many side effects including next-day drowsiness, trouble concentrating, and trouble with movement and memory.
  - Use these medications at the lowest effective dose for the shortest amount of time possible to avoid tolerance or dependence.
  - Certain benzodiazepines should not be used in older adults.
  - In rare cases, benzodiazepines may cause insomnia to worsen.
- Over-the-counter antihistamines, such as diphenhydramine and doxylamine, are also found in many products with “PM” in the name.
  - These work by causing drowsiness, but may not provide deep, restful sleep.
  - You can quickly develop tolerance to the effects of these medications so they should be used for the shortest amount of time possible.
  - In rare cases, antihistamines can cause excitation instead of drowsiness, especially in very young children.
  - Older adults should be careful of the side effects of these medications, including dry mouth, constipation, blurred vision, and difficulty urinating.

Talk to your doctor or pharmacist if you have questions about any of these medications.
<table>
<thead>
<tr>
<th>Medications Used to Treat Insomnia*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Generic Name</strong></td>
</tr>
<tr>
<td><strong>(Brand Name)</strong></td>
</tr>
<tr>
<td>Sedative-Hypnotics</td>
</tr>
<tr>
<td>eszopiclone (Lunesta®)</td>
</tr>
<tr>
<td>ramelteon (Rozerem®)</td>
</tr>
<tr>
<td>zaleplon (Sonata®)</td>
</tr>
<tr>
<td>zolpidem (Ambien®, Ambien CR®)</td>
</tr>
<tr>
<td>Benzodiazepines</td>
</tr>
<tr>
<td>lorazepam (Ativan®)</td>
</tr>
<tr>
<td>temazepam (Restoril®)</td>
</tr>
<tr>
<td>Over-the-Counter Antihistamines</td>
</tr>
<tr>
<td>diphenhydramine (Benadryl®, Sominex®)</td>
</tr>
<tr>
<td>doxylamine (Unisom®)</td>
</tr>
</tbody>
</table>

*This list is not all-inclusive. See your doctor or pharmacist if you have any specific questions.
Q. **What are dependence and tolerance?**
A. Dependence occurs when you need to keep taking a medication because you experience unpleasant symptoms when you stop taking it. Not everyone who takes a sleep medication will develop dependence. To minimize your risk, take your medications as directed by your doctor. Dependence is different from tolerance, which occurs when your body no longer responds to the dose that was previously working for you. This can occur if you take certain sleep medications every night for more than a few weeks. If you have any questions or concerns, talk to your doctor or pharmacist.

Q. **Are sleep medications dangerous?**
A. Sleep medications are safe and effective in treating insomnia when used appropriately. However, some sleep medications may cause people to do waking activities in their sleep, which they often have no memory of upon waking. Manufacturers are conducting studies to find out how often this occurs with their products. To minimize the risk of such side effects, avoid drinking alcohol or taking other medications that might cause drowsiness. Avoid driving, using machinery, or doing anything that requires mental alertness until you know how your body will react to the medication. Your doctor or pharmacist can help you with any issues or questions you may have.

Q. **Can herbal products help me sleep better?**
A. Some herbal products, including melatonin, valerian, kava kava, chamomile, and lavender, have been promoted as sleep aids. However, you should always use caution when using herbal products because their safety and effectiveness have not been established and they are not regulated by the U.S. Food and Drug Administration. Many herbals can also interfere with prescription medications. Talk to your doctor before taking any herbal products. If you are currently taking herbal products, make sure you tell all of your healthcare providers.

**References**

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A slight distraction, a little loss of balance or a slip on a throw rug—that’s all it takes to cause a fall and an injury. Preventing falls is important at any age, but it is especially important for older adults and for those who have osteoporosis because their bones are more fragile and easily broken, and healing is generally slower and more difficult for these people.

Q. Why is it important to prevent falls?
A. In the United States, more than one-third of adults 65 and older fall each year. Many are seriously injured and some are disabled. In 2005, more than 15,800 people over age 65 died and 1.8 million were treated in emergency rooms because of falls. More than 433,000 people were hospitalized due to fall-related problems such as head injuries and hip fractures. Injuries can affect a person’s ability to live comfortably and independently. Falls don’t happen just because people get older. Many falls can be prevented with simple changes.

Q. What makes people more likely to fall?
A. Here are some of the factors that can increase the risk of falling:
- Foot problems
- Living alone
- Lower body weakness
- Multiple chronic (long-term) health conditions
- Not using a cane or walker when a walking aid is needed, or using the wrong size

• Obstacles such as furniture blocking the way or throw rugs on the floor
• Previous falls
• Slick or uneven surfaces
• Taking multiple medications
• Trouble with balance or step
• Vision problems

Q. What can I do to lower the risk of falling?
A. Many small changes can help you avoid falls:
- Improve balance and increase lower body strength by getting involved in regular physical activity such as tai-chi or walking. Always ask your doctor before starting a new exercise program.
- Ask your doctor about a physical ability evaluation.
- Ask your doctor or pharmacist to review all of your prescription and over-the-counter medications to make sure that they are not raising your risk of falling.
- Let your doctor or pharmacist know if your medications are making you feel dizzy.
- Avoid the use of sleeping pills or other medications that can cause drowsiness.
• Choose safe footwear—safe, low-heeled shoes that fit well, have nonslip soles and support your feet.
• If you need a walking aid, use walkers and canes that are appropriate for your height and weight.
• Have your vision checked at least once a year and wear glasses if needed.
• Have good, consistent lighting throughout all rooms, at stairways and walkways.
• Get up slowly from a sitting or lying position.
• Have your doctor measure your blood pressure when you are sitting, standing and lying down.

Q. What changes can I make in my home to reduce the risk of falling?
A. You can take steps to make every room in your home safer, as described below.

Floors
• Move furniture to make clear pathways.
• Remove throw rugs that are loose, or use nonslip backings.
• Keep objects off the floor.
• Coil or tape electrical cords and wires next to the wall.

Bedroom and Bathroom
• Use a night light or keep a lamp next to the bed.
• Put a nonslip rubber mat or self-adhesive strips on the floor of the tub or shower.
• Install grab bars inside the tub and next to the toilet.
• Use a bath bench or secure stool in the tub.

Kitchen
• Move items into lower cabinets.
• Keep things most used on the lower shelves.
• If a step stool is needed, use a sturdy one with a bar and hold onto the bar.
• Never use a chair as a step stool.

Stairs and Steps
• Keep objects off stairs.
• Fix loose or uneven steps and handrails.
• Make sure the carpet, if any, is firmly attached to every step.
• If needed, remove the carpet and attach nonslip rubber treads to the stairs.
• Put a light switch and an overhead light at the top and bottom of the stairs.
• Hold on to the rails when walking up or down the stairs.
• Paint a contrasting color on the top front edge of all steps so they are easier to see.

Q. What other steps can I take to be safer overall at home?
• Keep emergency numbers in large print near the phone.
• Have someone check on you regularly if you live alone.
• Consider using an emergency medical alert alarm system.

References

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How to Take Medication Safely
All medications have benefits and risks. Knowing and understanding your medications will help you get the most from them and help reduce your chances of having problems. Here are some tips to avoid medication mistakes and get the best results from your medication.

<table>
<thead>
<tr>
<th>Tip</th>
<th>Why It Is Important to Know This</th>
<th>Questions to Ask Your Doctor or Pharmacist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Know the name of your medication.</td>
<td>• All medications have two names: a brand name and a generic name.</td>
<td>• What is the name of the medication?</td>
</tr>
<tr>
<td></td>
<td>• Some drug names may look or sound similar. Always check to make sure you receive the correct medication.</td>
<td>• Is this the same medication I have been taking?</td>
</tr>
<tr>
<td>Know why you take your medication.</td>
<td>If you know what your medication is for, then you are more likely to use it correctly, know what to expect and be able to tell your doctor and pharmacist how well the medication is working for you.</td>
<td>• What is this medication used for?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• What condition does this medication treat?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• How does this medication work?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• How long do I need to take this medication?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• How long does it take for this medication to work?</td>
</tr>
<tr>
<td>Ask questions about how to use your medication.</td>
<td>• Ask your doctor, pharmacist or nurse about the right way to take any medication before you start to use it.</td>
<td>• What time should I take this medication?</td>
</tr>
<tr>
<td></td>
<td>• Ask if you don’t understand the meaning of a word, or when instructions are not clear.</td>
<td>• How long do I wait before I take the next dose?</td>
</tr>
<tr>
<td></td>
<td>• If you smoke or drink alcoholic beverages, tell your doctor or pharmacist.</td>
<td>• If I miss a dose, what should I do?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• How will I feel once I start taking this medication?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• What side effects might I have?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• What should I do about the side effects?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Are there other medications, food or activities that I should avoid while using this medication?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• How should I store this medication?</td>
</tr>
</tbody>
</table>
Storing Your Medications
Not all medications should be stored the same way. Here are some tips to help you store your medications:

- **Do not place different medications together in one container.** That will make it difficult to identify your medications.
- **Store all of your medications in a designated location in your home.** Keep all medications stored together in one place unless they require refrigeration or need to be stored in a cool place. This will help if an emergency occurs and your doctor needs to review all of your medications. Be sure your medications are stored out of reach of children, especially if you have containers that are not childproof.
- **Medications stored in the refrigerator should be separated from other items in the refrigerator.** Consider keeping refrigerated medications in a plastic box or container in one area of the refrigerator.
- **Store medication in a cool, dry area.** Don’t store your medications in the bathroom, kitchen or inside a car. Heat and moisture can affect medication.
- **Medications taken by mouth should be separated from other medications that are for external use only, such as creams or ointment.**
- **Throw away expired medications and any medication that your doctor has stopped.** Check the expiration dates on all of your medications. Ask a pharmacist about the correct way to throw away medications you no longer need. Do not discard medication in the sink or the toilet.
- **If children are in your home, use childproof caps and keep all medications out of the reach of children.**

### Tip
**Read medication labels and follow directions.**

- Each time you pick up a medication, check the label to make sure it is for the correct person (you).
- If the medication is an injection or inhaler, ask the doctor or pharmacist to show you how to use it. If the medication is a liquid, ask how to measure out the correct amount.

### Tip
**Keep a list of all of your medications. Carry it with you at all times and let a loved one know about it.**

- Make a list of everything that you take, including prescription and OTC medications, vitamins, herals and dietary supplements. Keep it with you all the time in your wallet or purse, with a copy at home.
- Share a copy of the medication list with a family member or friend, or let them know where you keep the list. In case of an emergency, the person will be able to inform your doctors of the medications you use.

### Tip
**Keep all of your healthcare providers informed about your medications.**

- Tell your doctor and pharmacist about any prescription or OTC medication, vitamin, herbal or dietary supplement that you take regularly.
- You can bring all of your medications to your doctor or pharmacist to do a “brown bag checkup.” This will help make sure that your medications are safe to take.
- Keeping all of your healthcare professionals informed about everything you use will help ensure you are taking the correct medications and help avoid medication problems.

### Questions to Ask Your Doctor or Pharmacist
- How do I take this medication?
- If I have difficulty taking this medication, is there a way to make it easier?
- How much medication should I take each time?
- Does the list include everything I am taking?
  - Prescription medications
  - OTC medications
  - Vitamins
  - Herbals
  - Dietary supplements
- Is the medication you gave me safe with my other medications?
- Are there any interactions with my medications?
- What is the expiration date for my medications?
- (For OTC medications): Is the medication’s active ingredient right for treating my symptoms?
Other General Tips

• Never take someone else’s medication.
• Do not share your medication with others.
• Take your medication for the entire time the doctor prescribed it for you, even if you feel fine.
• If you have a hard time opening a medication bottle or reading a label, ask your pharmacist for help.
• Try to get all your medication from the same pharmacy. A pharmacist can keep track of all your medications and help make sure they are safe for you to take.

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Q. What is benign prostatic hyperplasia?
A. Benign prostatic hyperplasia, also known as BPH, is the abnormal enlargement of the prostate gland. The prostate gland is found only in men; women do not have a prostate gland. Normally, the prostate gland grows in males from the size of a pea at birth to the size of a walnut during adolescence. A second growth period after age 40 can cause prostate enlargement. The enlarged prostate can press against the urethra, the tube that takes urine from the bladder to outside the body. When that happens, the flow of urine may be partially blocked. The cause for this second growth period is unknown. BPH occurs as men age, and may be related to hormone changes that occur with aging.

Q. Where is the prostate gland and what does it do?
A. The prostate gland is located in front of the rectum, just below the bladder, and surrounds the urethra. The prostate gland produces many of the fluids that help move semen out of the body.

Q. How do I know if I am at risk for BPH or if I may already have it?
A. The main risk factor for BPH is age. Men younger than 40 years of age typically do not have BPH, whereas nearly half of all men age 60 years and older are affected by the condition. By age 80, that figure rises to nearly 90 percent. Men with a relative who developed BPH before age 60 are at an increased risk for the condition. Not all men with BPH experience the same signs and symptoms. In fact, some may not notice any changes at all. The common signs and symptoms of BPH include the following:

- Difficulty urinating
- Dribbling of urine
- Frequent need to urinate
- Hesitant urinary stream
- Inability to empty the bladder completely
- Increased nighttime urination
- Urgent need to urinate
- Weak or narrow urinary stream

The American Cancer Society recommends that men over age 50 consider having their prostate checked every year. African-American men and men with two or more close relatives (father, brother, or son) who have been diagnosed with prostate cancer should get checked earlier, at age 45. Your doctor can tell you if you should have diagnostic tests, such as a physical exam, urinalysis, and a prostate-specific antigen (PSA) test. These tests will help determine if you have BPH and whether you may benefit from treatment.
Q. What is a PSA test and what do the test results mean?
A. PSA is a protein made by the prostate gland that helps with semen production. A PSA blood test can help identify problems with the prostate gland. Normal PSA levels should be less than 4 nanograms per milliliter (ng/mL). A PSA level greater than 10 ng/mL means that the prostate is producing too much PSA. This may mean the prostate is enlarged and may indicate other problems with the prostate, such as an infection or cancer.

Q. How is BPH treated?
A. Treatment of BPH is not always necessary. Your doctor may recommend what is known as “watchful waiting” if symptoms are mild or if you have other health conditions that might prevent you from undergoing BPH treatment. With watchful waiting, you and your doctor will monitor symptoms and use lifestyle changes to manage the condition. If your doctor decides that treatment is necessary, several options are available. The most common treatment for moderate symptoms is oral prescription medication. Alpha-adrenergic blockers work by relaxing the muscles of the bladder and prostate. Medications called 5-alpha-reductase inhibitors work to shrink the size of the prostate. You may need to take both an alpha-adrenergic blocker and a 5-alpha-reductase inhibitor. When symptoms are severe, your doctor may recommend a minimally invasive procedure or surgery. See the table for a list of medications used to treat BPH.

### Medications Commonly Used To Treat BPH

<table>
<thead>
<tr>
<th>Class</th>
<th>Generic Name</th>
<th>Common Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha-adrenergic blocker</td>
<td>alfuzosin (Uroxatral®)</td>
<td>• Back pain</td>
</tr>
<tr>
<td></td>
<td>doxazosin (Cardura®, Cardura® XL)</td>
<td>• Blurred vision</td>
</tr>
<tr>
<td></td>
<td>sildosin (Rapilfo®)</td>
<td>• Decreased sexual desire</td>
</tr>
<tr>
<td></td>
<td>tamsulosin (Flomax®)</td>
<td>• Dizziness</td>
</tr>
<tr>
<td></td>
<td>terazosin (Hytrin®)</td>
<td>• Erectile dysfunction (ED)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Headache</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Indigestion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Nausea</td>
</tr>
<tr>
<td>5-alpha-reductase inhibitor</td>
<td>dutasteride (Avodart®)</td>
<td>• Decreased sexual desire</td>
</tr>
<tr>
<td></td>
<td>finasteride (Proscar®)</td>
<td>• ED</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Increased hair growth</td>
</tr>
</tbody>
</table>

Q. What is saw palmetto?
A. Saw palmetto is an herbal substance that has been studied for the treatment of BPH. It may reduce the need for nighttime urination and improve urinary flow, but it does not affect the size of the prostate. However, herbal products like saw palmetto are not regulated by the U.S. Food and Drug Administration. Many herals can also interact with other medications. Talk to your doctor before taking any herbal products. If you are currently taking herbal products, let all your healthcare providers know you are taking them.
Q. How can I manage BPH without medication?
A. There are some ways you can reduce or eliminate symptoms of BPH without using medication.
• Avoid alcohol, caffeine, and artificial sweeteners. These can irritate your bladder and increase urine production.
• Avoid drinking liquids later in the evening, usually two to three hours before going to bed. Limiting fluids after this time will decrease the need to use the bathroom at night.
• Empty your bladder each time you need to use the bathroom.
• Exercise and stay active to reduce urinary retention, which can be caused by an enlarged prostate.
• Stay warm in colder temperatures, as cold weather can increase the feeling of urgency to urinate.
• Turn on a faucet while waiting if you are having difficulty urinating.
• Use caution with over-the-counter medications including decongestants, such as pseudoephedrine (Sudafed®) and phenylephrine (Sudafed PE®), and antihistamines, such as diphenhydramine (Benadryl®). These can tighten the muscles around the urethra and make urination more difficult. Talk with your pharmacist or doctor before using decongestants as they can help you decide what choice is best for you.
• Visit the bathroom often throughout the day, regardless of your urge to go.

Q. Does BPH lead to prostate cancer?
A. BPH does not lead to prostate cancer. Clinical studies have shown that prostate enlargement has not been proven to relate to prostate cancer development. Your doctor may want to make sure you do not have prostate cancer by running some additional tests.

References

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Q. **What is the thyroid gland?**  
A. Your thyroid gland is a small, butterfly-shaped gland located just above your collarbone in the lower third of your neck. The thyroid gland produces two hormones: triiodothyronine (T3) and thyroxine (T4). These hormones circulate throughout the body and regulate your metabolism (how your body uses and stores energy). In the body, these hormones are also responsible for heart and respiratory (breathing) rates, body temperature, body weight, and cholesterol levels.

Q. **What is hyperthyroidism or an overactive thyroid?**  
A. Hyperthyroidism describes the condition that results from increased thyroid hormone production. A common cause for hyperthyroidism is a condition known as Graves’ disease. In this condition, the body’s immune system stimulates the thyroid gland to produce too much thyroid hormone.

Q. **How is hyperthyroidism diagnosed?**  
A. A diagnosis of hyperthyroidism can be made by your doctor through simple blood tests that determine if the thyroid gland is overactive. A resulting diagnosis is generally made by finding high levels of thyroid hormones and low levels of thyroid-stimulating hormone (TSH) in the blood. The amount of TSH is important because it’s the hormone that signals your thyroid gland to produce more T3 and T4.

Q. **What are the symptoms of hyperthyroidism?**  
A. When the body makes too much thyroid hormone you may experience some of the following symptoms:  
- Enlarged thyroid (goiter)  
- Fatigue, feeling exhausted  
- Heat intolerance or excessive sweating  
- Insomnia  
- Jitteriness, shaking, increased nervousness, irritability  
- More frequent bowel movements  
- Rapid heartbeat or palpitations  
- Shorter or lighter menstrual periods  
- Weight loss with increased appetite
Q. How is hyperthyroidism treated?
A. The goals of treatment for hyperthyroidism are to regulate the production of thyroid hormone, minimize symptoms and long-term consequences, and provide individualized therapy to each person. Hyperthyroidism may be treated with any of several methods (see table).

<table>
<thead>
<tr>
<th>Treatment Options for Hyperthyroidism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Type</td>
</tr>
<tr>
<td>----------------</td>
</tr>
</tbody>
</table>
| Antithyroid medications | • Antithyroid medications block thyroid hormone production.  
• Propylthiouracil and methimazole (Tapazole®) are the two medications in this category.  
• Your doctor may change the amount of medication you take during treatment.  
• Your doctor will determine how long you need to continue taking medication. |
| Radioactive iodine | • This is a treatment commonly used for Graves’ disease.  
• Radioactive iodine treatment results in permanent destruction of thyroid tissue.  
• Radioactive iodine should not be used in children or during pregnancy.  
• After radioactive iodine treatment, you may need to take thyroid hormone medication on an ongoing basis. |
| Beta-blockers | • Beta-blockers are medications used to control symptoms such as rapid heartbeat, trembling, and anxiety that can result from too much thyroid hormone.  
• Beta-blockers are usually used in combination with other treatment types.  
• Beta-blockers used to treat these symptoms include propranolol (Inderal®) and nadolol (Corgard®). |
| Surgery | Surgical removal of the thyroid gland is an alternative treatment option for people with extremely large goiters or those who cannot tolerate antithyroid medications. |

Q. What do I need to tell my doctor?
A. Tell your doctor about all other medications you are taking, including over-the-counter medications or herbal products. These may affect the way your thyroid medication works.

References

This information is not intended to be a substitute for professional medical advice. Please contact your doctor, pharmacist, or healthcare provider for more information.

Drug names are the property of their respective owners.
Q. What is the thyroid gland?
A. Your thyroid gland is a small, butterfly-shaped gland located just above your collarbone in the lower third of your neck. The thyroid gland produces two hormones: triiodothyronine (T3) and thyroxine (T4). These hormones circulate throughout the body and regulate your metabolism (how your body uses and stores energy). In the body, these hormones are also responsible for heart and respiratory (breathing) rates, body temperature, body weight, and cholesterol levels.

Q. What is hypothyroidism or an underactive thyroid?
A. Hypothyroidism describes the condition that results from decreased thyroid hormone production. Hypothyroidism can be caused by a defect or problem in the thyroid gland itself or by defects in the pituitary gland or the hypothalamus, which are parts of the brain. However, the most common cause of primary hypothyroidism, or hypothyroidism that is not caused by another medical condition, is called Hashimoto’s thyroiditis. In this condition, the body’s immune system mistakenly attacks the thyroid gland.

Q. How is hypothyroidism diagnosed?
A. Hypothyroidism is usually diagnosed by finding a high level of thyroid-stimulating hormone (TSH) in the blood. The amount of TSH is important because it’s the hormone that signals your thyroid gland to produce more T3 and T4.

Q. What are the symptoms of hypothyroidism?
A. When the body doesn’t produce enough thyroid hormone you may experience some of the following symptoms:
• Constipation
• Depression
• Dry skin and hair
• Feeling cold
• Heavy menstrual periods
• Lack of energy
• Muscle cramps
• Puffy face
• Slow heartbeat
• Slowed thinking
• Stiffness
• Weight gain
Q. **How is hypothyroidism treated?**

A. The goals of treatment for hypothyroidism are to regulate thyroid hormone levels in the body and provide relief from symptoms. Several medications are available to treat hypothyroidism (see table).

<table>
<thead>
<tr>
<th>Medication</th>
<th>Type of Medication</th>
</tr>
</thead>
<tbody>
<tr>
<td>thyroid extract (Armour® Thyroid)</td>
<td>Natural thyroid containing T4 and T3</td>
</tr>
<tr>
<td>levothyroxine (Levoxyl®, Synthroid®)</td>
<td>Synthetic T4</td>
</tr>
<tr>
<td>liothyronine (Cytomel®)</td>
<td>Synthetic T3</td>
</tr>
<tr>
<td>liotrix (Thyrolar®)</td>
<td>Synthetic T4/T3 combination</td>
</tr>
</tbody>
</table>

Q. **What else do I need to know about treatment?**

A. Hypothyroidism requires lifelong medication therapy. Other important aspects of treatment include:

- It is important to take your thyroid medication at the same time every day on an empty stomach.
- When first starting therapy it may take several weeks to find the precise dosage that is right for you. Blood tests may be needed to make sure your thyroid hormones are at the right level. Please remember to tell your doctor about all other medications you are taking, including over-the-counter medications or herbal products. These may affect the way your thyroid medication works.

**References**


This information is not intended to be a substitute for professional medical advice. Please contact your doctor, pharmacist, or healthcare professional for more information.

Drug names are the property of their respective owners.
Q. What is glaucoma?
A. Glaucoma is a group of diseases that can damage the eye’s optic nerve and result in loss of vision and blindness. There are two major types of glaucoma: open-angle glaucoma and closed-angle glaucoma. There is currently no cure for glaucoma. Treatment is focused on slowing or preventing serious vision loss.

Q. What causes glaucoma?
A. Some types of glaucoma can be caused by high pressure within the eyeball. The eyes can produce too much fluid or the fluid can drain poorly, causing raised pressure in the eye.

Q. What are the symptoms of glaucoma?
A. Glaucoma usually has no symptoms until late in the disease. It is important to have regular eye exams to catch it early and start treatment. Symptoms late in the disease can include loss of vision, blurred vision and headache.

In open-angle glaucoma, vision loss occurs gradually so you may not notice it happening. As the damage progresses, areas of peripheral (side) vision are lost. As large areas continue to be lost, you may develop tunnel or narrowed vision, meaning you can only see what is directly in front of you. If glaucoma is left untreated, narrowed vision can worsen until no vision remains. Once areas of vision are lost, they cannot be restored.

In closed-angle glaucoma, symptoms start suddenly. These symptoms can include the following:
- Blurred vision
- Seeing halos around lights at night
- Visible cloudiness in the eye
- Eye pain and redness
- Headache
- Nausea and vomiting
- Extreme weakness

Early detection is the key. It is important for people at high risk for glaucoma to have a comprehensive dilated eye exam at least every two years.

Q. Who is at risk for developing glaucoma?
A. Everyone is at risk for developing glaucoma, even without risk factors. However, people with a higher risk of developing glaucoma include those who:
- Have high blood pressure
- Are African-American, Asian-American or Mexican-American
- Are over 60 years of age
- Have a family history of glaucoma
- Take steroids such as prednisone for long periods of time
- Have experienced eye injury

Q. How is glaucoma diagnosed?
A. An eye doctor (optometrist or ophthalmologist) will confirm the presence of glaucoma by assessing optic nerve changes, vision loss and pressure in the eye.
**Q.** What medications are used in the treatment of glaucoma?

**A.** The following table lists medications used to treat glaucoma. This is not a complete list of all the medications used or a complete list of side effects. Not everyone experiences the listed side effects. Talk to your eye doctor or pharmacist for more information. Treatment will not be the same for everyone. Your eye doctor will recommend medications that are best for you.

### Glaucoma Medications

<table>
<thead>
<tr>
<th>Generic Name (Brand Name)</th>
<th>How They Work</th>
<th>Common Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Beta adrenergic blocking agents</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>betaxolol (Betoptic-S®)</td>
<td>Reduce fluid production in the eye</td>
<td>Burning sensation in the eye, Dizziness, Fatigue, Headache</td>
</tr>
<tr>
<td>carteolol (Ocupress®)</td>
<td></td>
<td></td>
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<tr>
<td>levobunolol (Betagan®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>metipranolol (OptiPranolol®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>timolol hemihydrate (Betimol®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>timolol maleate (Isatol®, Timoptic®, Timoptic-XE®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nonspecific adrenergic agonist</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dipivefrin (Propine®)</td>
<td>Increase fluid outflow in the eye</td>
<td>Blurred vision, Burning sensation in the eye, Headache</td>
</tr>
<tr>
<td><strong>Alpha adrenergic agonists</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>apraclonidine (Iopidine®)</td>
<td>Reduce fluid production and increase fluid outflow in the eye</td>
<td>Blurred vision, Fatigue, Headache, Itching or burning sensation in the eye</td>
</tr>
<tr>
<td>brimonidine (Alphagan® P)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Direct-acting cholinergic agonists</strong></td>
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<td></td>
</tr>
<tr>
<td>carbachol (Carboptic®, Isopto Carbachol®)</td>
<td>Increase fluid outflow in the eye</td>
<td>Blurred vision, Burning sensation in the eye</td>
</tr>
<tr>
<td>phenylephrine (AK-Dilate™)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pilocarpine (Isopto Carpine®, Pilocar®, Pilocarpine® HS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cholinesterase inhibitor</strong></td>
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<td></td>
</tr>
<tr>
<td>echothiophate (Phospholine Iodide®)</td>
<td>Increase fluid outflow in the eye</td>
<td>Blurred vision, Burning sensation in the eye, Headache</td>
</tr>
<tr>
<td><strong>Carbonic anhydrase inhibitors (eye drops)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>brinzolamide (Azopt®)</td>
<td>Reduce fluid production in the eye</td>
<td>Abnormal taste in mouth (bitter), Blurred vision, Burning sensation in the eye, Headache</td>
</tr>
<tr>
<td>dorzolamide (Trusopt®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Carbonic anhydrase inhibitors (tablets, capsules and injections)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>acetazolamide (Diamox®)</td>
<td>Reduce fluid production in the eye</td>
<td>Altered sense of taste, Fatigue, Nausea, Weight loss</td>
</tr>
</tbody>
</table>
Q. What can I do to receive the most benefit from my glaucoma treatment?
A. It is important to use medications correctly in order to get the most benefit from therapy. When using eye drops, remember to remove contact lenses first. Wait at least 15 minutes after using the eye drops to put your contact lenses back on.

Follow these instructions for using your eye drops, unless your eye doctor has suggested a different procedure:
1. Wash and dry your hands.
2. If your medication is a suspension, shake the bottle.
3. With an index finger, pull down the outer portion of your lower eyelid to form a “pocket” to receive the drop.
4. Grasp the bottle between your thumb and fingers with your hand supported against your cheek or nose and your head held upward.
5. Place the dropper over your eye while looking at the tip of the dropper.
6. Look up and place a single drop in your eye.
7. Your lids should be closed gently (but not squeezed tight or rubbed) for one to three minutes. This will help ensure that most of the medication comes in contact with your eye.
8. Place your index finger over the tear ducts in the inner corners of your eyes to avoid having the drop and your tears flow into your nose.
9. Recap the bottle and store it according to the instructions that came with your medication.

If you use more than one type of eye drop, wait five to 10 minutes before you apply the second medication. This will ensure that each drop is absorbed properly. Avoid using more than the prescribed number of drops per dose. Applying extra drops will not have any benefit and can increase unwanted side effects. It is very important to apply your eye drops the same way each time. Talk with your doctor or pharmacist if you are having trouble with your medication routine.

Q. How often should I see my eye doctor?
A. After starting therapy, you may not notice a difference even though your medication is working. Return to your doctor in two to four weeks, or more often as recommended by your doctor, for a follow-up assessment.

Q. What happens if medications do not help?
A. If drug therapy fails, your eye doctor may recommend laser treatment or surgery. These procedures may be performed to help improve fluid drainage from your eyes.

### Glaucoma Medications (continued)

<table>
<thead>
<tr>
<th>Generic Name (Brand Name)</th>
<th>How They Work</th>
<th>Common Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prostaglandin analogs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• bimatoprost (Lumigan®)</td>
<td>Increase fluid outflow in the eye</td>
<td>• Blurred vision</td>
</tr>
<tr>
<td>• latanoprost (Xalatan®)</td>
<td></td>
<td>• Eye pain</td>
</tr>
<tr>
<td>• travoprost (Travatan®, Travatan Z®)</td>
<td></td>
<td>• Itching</td>
</tr>
<tr>
<td><strong>Combination products</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• brimonidine/timolol (Combigan®)</td>
<td>Same actions as medications used individually</td>
<td>Same side effects as medications used individually</td>
</tr>
<tr>
<td>• dorzolamide/timolol (Cosopt®)</td>
<td>Same actions as medications used individually</td>
<td>Same side effects as medications used individually</td>
</tr>
</tbody>
</table>
Q. How can I receive the most benefit from my glaucoma care?
A. You can do the following to improve your glaucoma care.
   • Always take your medications as prescribed by your doctor.
   • Fill all your prescriptions at the same pharmacy so the pharmacist is aware of all your current medications.
   • When you see a healthcare professional for the first time, make sure they know you have glaucoma.
   • Tell your eye doctor about worsening or new symptoms because this may mean your glaucoma is getting worse or not responding to treatment.
   • Always check the expiration date on your medications and verify that medications are not expired before use.
   • Always make sure that you have enough medication before your next office visit and refill consistently.
   • If you have any problems with your medication, talk to your eye doctor or pharmacist about them.

Q. What resources are available for more information on glaucoma?
A. The following organizations provide information and support to those with glaucoma:
   • Glaucoma Research Foundation: 800-826-6693 or glaucoma.org
   • American Health Assistance Foundation: 800-437-2423 or ahaf.org/glaucoma
   • National Eye Institute: www.nei.nih.gov/health/glaucoma

References

This publication should be used for general educational purposes only and is not intended to be a substitute for professional medical advice. Be sure to contact your doctor, pharmacist or other healthcare provider for more information about glaucoma. Although it is intended to be accurate, neither Walgreen Co., its subsidiaries or affiliates, nor any other party assumes liability for loss or damage due to reliance on this publication.

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What You Need to Know About Parkinson’s Disease
Frequently Asked Questions

Q. What is Parkinson’s disease?
A. Parkinson’s disease is a condition that affects muscle movement. The coordination of muscle movement involves a chemical substance called dopamine. In Parkinson’s disease, the dopamine-producing cells in the brain begin to die or work improperly. This results in a gradual decrease in dopamine levels which is associated with Parkinson’s disease symptoms.

Q. What factors can increase the risk of Parkinson’s disease?
A. The exact cause of Parkinson’s disease is unknown. The following are some factors that may increase your risk of Parkinson’s disease:
• Increasing age
• Male gender
• Family history of Parkinson’s disease
• Exposure to toxins, such as herbicides or pesticides

Q. What are the symptoms of Parkinson’s disease?
A. Early symptoms usually begin on one side of the body and may be difficult to notice at first. When the disease progresses, the symptoms tend to worsen and may interfere with your ability to carry out ordinary activities. The following table lists some common symptoms that may develop in early and late Parkinson’s disease.

<table>
<thead>
<tr>
<th>Common Parkinson’s Disease Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Early Symptoms</strong></td>
</tr>
<tr>
<td>Tremor or shaking in the hands, arms, legs, jaw or face</td>
</tr>
<tr>
<td>Slowing or freezing of movement</td>
</tr>
<tr>
<td>Poor balance and coordination</td>
</tr>
<tr>
<td>Stiff muscles</td>
</tr>
<tr>
<td>Constipation</td>
</tr>
<tr>
<td>Urinary problems</td>
</tr>
<tr>
<td>Difficulty speaking or swallowing</td>
</tr>
<tr>
<td>Decrease in facial expression</td>
</tr>
<tr>
<td>Small handwriting</td>
</tr>
<tr>
<td><strong>Late Symptoms</strong></td>
</tr>
<tr>
<td>Worsening of early symptoms</td>
</tr>
<tr>
<td>Increase in falls</td>
</tr>
<tr>
<td>Difficulty with activities of daily living, such as dressing or bathing</td>
</tr>
<tr>
<td>Dementia or confusion</td>
</tr>
<tr>
<td>Emotional changes, such as depression</td>
</tr>
<tr>
<td>Personality changes and lack of social interaction</td>
</tr>
<tr>
<td>Rapid drop in blood pressure upon standing</td>
</tr>
<tr>
<td>Sleeping problems, such as difficulty falling asleep</td>
</tr>
</tbody>
</table>

Q. How is Parkinson’s disease diagnosed?
A. It is often difficult to diagnose Parkinson’s disease because there is no specific test available. Diagnosis is based on your medical history and a neurological examination. A medical history helps identify other conditions or medications that may result in symptoms similar to Parkinson’s disease. A neurological examination evaluates specific functions, such as walking, coordination and balance. There are other tests that may be used. Your doctor will determine which tests are needed to make an appropriate diagnosis.
Q. What medications are used to treat Parkinson's disease?
A. There is currently no cure for Parkinson's disease. The goal of treatment is to improve your symptoms. Medications used in the treatment of Parkinson's disease include the following:
- Levodopa
- Dopamine agonists
- Monoamine oxidase-B (MAO-B) inhibitors
- Catechol-O-methyltransferase (COMT) inhibitors
- Anticholinergics
- Antivirals

Information about these medications is provided in the table below. This is not a complete list of all the medications used or a complete list of side effects. Not everyone experiences the listed side effects. Talk to your doctor or pharmacist for more information. Treatment will not be the same for everyone. Your doctor will recommend the medications that are best for you.

### Parkinson's Disease Medications

<table>
<thead>
<tr>
<th>Generic Name (Brand Name)</th>
<th>How They Work</th>
<th>Common Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Levodopa</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>carbidopa/levodopa (Sinemet®, Sinemet® CR, Parcopa®)</td>
<td>Levodopa is converted into dopamine in the brain</td>
<td>Confusion, Decrease in blood pressure, Dyskinesia, or involuntary movements, Loss of appetite, Nausea, Times when medication appears to start and stop working</td>
</tr>
<tr>
<td></td>
<td>Levodopa increases dopamine levels to improve symptoms</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Carbidopa increases the amount of levodopa that reaches the brain by preventing the breakdown of levodopa outside the brain</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Carbidopa also minimizes side effects of levodopa</td>
<td></td>
</tr>
<tr>
<td><strong>Dopamine agonists</strong></td>
<td>Mimic the actions of dopamine to improve symptoms</td>
<td>Confusion, Constipation, Decrease in blood pressure, Hallucinations, Nausea, Sleepiness</td>
</tr>
<tr>
<td>apomorphine (Apokyn®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>bromocriptine (Parlodel®)</td>
<td></td>
<td></td>
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<tr>
<td>pramipexole (Mirapex®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ropinirole (Requip®, Requip® XL™)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Monoamine oxidase-B (MAO-B) inhibitors</strong></td>
<td>Prevent the breakdown of dopamine in the brain</td>
<td>Decrease in blood pressure, Dry mouth, Headache, Insomnia, or difficulty sleeping, Weight loss</td>
</tr>
<tr>
<td>rasagiline (Azilect®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>selegiline (Eldepryl®, Zelapar®)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Catechol O-methyltransferase (COMT) inhibitors</strong></td>
<td>Must be taken together with levodopa to work</td>
<td>Abdominal pain, Back pain, Brownish-orange urine, Dizziness, Fatigue, Nausea</td>
</tr>
<tr>
<td>entacapone (Comtan®)</td>
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<td></td>
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<tr>
<td>tolcapone (Tasmar®)</td>
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</tr>
</tbody>
</table>
Q. What lifestyle changes should I make to manage Parkinson’s disease?
A. Parkinson’s disease is a lifelong condition. Making changes in your daily habits can help you manage your symptoms.
- Help improve your balance and prevent falls by doing the following:
  - Avoid carrying items with both hands while walking. Use a backpack to carry your items.
  - Avoid quick movements, walking backwards or unnecessary reaching.
  - Have lamps and light switches within reach of the bed in case you have to get up during the night.
  - Install grab bars and non-skid mats in the bathroom.
  - Install railings or metal handles on the walls near entrances and doorways.
  - Make an effort to lift your feet off the ground when you walk to avoid shuffling.
- Make an effort to swing both arms back and forth while walking.
- Stand with your feet placed a shoulder length apart.
- Coil or tape electrical cords and wires next to the wall and make sure rugs are smooth and secured to the floor.
- Use a cane or walker if balance becomes difficult to maintain.
- Choose clothes with elastic waistbands and Velcro® fasteners instead of buttons.
- Organize your schedule so you can complete tasks or errands one at a time without feeling pressed for time.
- Start or maintain a healthy diet rich in fruits, vegetables and whole grains to prevent constipation.
- Talk to your doctor about whether physical, speech and occupational therapies are right for you.
- Talk to your doctor about home care because you may eventually need caregiver assistance.

### Parkinson’s Disease Medications (continued)

<table>
<thead>
<tr>
<th>Generic Name (Brand Name)</th>
<th>How They Work</th>
<th>Common Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anticholinergics</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| - benztropine (Cogentin®) | May balance the levels of dopamine and other chemicals in the brain to improve symptoms | - Blurred vision  
- Confusion  
- Constipation  
- Decrease in urinary flow or stream  
- Dry mouth  
- Sleepiness |
| - trihexyphenidyl (Artane®, Trihexy-2®, Trihexy-5®) | | |
| **Antiviral**              |              |                      |
| - amantadine (Symmetrel®) | May increase dopamine levels or mimic the actions of dopamine to improve symptoms | - Confusion  
- Decrease in blood pressure  
- Dizziness  
- Dry mouth  
- Hallucinations  
- Purple, mottled skin  
- Swelling |
| **Combination product**   |              |                      |
| - carbidopa/levodopa/entacapone (Stalevo®) | Same actions as medications taken individually | Same side effects as medications taken individually |
Q. How can I receive the most benefit from my Parkinson’s treatment?
A. Here are some helpful tips:
   • Fill all your prescriptions at the same pharmacy so the pharmacist is aware of all your current medications.
   • Tell your doctor about side effects that become too bothersome.
   • Tell your doctor about worsening symptoms or development of new symptoms because this may mean your Parkinson’s disease is getting worse or not responding to treatment.
   • Tell your doctor about all your medications, especially if you are receiving medications from more than one doctor. Be sure to mention over-the-counter medications and herbal supplements because these may affect the way your other medications work.
   • Take all your medications as prescribed by your doctor. Always make sure that you have enough medication on hand and don’t stop taking medication without talking to your doctor first.
   • Use a pillbox to keep track of your medications and avoid missing doses.

Q. What resources are available for more information on Parkinson’s disease?
A. The following organizations provide information and support to patients with Parkinson’s disease, including family, friends and caregivers:
   • American Parkinson Disease Association: 800-223-2732 or apdaparkinson.org
   • National Parkinson Foundation: 800-327-4545 or parkinson.org
   • Parkinson’s Disease Foundation: 800-457-6676 or pdf.org

References

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Q. Why has my healthcare provider prescribed warfarin for me?
A. Warfarin is an anticoagulant, a type of medication that is used to prevent the formation of unwanted blood clots. Anticoagulants also prevent existing blood clots from growing larger.

Warfarin may be prescribed for people with certain conditions, including:
• Atrial fibrillation, a type of irregular heartbeat
• Deep vein thrombosis, a blood clot in the arm or leg
• Pulmonary embolism, a blood clot in the lungs
• A mechanical heart valve

Q. How should I take warfarin?
A. Your healthcare provider will tell you how to take warfarin. Always take it exactly as directed. The amount of warfarin each person needs is different. The prescribed dose is based on a blood test. Some people may need to take different doses on different days of the week to get the exact amount of warfarin they need.

Warfarin should always be taken at the same time each day. It is generally a good idea to take warfarin in the evening. This way, if your doctor adjusts your dose during a daytime appointment, you can take the new dose that evening rather than having to wait until the next day. If you often forget to take your warfarin, talk to your healthcare provider about ways to remember.

Q. What should I do if I forget to take my warfarin?
A. Ask your healthcare provider what to do if you miss a dose. Never take a double dose of warfarin to make up for a missed dose.

If you realize you missed a dose within 12 hours of the time you should have taken it, then take the missed dose as soon as you remember. If more than 12 hours have passed since missing a dose, wait until your next scheduled dose or follow your doctor’s instructions.

For example, if you usually take a dose at 9 p.m. but realize at 7 a.m. the next day that you missed last night’s dose, then take it that morning as soon as you remember. Resume your usual dose schedule that night. If, however, you don’t remember that you missed the previous night’s dose until the next night, do not take two doses that night unless instructed by your healthcare provider.
It is very important to keep a record of any missed doses so you can tell your healthcare provider how many doses you missed and when you missed them. This information will help your healthcare provider interpret the results of your blood tests. Ask your healthcare provider whether it is necessary for you to report one missed dose right away. You should always tell your healthcare provider immediately if you miss two or more doses.

Q. Why do I need regular blood tests while taking warfarin?
A. When taking warfarin, you'll need regular blood tests, called PT/INR tests, to measure how long it takes your blood to form clots. PT stands for prothrombin time, which is the time it takes for your blood to clot. INR stands for international normalized ratio, which is a standard way to report PT.

The test result helps your healthcare provider see whether you're taking the right amount of warfarin or if your dose needs to be adjusted. When you first start taking warfarin or when your dose changes, you may need a PT/INR test every few days or every week or two. Once your INR values become stable, you won't need to be tested as often. In general, PT/INR is measured every four weeks unless instructed otherwise.

Q. What is my target INR value?
A. The target range for INR is usually 2.0 to 3.0, or 2.5 to 3.5. Every person's target is different. You and your healthcare provider should establish an individual monitoring plan for your INR. If your INR test is outside of target range, your warfarin dose may need to be adjusted.

Q. Can anything other than warfarin affect my INR value?
A. Yes. Several factors can change the INR value for people who take warfarin. A change in INR may increase your risk of bleeding or forming blood clots. This is one reason why you need to have a blood test on a regular basis. The following can affect INR:
- Changes in diet
- Alcoholic beverages, including beer and wine
- Dietary supplements
- Other prescription and over-the-counter medications
- Smoking

Tell your healthcare provider about these lifestyle factors when you start taking warfarin and throughout your treatment.

Because many medications can affect how warfarin works, you should tell your healthcare provider about all medications you’re taking while you are receiving warfarin therapy. If you need to take warfarin with other medications, your healthcare provider can adjust doses as needed. Do not stop or start taking any medication without talking to your healthcare provider first.

Q. Which prescription medications can affect warfarin and change INR?
A. Several types of prescription medications can interact with warfarin and alter your INR, including:
- Amiodarone (Pacerone® or Cordarone®)
- Antibiotics
- Antidepressants
- Birth control pills
- Blood thinners, such as clopidogrel (Plavix®)
- Fluconazole (Diflucan®)
- Interferon
• Prescription medications containing aspirin and medications containing aspirin, such as Aggrenox®
• Prescription-strength nonsteroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen, celecoxib (Celebrex®) or nabumetone (Relafen®)
• Statins (cholesterol-lowering medications), such as atorvastatin (Lipitor®) or simvastatin (Zocor®)
• Steroids, such as prednisone

Q. Which over-the-counter (OTC) medications can affect warfarin and change INR?
A. Common OTC medications that may have this effect include the following:
• Aspirin
• Certain cold or allergy medications
• Nonsteroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen (Advil®, Motrin®) and naproxen (Aleve®)

Q. Which dietary supplements affect warfarin and change INR?
A. Several herbal and alternative supplements may have this effect, including:
• Coenzyme Q10
• Cranberry extracts
• Dong quai
• Fish oil
• Garlic supplements
• Ginkgo
• Ginseng
• Omega-3 supplements
• St. John’s wort
• Vitamin K

Q. How does food affect the way warfarin works?
A. Vitamin K can affect the ability of warfarin to prevent blood clots. The amount of warfarin you should take depends on how much vitamin K-rich food you normally eat each day. It isn’t necessary to avoid foods that are rich in vitamin K; these foods are healthy and should be a part of your diet. What you should do is maintain the amount of vitamin K-rich foods you normally eat. Consistency is the key. Eating a consistent amount of these foods will make it easier for your doctor to determine the right warfarin dose for you. Do not make any major changes in your diet or start a weight loss plan without consulting your healthcare provider.

Q. What are some foods that contain vitamin K?
A. Many foods contain vitamin K. Although this is not a complete list, these are some common examples:

Fruits
• Blueberries
• Grapefruit and grapefruit juice (These can greatly affect how well warfarin works.)
• Kiwi

Vegetables
• Asparagus
• Broccoli
• Brussels sprouts
• Cabbage
• Cauliflower
• Dark, leafy greens, such as spinach, lettuce, kale and collard greens
• Peas

Meats
• Beef liver
• Pork liver

Other Foods
• Canola and soybean oil
• Margarine
• Mayonnaise
Q. What are common side effects of warfarin?
A. When you take warfarin, your blood won’t clot as easily. If you accidentally cut yourself while taking warfarin, you may bleed more easily than you did before. You’re more likely to have bleeding problems if you’re older than 75 or take certain other medications that can further increase your bleeding risk.

Tell your healthcare provider right away if you experience any of these symptoms, which could be side effects of warfarin:
- Sores
- Changes in skin color or temperature
- Severe skin pain (particularly on the chest/breasts)
- Nose bleeds
- Bleeding gums
- Bleeding that does not stop
- Red or black bowel movements or diarrhea
- Pink or brown urine
- Vomiting or coughing up blood or what looks like coffee grounds
- Dizziness, fatigue or weakness
- Excessive bruising or swelling with no known injury
- Chest pain or pressure
- Fever or flu-like symptoms
- Rapid swelling or discoloration of a joint or muscle, especially after an injury
- Skin conditions such as hives, a rash or itching

If you have serious bruising or bleeding, seek immediate medical attention.

Q. How do I reduce my risk of bleeding?
A. Below are some tips to reduce your chance of bleeding while taking warfarin:

**Lifestyle Habits**
- Pay attention to what you eat. Eat a consistent amount of foods containing vitamin K.
- Avoid smoking and drinking alcohol.
- Use a soft-bristle toothbrush and waxed floss to care for your teeth and gums.
- Shave with an electric razor rather than a blade.

**Medical Safety**
- Tell your healthcare provider about all medications or supplements you take.
- Tell your doctor and dentist that you are taking warfarin before any medical or dental procedures, including vaccinations and routine dental cleanings.
- Ask your doctor what dose changes might be necessary at least 10 days before surgery.
- Consider carrying identification that shows you take warfarin, in case of a medical emergency.

**Minimizing Risk for Accidents**
- Be cautious when using sharp objects, such as knives and scissors.
- Prevent falls.
  - Avoid walking on ice and wet or polished floors.
  - Remove hazards in your home, such as throw rugs, which could lead to falling.

**Physical Activity**
- Wear a helmet and gloves while biking or rollerblading.
- Avoid contact sports or activities that could result in head injury or falls, such as football, soccer or wrestling.
- Participate in low-impact activities like swimming or walking.
- Tell your healthcare provider if you are unsteady while walking or have a history of falling.
- Talk with your healthcare provider before starting or changing any exercise program.

Warfarin is prescribed for people who are at risk for stroke, heart attack and blood clots. It is important to recognize the warning signs of these conditions and know what to do.
Q. **What are the signs of a stroke?**

A. According to the American Stroke Association, there are five warning signs of stroke:
- Sudden numbness or weakness in the face, arm or leg, especially on one side of the body
- Sudden confusion, trouble speaking or understanding
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, loss of balance or coordination
- Sudden, severe headache with no known cause

Use the National Stroke Association’s “FAST” method for recognizing and responding to stroke symptoms:
- **F**ace: Ask the person to smile. See if one side of the face droops.
- **A**rm: Ask the person to raise both arms. See if one arm drifts downward.
- **S**peech: Ask the person to repeat a simple sentence. See if words are slurred and if the sentence is repeated correctly.
- **T**ime: If a person shows any stroke symptoms, seek immediate medical attention. Act “FAST.”

Q. **What are the signs of a heart attack?**

A. The pain of a heart attack can feel like bad heartburn. “Typical” signs of a heart attack include the following:
- Feeling of pressure or crushing pain in the chest, sometimes with sweating, nausea or vomiting
- Pain that extends from the chest into the jaw, left arm or left shoulder
- Tightness in the chest
- Shortness of breath for more than a couple of seconds

A person may also experience one or more of the following “atypical” signs of a heart attack:
- Neck, jaw, shoulder, upper back or abdominal discomfort
- Nausea or vomiting
- Abdominal pain or “heartburn”
- Sweating
- Lightheadedness or dizziness
- Unusual or unexplained fatigue

If you have these signs, call 911 immediately.

Q. **What are the signs of a blood clot?**

A. When clots block blood flow, symptoms may include:
- Swelling, redness or warmth in the calf, ankle, foot or thigh
- Pain in the leg
- Chest pain
- Shortness of breath
- Seizures
- Sudden weakness
- Severe abdominal pain with vomiting or diarrhea
- Bluish skin on the leg or toes

If you think you have a blood clot, seek immediate medical attention.

**References**


This publication should be used for general educational purposes only and is not intended to be a substitute for professional medical advice. Be sure to contact your doctor, pharmacist or other healthcare provider for more information about warfarin. Although it is intended to be accurate, neither Walgreen Co., its subsidiaries or affiliates, nor any other party assumes liability for loss or damage due to reliance on this publication.

Drug names are the property of their respective owners.

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Forms

Section I
Forms Section Overview

This section of the guide provides pharmacists at MTM-contracted community pharmacies with the forms needed to provide MTM services.

Pharmacy Service Bill and Intervention Assessment Feedback Form: Step-by-Step Instructions for Completing the Forms. This section provides detailed instructions for filling out the Pharmacy Service Bill and Intervention Assessment Feedback Form for AOT/IMIE/CP. Follow these steps and then submit the required forms to Walgreens Health Services for payment after completing an AOT, IMIE, or CP intervention.

Forms

- **Pharmacy Service Bill and Intervention Assessment Feedback Form for AOT/IMIE/CP.** Print or photocopy this form, fill in the required fields, and submit to Walgreens Health Services for payment after completing an AOT, IMIE, or CP intervention.

- **Patient Opt Out Form.** This form is used to end a patient’s enrollment in the MTM service. If a patient chooses to opt out, print or photocopy this form, have the patient fill in the required fields, sign the form, and return it to you. Then mail or fax the form to Walgreens Health Services to opt the patient out of the service.

- **Compliance and Persistency Type 2 Patient Intervention Tracking Sheet.** This form may be used by a community pharmacy technician to keep track of phone call attempts made to a patient for a CP Type 2 intervention.
Pharmacy Service Bill and Intervention Assessment Feedback Form

Step-by-Step Instructions for Completing the Form

Each time an AOT, IMIE, or CP intervention is identified at your community pharmacy, you will receive a prepopulated Pharmacy Service Bill and Intervention Assessment Feedback Form via fax within one to two business days. Perform the intervention, complete the remaining fields on the form, and then fax or mail the forms to Walgreens Health Services for reimbursement by the Due Date printed on the Service Bill. Failure to submit the forms by the Due Date results in a rejected service bill and your pharmacy will not be reimbursed for the intervention.

If you misplace or do not receive the prepopulated form, you may print a blank copy and manually fill in all required fields. Blank copies of the Pharmacy Service Bill and Intervention Assessment Feedback forms for AOT, IMIE, and CP can be found in the Forms section of the guide. The Walgreens Health Services fax number and mailing address are located on page 2 of the Pharmacy Service Bill and on the last page of this instruction sheet.

✓ Each intervention requires the submission of a separate Pharmacy Service Bill (page 1) and Intervention Assessment Feedback form (page 2).

✓ For all interventions, complete both pages 1 and 2.

✓ If two interventions are performed for the same patient (e.g., an AOT and an IMIE intervention), document and submit each intervention separately.

Note: Make a copy of all forms for your records and file the copy in your pharmacy. Ask your pharmacy supervisor if you have questions.

Table of Contents:

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IMIE Service Bill and Intervention Assessment Feedback ---------  page 9
C&P Service Bill and Intervention Assessment Feedback ---------  page 16

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Instructions for AOT Pharmacy Service Bill Form

Pharmacy Service Bill for Appropriateness of Therapy (AOT)

Due Date:

An MTM opportunity has been identified for this patient. This form is used to provide feedback to Walgreens Health Services (WHS) as to how successful the suggested intervention was, as well as to provide information to appropriately reimburse for services rendered. WHS must receive this form by the Due Date printed above to receive full payment for your services. Failure to submit this form by this Due Date will result in a rejected service bill.

You must submit both pages of this form and include your signature on the second page of this form in order to receive payment.

<table>
<thead>
<tr>
<th>Patient Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Name: (Last Name, First Name)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rx Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Service</td>
</tr>
<tr>
<td>Auth Code</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appropriatelessness of Therapy Review – This program targets the use of recommended medication regimens in certain disease states identified according to evidence-based medicine and nationally recognized guidelines.</td>
</tr>
<tr>
<td>AOT Conflict:</td>
</tr>
</tbody>
</table>

Key Message to Prescriber

<table>
<thead>
<tr>
<th>Secondary Rx Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please fill out the following information for medication(s) added to the patient’s profile as a result of the intervention</td>
</tr>
<tr>
<td>Secondary Rx Drug Name and Strength:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person communicating with the patient:</td>
</tr>
<tr>
<td>☐ Pharmacist</td>
</tr>
<tr>
<td>Patient Contact Status: (Check all that apply)</td>
</tr>
<tr>
<td>☐ Counseled patient regarding clinical compliance</td>
</tr>
<tr>
<td>☐ Patient is not willing to discuss</td>
</tr>
<tr>
<td>Patient Contact Information:</td>
</tr>
<tr>
<td>☐ Phone: (_____) _______ - _______</td>
</tr>
<tr>
<td>☐ Best time of day to contact: ___ am / ___ pm</td>
</tr>
</tbody>
</table>

Also complete Page 2

Confidential Health Information: Health care information is personal information related to a person’s health care. It is being shared with you after appropriate authorization or under circumstances that don’t require authorization. You are obligated to maintain it in a safe, secure and confidential manner. The disclosure of this information is prohibited unless permitted by law or appropriate customer/patient authorization is obtained. Use of this information may be made with the patient or legal representative as subject to any legal or regulatory requirements. Unauthorized disclosure of this information may subject you to civil and/or criminal penalties.

IMPORTANT WARNING: This message is intended for the use of the persons or entity to which it is addressed and may contain information that is privileged and confidential, the disclosure of which is governed by applicable law. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this information is STRICTLY PROHIBITED. If you have received this message in error, please notify us immediately.

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Page 1
**Patient Info**

<table>
<thead>
<tr>
<th>Patient Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Name: (Last Name, First Name)</td>
</tr>
<tr>
<td>SMITH, JOHN</td>
</tr>
</tbody>
</table>

**Note:** This section will be **prepopulated**. Please verify this information before continuing with the rest of the Pharmacy Service Bill and Intervention Assessment Feedback Form.

- **Patient Name**
  Patient’s name (last name, first name).

- **Birthdate**

- **Gender**

- **Case Number**
  A randomly generated number uniquely identifying this intervention case.

**Rx Info**

<table>
<thead>
<tr>
<th>Rx Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Service</td>
</tr>
<tr>
<td>11/01/2007</td>
</tr>
<tr>
<td>Auth Code:</td>
</tr>
<tr>
<td>78910</td>
</tr>
</tbody>
</table>

**Note:** This section will be **prepopulated**. Please verify this information before continuing with the rest of the Pharmacy Service Bill and Intervention Assessment Feedback Form.

- **Date of Service**
  The date the MTM intervention was created. The Date of Service may also be the same as the Date of Consult.

- **Original Rx #**
  The prescription number of the medication that triggered the identified intervention.

- **NDC Number**
  The National Drug Code (NDC) number of the medication that triggered the identified intervention.

- **Drug Name**
  The name and strength of the medication that triggered the identified intervention.

- **Auth Code**
  The authorization code transmitted to the pharmacy when the intervention was triggered. A different authorization code is generated for every opportunity.

- **Prescriber Name**
  The prescriber’s full name (last name, first name).

- **Prescriber DEA or NPI**
  The prescriber’s Drug Enforcement Administration (DEA) number or prescribing ID.

- **Prescriber Phone**
  The prescriber’s primary practice phone number.
Program Info

**Program Info**

Appropriateness of Therapy Review – This program targets the use of recommended medication regimens in certain disease states identified according to evidence-based medicine and nationally recognized guidelines.

AOT Conflict: **DIABETES NOT ON ACE/ARB (MALE)**

**Note:** This section will be prepopulated. Please verify this information before continuing with the rest of the Pharmacy Service Bill and Intervention Assessment Feedback Form.

✓ This section displays the specific type of conflict generated.

Key Message to Prescriber

**Key Message to Prescriber**

Based on your patient’s claim history, it appears the patient may have diabetes and is at high risk for cardiovascular complications. Consider adding an ACE-Inhibitor or an ARB, if no contraindications are present. These agents have demonstrated benefits on morbidity and mortality in cardiovascular disease and stroke, with or without hypertension (blood pressure goal for patients with diabetes is less than 130/80-mm Hg). In addition, these agents have shown to delay the progression of nephropathy in diabetic patients with microalbuminuria (blood pressure goal for patients with renal disease is less than 125/75 mm Hg).

**Note:** This section will be prepopulated. Please verify this information before continuing with the rest of the Pharmacy Service Bill and Intervention Assessment Feedback Form.

✓ This field details the specific reasons, backed by national guidelines, why this intervention should take place. This message should be used when consulting with the prescriber involved with the intervention.

Secondary Rx Info

**Secondary Rx Info**

Please fill out the following information for medication(s) added to the patient’s profile as a result of the intervention.

<table>
<thead>
<tr>
<th>Secondary Rx Drug Name and Strength</th>
<th>Qty</th>
<th>Directions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sinvistatin 10 mg</td>
<td>30</td>
<td>tk 1 t po qd #30</td>
</tr>
</tbody>
</table>

**Note:** This section should only be used when a new prescription is added to the patient’s therapy after consulting with the prescriber. Not all interventions will require a new prescription.

✓ Secondary Rx Drug Name and Strength
✓ Qty
✓ Directions (sig)
Patient Feedback

- **Person communicating with the patient:**
  - [x] Pharmacist
  - [ ] Pharmacist Intern
  - [ ] Resident

- **Patient Contact Status:** (Check all that apply)
  - [x] Counseled patient regarding clinical compliance
  - [ ] Patient is not willing to discuss
  - [ ] Patient advised to speak with Physician
  - [ ] No response after three attempts

- **Patient Contact Information:**
  - Phone: (______) ____-____
  - Best time of day to contact: __________ am/pm
  - Fax: (______) ______-____
  - eMail: __________@___________.com

- ✓ **Person communicating with the patient**
  Indicate who counseled the patient on the intervention by selecting either “Pharmacist,” “Pharmacist Intern,” or “Resident.”

- ✓ **Patient Contact Status**
  Indicate the patient’s response to the intervention by selecting **all that apply.**

- ✓ **Patient Contact Information**
  Fill in the patient’s home telephone number, including area code, and the best time of day to call the patient. Also, fill in the patient’s fax number and email address, if available.

**Note:** The second page of the AOT Service Bill, the Intervention Assessment Feedback form, must also be filled out and returned to WHS. Failure to submit both pages of the AOT Service Bill may result in a rejected service bill.
Instructions for AOT Intervention Assessment Feedback Form

Intervention Assessment Feedback for Appropriateness of Therapy (AOT)

Patient Name:  DOB:  Case Number:

You must submit both pages of this form and include your signature on the second page of this form in order to receive payment.

Prescriber Feedback

Prescriber Response: (Check one.)

☐ Prescriber agrees clinically with pharmacist’s recommendation
☐ Prescriber does not agree with clinically pharmacist’s concern
☐ The patient cannot tolerate the medication or it is contraindicated
☐ The patient’s diagnosis supports current therapy

☐ Prescriber is aware of the concern and Prescriber is monitoring the patient
☐ The patient has tried and failed the medication in the past
☐ The patient is no longer under my care
☐ No response after three attempts

Prescriber Action: (Check one.)

☐ Will change the patient’s therapy
☐ WILL NOT change the patient’s therapy

☐ Will discuss with the patient

Rx Feedback for Secondary Prescription

RX Disposition:

☐ Rx Dispensed
☐ Rx Not Dispensed (Check why not dispensed.)
  ☐ Financial Cost
  ☐ Substituted OTC Product
  ☐ Patient: (Check all that apply.)
  ☐ Believes current medication is working (even though may not be feeling better)
  ☐ Feels better since starting treatment with current medication and is not experiencing any side effects
  ☐ Believes current medication is better than alternative medication
  ☐ is reluctant to try new medication
  ☐ Has tried the alternative medication in the past without success
  ☐ Has tried the alternative medication in the past, and although it has worked, it caused patient too many side effects
  ☐ Patient to talk with Prescriber
  ☐ Patient did not show up to pick up Rx (No Show)
  ☐ Do not know

Pharmacist Contact Time and Signature

Total time spent on MTM intervention (including prescriber contact, prep work, patient consultation, and form completion): ________ min

Date of Consult:  Pharmacy Name and Store Number:  NCPDP or NPI Number:

Phone:  Fax:

Pharmacist Signature:  Pharmacist Name: (Last Name, First Name)  Pharmacist ID: (LIC or NPI)

X

When complete, please fax or mail to:

Fax: (866) 352-5318  Mail: Walgreens Health Services
OR  1411 Lake Cook Road MS L415  Questions?
Deerfield, IL 60015  Phone: (866) 352-5310
Attention: MTM

Confidential Health Information: Health care information is personal information related to a person’s health care. It is being shared with you after appropriate authorization or under circumstances that do not require authorization. You are obligated to maintain it as a safe, secure and confidential manner. Re-disclosure of this information is prohibited unless permitted by law or appropriate customer/patient authorization is obtained. Unauthorized disclosure or failure to maintain confidentiality could subject you to penalties described in federal and state laws.

IMPORTANT WARNING: This message is intended for the use of the person or entity to whom it is addressed and may contain information that is privileged and confidential, the disclosure of which is governed by applicable law. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this information is STRICTLY PROHIBITED. If you have received this message in error, please notify us immediately.

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Prescriber Feedback

Prescriber Response: (Check one.)

- Prescriber agrees clinically with pharmacist's recommendation
- Prescriber does not agree with clinically pharmacist's concern
- The patient cannot tolerate the medication or it is contraindicated
- The patient's diagnosis supports current therapy
- Prescriber is aware of the concern and Prescriber is monitoring the patient
- The patient has tried and failed the medication in the past
- The patient is no longer under my care
- No response after three attempts

Prescriber Action: (Check one.)

- Will change the patient's therapy
- Will NOT change the patient's therapy
- Will discuss with the patient
- No response after three attempts

✓ Prescriber Response
Indicate what response the prescriber made. If no response was given, or if you were unable to contact the prescriber, select “No response after three attempts.”

✓ Prescriber Action
Indicate the actions to be taken that were discussed with the prescriber. If you were unable to contact the prescriber, select “Will NOT change the patient’s therapy.”

Rx Feedback for Secondary Prescription

Rx Dispensed: (Check one.)

- Rx Dispensed
- Rx Not Dispensed (Check why not dispensed.)
- Financial Cost
- Substituted OTC Product
- Patient: (Check all that apply.)
  - Feels better since starting treatment with current medication and is not experiencing any side effects
  - Believes current medication is better than alternative medication
  - Is reluctant to try new medication
  - Has tried the alternative medication in the past without success
  - Has tried the alternative medication in the past, and although it has worked, it caused patient too many side effects
  - Patient to talk with Prescriber
  - Patient did not show up to pick up Rx (No Show)
  - Do not know

✓ Rx Dispensed
Select this box if a secondary prescription was dispensed.

✓ Rx Not Dispensed
If the prescription was not dispensed, please indicate why, if known.

✓ Patient to talk with Prescriber
Select this box if the patient is unsure, and wishes to discuss the matter with his or her prescriber before taking the prescription.

✓ Patient did not show up to pick up the Rx (No Show)
Select this box if the patient never picks up the prescription.

✓ Do not know
Select this box if you never speak to the patient.
### Pharmacist Contact Time and Signature

#### Total time spent on MTM Intervention
Fill in the total amount of time spent on the intervention. This should include the time it took to speak with the prescriber concerning the intervention, patient consultation, and the time it took to physically fill out the necessary forms. Do not include time spent waiting for a response from the prescriber or patient, but only the time spent actively working on the intervention.

#### Date of Consult
Insert the date you spoke to the patient about the intervention. If the patient was not consulted, insert the date you attempted to counsel the patient.

#### Pharmacy Name, Store Number, NCPDP/NPI Number, Phone and Fax
These fields will display the contact information for the pharmacy where the intervention is triggered.

#### Pharmacist Signature, Name and Pharmacist ID (License of NPI Number)
Signature, Full Name and ID of the pharmacist who carried out the patient consultation.

---

**Note:** Portions of this section will be pre-populated. Please verify this information before continuing with the rest of the Pharmacy Service Bill and Intervention Assessment Feedback Form.

---

Once you have completed both pages of the Appropriateness of Therapy (AOT) Pharmacy Service Bill (page 1) and Intervention Assessment Feedback form (page 2), fax or mail the forms to:

**Walgreens Health Services**
Attention: MTM
1411 Lake Cook Road MS L415
Deerfield, IL 60015
Fax (866) 352-5318
Instructions for IMIE Pharmacy Service Bill Form

Pharmacy Service Bill for Inappropriate Medications in the Elderly (IMIE)

Due Date:
An MTM opportunity has been identified for this patient. This form is used to provide feedback to Walgreens Health Services (WHS) as to how successful the suggested intervention was, as well as to provide information to appropriately reimburse for services rendered. WHS must receive this form by the Due Date printed above to receive full payment for your services. Failure to submit this form by this Due Date will result in a rejected service bill.

You must submit both pages of this form and include your signature on the second page of this form in order to receive payment.

Patient Info
Patient Name: (Last Name, First Name)      DOB: (mm/dd/yyyy)    Gender:    Case #:    

Rx Info
Date of Service | Original Rx #: | NDC Number: | Drug Name:    

Auth Code:    Prescriber Name: (Last Name, First Name)    Prescriber DEA / NPI:    Prescriber Phone #:    

Program Info
Inappropriate Medications in the Elderly Review (IMIE) – This program targets medications to avoid in the elderly. Several lists of high-risk medications have been published (e.g. Beers, McLeod, and Zhan) to aid in more appropriate drug selection in this patient population.

IMIE Conflict:

Key Message to Prescriber

Secondary Rx Info
Please fill out the following information for medication(s) added to the patient’s profile as a result of the intervention

Secondary Rx Drug Name and Strength:    Qty:    Directions:    

Patient Feedback
Person communicating with the patient:

☑ Pharmacist    ☐ Pharmacist Intern    ☐ Resident

Patient Contact Status: (Check all that apply)
☐ Counseled patient regarding clinical compliance    ☐ Patient advised to speak with Physician
☐ Patient is not willing to discuss    ☐ No response after three attempts

Patient Contact Information:
☐ Phone: (____) ______ - ______    ☐ Fax: (____) ______ - ______
☐ Best time of day to contact: ______ am/____ pm    ☐ eMail: ______ @ ______

Also complete Page 2

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Page 1

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**Patient Info**

<table>
<thead>
<tr>
<th>Patient Info</th>
<th>DOB: (mm/dd/yyyy)</th>
<th>Gender</th>
<th>Case #</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMITH, JOHN</td>
<td>09/13/1939</td>
<td>M</td>
<td>123456</td>
</tr>
</tbody>
</table>

**Note:** This section will be **prepopulated**. Please verify this information before continuing with the rest of the Pharmacy Service Bill and Intervention Assessment Feedback Form.

- **Patient Name**
  Patient’s name (last name, first name).

- **Birthdate**

- **Gender**

- **Case Number**
  A randomly generated number uniquely identifying this intervention case.

**Rx Info**

<table>
<thead>
<tr>
<th>Rx Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Service</td>
</tr>
<tr>
<td>11/01/2007</td>
</tr>
<tr>
<td>Auth Code:</td>
</tr>
<tr>
<td>78910</td>
</tr>
</tbody>
</table>

**Note:** This section will be **prepopulated**. Please verify this information before continuing with the rest of the Pharmacy Service Bill and Intervention Assessment Feedback Form.

- **Date of Service**
  The date the MTM intervention was created. The Date of Service may also be the same as the Date of Consult.

- **Original Rx #**
  The prescription number of the medication that triggered the identified intervention.

- **NDC Number**
  The National Drug Code (NDC) number of the medication that triggered the identified intervention.

- **Drug Name**
  The name and strength of the medication that triggered the identified intervention.

- **Auth Code**
  The authorization code transmitted to the pharmacy when the intervention was triggered. A different authorization code is generated for every opportunity.

- **Prescriber Name**
  The prescriber’s full name (last name, first name).

- **Prescriber DEA or NPI**
  The prescriber’s Drug Enforcement Administration (DEA) number or prescribing ID.

- **Prescriber Phone**
  The prescriber’s primary practice phone number.
Program Info

**Inappropriate Medications in the Elderly Review (IMIE)** – This program targets medications to avoid in the elderly. Several lists of high-risk medications have been published (e.g. Beers, McLeod, and Zhan) to aid in more appropriate drug selection in this patient population.

| IMIE Conflict          | Muscle Relaxants in the Elderly |

**Note:** This section will be prepopulated. Please verify this information before continuing with the rest of the Pharmacy Service Bill and Intervention Assessment Feedback Form.

- This section displays the specific type of conflict generated.

Key Message to Prescriber

**Key Message to Prescriber**

Certain muscle relaxants should be avoided in the elderly due to high incidence of anticholinergic effects, sedation and weakness. If prolonged use is necessary, consider switching your patient to tizanidine at the lowest dose and titrate to therapeutic response.

**Note:** This section will be prepopulated. Please verify this information before continuing with the rest of the Pharmacy Service Bill and Intervention Assessment Feedback Form.

- This field details the specific reasons, backed by national guidelines, why this intervention should take place. This message should be used when consulting with the prescriber involved with the intervention.

Secondary Rx Info

**Secondary Rx Info**

Please fill out the following information for medication(s) added to the patient’s profile as a result of the intervention.

<table>
<thead>
<tr>
<th>Secondary Rx Drug Name and Strength</th>
<th>Qty</th>
<th>Directions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tizanidine 2mg</td>
<td>60</td>
<td>#12p 470th</td>
</tr>
</tbody>
</table>

**Note:** This section should only be used when a new prescription is added to the patient’s therapy after consulting with the prescriber. Not all interventions will require a new prescription.

- Secondary Rx Drug Name and Strength
- Qty
- Directions (sig)
Patient Feedback

<table>
<thead>
<tr>
<th>Person communicating with the patient:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>X Pharmacist</td>
<td>○ Pharmacist Intern</td>
<td>○ Resident</td>
</tr>
</tbody>
</table>

Patient Contact Status: (Check all that apply)
- ☒ Counseled patient regarding clinical compliance
- ○ Patient is not willing to discuss
- ○ Patient advised to speak with Physician
- ○ No response after three attempts

Patient Contact Information:
- ☐ Phone: (______) 5555 - 5555
- ☐ Best time of day to contact: 6:00 am/7:00 pm
- ○ Fax: (______) - N/A
- ☐ eMail: johnsmith@yahoo.com

- ✓ Person communicating with the patient
  Indicate who counseled the patient on the intervention by selecting either “Pharmacist,” “Pharmacist Intern,” or “Resident.”

- ✓ Patient Contact Status
  Indicate the patient’s response to the intervention by selecting all that apply.

- ✓ Patient Contact Information
  Fill in the patient’s home telephone number, including area code, and the best time of day to call the patient. Also, fill in the patient’s fax number and email address, if available.

Note: The second page of the IMIE Service Bill, the Intervention Assessment Feedback form, must also be filled out and returned to WHS. Failure to submit both pages of the IMIE Service Bill may result in a rejected service bill.
Instructions for IMIE Intervention Assessment Feedback Form

Intervention Assessment Feedback for Inappropriate Medications in the Elderly (IMIE)

Patient Name: ___________________________ DOB: _______ Case Number: _______

You must submit both pages of this form and include your signature on the second page of this form in order to receive payment.

Prescriber Feedback

Prescriber Response: (Check one.)
- Prescriber agrees clinically with pharmacist's recommendation
- Prescriber does not agree with clinically pharmacist's concern
- The patient cannot tolerate the medication or it is contraindicated
- The patient's diagnosis supports current therapy
- Prescriber is aware of the concern and prescriber is monitoring the patient
- The patient has tried and failed the medication in the past
- The patient is no longer under my care
- No response after three attempts

Prescriber Action: (Check one.)
- Will change the patient's therapy
- Will NOT change the patient's therapy
- Will discuss with the patient

Rx Feedback for Secondary Prescription

RX Disposition:
- Rx Dispensed
- Rx Not Dispensed (Check why not dispensed.)
- Financial Cost
- Substituted OTC Product
- Patient: (Check all that apply.)
  - Believes current medication is working (even though may not be feeling better)
  - Feels better since starting treatment with current medication and is not experiencing any side effects
  - Believes current medication is better than alternative medication
  - Is reluctant to try new medication
  - Has tried the alternative medication in the past without success
  - Has tried the alternative medication in the past, and although it has worked, it caused patient too many side effects
  - Patient to talk with prescriber
  - Patient did not show up to pick up Rx (No Show)
  - Do not know

Pharmacist Contact Time and Signature

Total time spent on MTM intervention (including prescriber contact, prep work, patient consultation, and form completion): _______ min

Date of Consult: ___________________________ Pharmacy Name and Store Number: ___________________________ NCPDP or NPI Number: ___________________________

Phone: ___________________________ Fax: ___________________________

Pharmacist Signature: ___________________________ Pharmacist Name: (Last Name, First Name) ___________________________ Pharmacist ID: (LIC or NPI) ___________________________

X

When complete, please fax or mail to:

Fax: (866) 352-5318 Mail: Walgreens Health Services OR 1411 Lake Cook Road MS L415 Deerfield, IL 60015 Questions? Phone: (866) 352-5310

Confidential Health Information: Health care information is personal information related to a person's health care. It is being shared with you after appropriate authorization or under circumstances that do not require authorization. You are obligated to maintain it in a safe, secure and confidential manner. The disclosure of this information is prohibited unless permitted by law or appropriate customer/patient authorization is obtained. Unauthorized disclosure or failure to maintain confidentiality could subject you to penalties described in federal and state laws. IMPORTANT WARNING: This message is intended for the use of the person or entity to whom it is addressed and may contain information that is privileged and confidential. The disclosure of which is governed by applicable law. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this information is STRICTLY PROHIBITED. If you have received this message in error, please notify us immediately. © 2007 Walgreens Health Services, a wholly owned subsidiary of Walgreen Co. All rights reserved. Ref Code: MFB6SBMPEP03098v1
Prescriber Feedback

Prescriber Feedback

Prescriber Response: (Check one.)
- Prescriber agrees clinically with pharmacist's recommendation
- Prescriber does not agree with clinically pharmacist's concern
- The patient cannot tolerate the medication or it is contraindicated
- The patient's diagnosis supports current therapy
- Prescriber is aware of the concern and Prescriber is monitoring the patient
- The patient has tried and failed the medication in the past
- The patient is no longer under my care
- No response after three attempts

Prescriber Action: (Check one.)
- Will change the patient's therapy
- Will NOT change the patient's therapy
- Will discuss with the patient

✓ Prescriber Response
Indicate what response the prescriber made. If no response was given, or if you were unable to contact the prescriber, select “No response after three attempts.”

✓ Prescriber Action
Indicate the actions to be taken that were discussed with the prescriber. If you were unable to contact the prescriber, select “Will NOT change the patient's therapy.”

Rx Feedback for Secondary Prescription

Rx Feedback for Secondary Prescription

RX Disposition:
- Rx Dispensed
- Rx Not Dispensed (Check why not dispensed.)
- Financial Cost
- Substituted OTC Product
- Patient (Check all that apply.)
  - Believes current medication is working (even though may not be feeling better)
  - Feels better since starting treatment with current medication and is not experiencing any side effects
  - Believes current medication is better than alternative medication
  - Is reluctant to try new medication
  - Has tried the alternative medication in the past without success
  - Has tried the alternative medication in the past, and although it has worked, it caused patient too many side effects
- Patient to talk with Prescriber
- Patient did not show up to pick up Rx (No Show)
- Do not know

✓ Rx Dispensed
Select this box if a secondary prescription was dispensed.

✓ Rx Not Dispensed
If the prescription was not dispensed, please indicate why, if known.

✓ Patient to talk with Prescriber
Select this box if the patient is unsure, and wishes to discuss the matter with their prescriber before taking the prescription.

✓ Patient did not show up to pick up the Rx (No Show)
Select this box if you spoke with the patient, but he or she never picks up the prescription.

✓ Do not know
Select this box if you never speak to the patient.
**Pharmacist Contact Time and Signature**

<table>
<thead>
<tr>
<th>Date of Consult</th>
<th>Pharmacy Name and Store Number</th>
<th>NCPDP or NPI Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/12/2007</td>
<td>RIVERVIEW RX #5446</td>
<td>2364658</td>
</tr>
</tbody>
</table>

**Phone:** 555-555-5555  
**Fax:** 555-555-5555

**Pharmacist Signature:** X  
**Pharmacist Name:** Susan K Miller  
**Pharmacist ID:** IL-236544

**Note:** Portions of this section will be pre-populated. Please verify this information before continuing with the rest of the Pharmacy Service Bill and Intervention Assessment Feedback Form.

- **Total time spent on MTM Intervention**  
  Fill in the total amount of time spent on the intervention. This should include the time it took to speak with the prescriber concerning the intervention, patient consultation, and the time it took to physically fill out the necessary forms. Do not include time spent waiting for a response from the prescriber or patient, but only the time spent actively working on the intervention.

- **Date of Consult**  
  Insert the date you spoke to the patient about the intervention. If the patient was not consulted, insert the date you attempted to counsel the patient.

- **Pharmacy Name, Store Number, NCPDP/NPI Number, Phone and Fax**  
  These fields will display the contact information for the pharmacy where the intervention is triggered.

- **Pharmacist Signature, Name and Pharmacist ID (License of NPI Number)**  
  Signature, Full Name and ID of the pharmacist who carried out the patient consultation

---

**Once you have completed both pages of the Inappropriate Medications in the Elderly (IMIE) Pharmacy Service Bill (page 1) and Intervention Assessment Feedback form (page 2), fax or mail the forms to:**

**Walgreens Health Services**  
**Attention: MTM**  
**1411 Lake Cook Road MS L415**  
**Deerfield, IL 60015**  
**Fax (866) 352-5318**
Instructions for CP Pharmacy Service Bill Form

Pharmacy Service Bill for Compliance and Persistency (C&P)

Due Date:

An MTM opportunity has been identified for this patient. This form is used to provide feedback to Walgreens Health Services (WHS) as to how successful the suggested intervention was, as well as to provide information to appropriately reimburse for services rendered. WHS must receive this form by the Due Date printed above to receive full payment for your services. Failure to submit this form by this Due Date will result in a rejected service bill.

You must submit both pages of this form and include your signature on the second page of this form in order to receive payment.

Patient Info
Patient Name: (Last Name, First Name) DOB: (mm/dd/yyyy) Gender: Case #:

Rx Info
Date of Service Original Rx #: NDC Number: Drug Name:

Auth Code: Prescriber Name: (Last Name, First Name) Prescriber DEA/NPI: Prescriber Phone #:

Program Info
Compliance and Persistency Review (C&P) – This program identifies participants who meet specific MTM eligibility criteria and are non-compliant or non-persistent with a medication on the targeted C&P drug list, or who are new to a therapy.

C&P Conflict:

Recommended Talking Points

Patient Feedback
Person communicating with the patient:

Pharmacist: Pharmacist Intern: Resident: □

Patient Contact Status: (Check all that apply)

□ Counseled patient regarding clinical compliance □ Patient advised to speak with Physician

□ Patient is not willing to discuss □ No response after three attempts

Patient Contact Information:

□ Phone: (____) _______ □ Fax: (____) _______ - □ Best time of day to contact: __________ □ eMail: ___________________

Also complete Page 2

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### Patient Info

**Patient Info**

<table>
<thead>
<tr>
<th>Patient Name: (Last Name, First Name)</th>
<th>DOB: (mm/dd/yyyy)</th>
<th>Gender</th>
<th>Case #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMITH, JOHN</td>
<td>09/13/1939</td>
<td>M</td>
<td>123456</td>
</tr>
</tbody>
</table>

**Note:** This section will be **prepopulated**. Please verify this information before continuing with the rest of the Pharmacy Service Bill and Intervention Assessment Feedback Form.

- **Patient Name**
  Patient’s name (last name, first name).
- **Birthdate**
- **Gender**
- **Case Number**
  A randomly generated number uniquely identifying this intervention case.

### Rx Info

**Rx Info**

<table>
<thead>
<tr>
<th>Date of Service</th>
<th>Original Rx #:</th>
<th>NDC Number:</th>
<th>Drug Name:</th>
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</thead>
<tbody>
<tr>
<td>11/01/2007</td>
<td>98756</td>
<td>0029-3158-18</td>
<td>COSOPT EYE DROPS</td>
</tr>
</tbody>
</table>

**Auth Code:** 78910

<table>
<thead>
<tr>
<th>Prescriber Name: (Last Name, First Name)</th>
<th>Prescriber DEA / NPI:</th>
<th>Prescriber Phone #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>MILLER, SUSAN</td>
<td>AS1234567</td>
<td>555-555-5555</td>
</tr>
</tbody>
</table>

**Note:** This section will be **prepopulated**. Please verify this information before continuing with the rest of the Pharmacy Service Bill and Intervention Assessment Feedback Form.

- **Date of Service**
  The date the MTM intervention was created. The Date of Service may also be the same as the Date of Consult.
- **Original Rx #**
  The prescription number of the medication that triggered the identified intervention.
- **NDC Number**
  The National Drug Code (NDC) number of the medication that triggered the identified intervention.
- **Drug Name**
  The name and strength of the medication that triggered the identified intervention.
- **Auth Code**
  The authorization code transmitted to the pharmacy when the intervention was triggered. A different authorization code is generated for every opportunity.
- **Prescriber Name**
  The prescriber’s full name (last name, first name).
- **Prescriber DEA or NPI**
  The prescriber’s Drug Enforcement Administration (DEA) number or prescribing ID.
- **Prescriber Phone**
  The prescriber’s primary practice phone number.
**Program Info**

**Compliance and Persistency Review (C&P)** – This program identifies participants who meet specific MTM eligibility criteria and are non-compliant or non-persistent with a medication on the targeted C&P drug list, or who are new to a therapy.

**C&P Conflict:** Ophthal. CA Inhibitor-Need Refill

**Note:** This section will be prepopulated. Please verify this information before continuing with the rest of the Pharmacy Service Bill and Intervention Assessment Feedback Form.

✓ This section displays the specific type of conflict generated.

**Recommended Talking Points**

After reviewing your patient’s refill frequency of his/her ophthalmic carbonic anhydrase inhibitor it appears that your patient is overdue for a refill. We are concerned that he/she may be non-adherent to the prescribed dosing regimen which may lead to sub-therapeutic effects.

**Note:** This section will be prepopulated. Please verify this information before continuing with the rest of the Pharmacy Service Bill and Intervention Assessment Feedback Form.

✓ This field details the specific reasons, backed by national guidelines, why this intervention should take place. This message should be used when counseling the patient.

**Patient Feedback**

**Person communicating with the patient**

- **[X]** Pharmacist
- [ ] Pharmacist Intern
- [ ] Resident

**Patient Contact Status:** (Check all that apply)

- [X] Counseled patient regarding clinical compliance
- [ ] Patient is not willing to discuss
- [ ] Patient advised to speak with Physician
- [ ] No response after three attempts

**Patient Contact Information:**

- Phone: (555) 555-5555
- Best time of day to contact: 1:20 am
- Fax: (555) 555-5555
- eMail: janith@yahoocom

✓ Person communicating with the patient

Indicate who counseled the patient on the intervention by selecting either “Pharmacist,” “Pharmacist Intern,” or “Resident.”

✓ **Patient Contact Status**

Indicate the patient’s response to the intervention by selecting all that apply.

✓ **Patient Contact Information**

Fill in the patient’s home telephone number, including area code, and the best time of day to call the patient. Also, fill in the patient’s fax number and email address, if available.

**Note:** The second page of the CP Service Bill, the Intervention Assessment Feedback form, must also be filled out and returned to WHS. Failure to submit both pages of the CP Service Bill may result in a rejected service bill.
Instructions for CP Intervention Assessment Feedback Form

### Intervention Assessment Feedback and Program Specific Information for Compliance and Persistency (C&P) 1 & 2

You must submit both pages of this form and include your signature on the second page of this form in order to receive payment.

#### CP 1 & 2 Programs

**New to Therapy & Late Refill**

- Did the patient accept an offer to enroll in a Refill Reminder Program?
  - Yes
  - No
  - Do not have a Refill Reminder Program

#### CP 1 Program Only

**New to Therapy**

- Morisky Compliance Assessment Scale – (Circle Yes or No for each question.)
  - Yes: 
    1. Do you ever forget to take your medicine?
    2. Are you generally not careful about taking your medicine?
    3. When you feel better, do you sometimes stop taking your medicine?
    4. Sometimes if you feel worse when you take the medicine, do you stop taking it?
  - No: 

Note: If answered yes to any above question, please recommend compliance aids.
Scoring: 0 pt for each yes, 1 pt for each no. Morisky Scale: 0 = Non-Compliant ... 4 = Compliant

#### CP 2 Program Only

**Late Refill**

- How many doses of medication(s) were missed last week?
  - None
  - 1-2 Doses
  - 3-4 Doses
  - More than 4 Doses
  - Patient does not recall how many doses were missed

- Noncompliance reasons (Check all that apply.)
  - Patient:
    - Forgot to take dose(s)
    - Forgot to refill medication
    - Had drug samples
    - Filled medication at another pharmacy
    - Has cost issues
    - Cannot open child safety caps
    - Is splitting tablets
    - Has side effects
    - Is taking too many medications
  - Prescriber:
    - Discontinued medication
    - Changed Strength or Dose

- Refill status (Check one)
  - Refilled before patient contact
  - Refilled with Intervention today
  - Plan to refill soon

#### Pharmacist Contact Time and Signature

Total time spent on MTM intervention (including prescriber contact, prep work, patient consultation, and form completion): __________ min

- Date of Consult: __________
- Pharmacy Name and Store Number: __________
- NCPDP or NPI Number: __________

- Phone: __________
- Fax: __________

- Pharmacist Signature: __________
- Pharmacist Name: ____________
- Pharmacist ID: __________

X

When complete, please fax or mail to:

Fax: (866) 352-5318

OR

Mail: Walgreens Health Services
1411 Lake Cook Road MS L415
Deerfield, IL 60015

Questions? Phone: (866) 352-5310

Confidential Information: Health care information is personal information related to a person’s health care. It is being shared with you after appropriate authorization or under circumstances that don’t require authorization. You are obligated to maintain its confidentiality and confidentiality if necessitated by law or appropriate contractual agreements. Re-disclosure of this information is prohibited unless permitted by law or appropriate contractual agreements. Confidentiality is obtained. Unauthorized disclosure or failure to maintain confidentiality could subject you to penalties described in federal and state laws.

IMPORTANT WARNING: This message is intended for the use of the See your name or entity to whom it is addressed. Any change in confidentiality or disclosure of which is governed by applicable law. If you know or suspect that the intended recipient, or the employee or agent responsible for delivering it to the intended recipient, are hereby notified that any disclosure, distribution or copying of this information is STRICKLY PROHIBITED. If you have received this message in error, please notify us immediately.

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Page 2
**Did the patient accept and offer to enroll in a Refill Reminder Program?**
Indicate if the patient is able to enroll in a refill reminder program.

**Morisky Compliance Assessment Scale**
Circle the most appropriate answer for each question while counseling the patient.

**How many doses of medication(s) were missed last week?**
- None
- 1-2 Doses
- 3-4 Doses
- More than 4 Doses
- Patient does not recall how many doses were missed

**Noncompliance reasons**
- Perceives little or no benefit of the medication
- Does not feel sick
- Is confused or has lack of understanding about medication or disease state
- Is taking complementary/OTC medicines instead
- Was in hospital
- Was on vacation and did not refill medication
- Negative media
- Other: ____________________________

**Refill Status**
- Refilled before patient contact
- Refilled with intervention today
- Plan to refill soon
- No plans to refill medication with prescriber consent
- No plans to refill medication with no prescriber consent
- Changed Strength or SIG

**How many doses of medication(s) were missed last week?**
Indicate how many times the patient missed a dose of medication during the week previous to the counseling session.

**Noncompliance reasons**
Indicate all noncompliance reasons. If a reason is not listed, write the reason on the Other line.

**Refill Status**
Indicate what the patient’s refill plan is at the end of the counseling session.
### Pharmacist Contact Time and Signature

<table>
<thead>
<tr>
<th>Date of Consult</th>
<th>Pharmacy Name and Store Number</th>
<th>NCPDP or NPI Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/12/2007</td>
<td>RIVERVIEW RX #5446</td>
<td>2364658</td>
</tr>
<tr>
<td>Phone: 555-555-5555</td>
<td></td>
<td>Fax: 555-555-5555</td>
</tr>
<tr>
<td>Pharmacist Signature</td>
<td>Miller, Susan</td>
<td>Miller, Susan</td>
</tr>
</tbody>
</table>

**Note:** Portions of this section will be pre-populated. Please verify this information before continuing with the rest of the Pharmacy Service Bill and Intervention Assessment Feedback Form.

- **Total time spent on MTM Intervention**
  Fill in the total amount of time spent on the intervention. This should include the time it took to speak with the prescriber concerning the intervention, patient consultation, and the time it took to physically fill out the necessary forms. Do not include time spent waiting for a response from the prescriber or patient, but only the time spent actively working on the intervention.

- **Date of Consult**
  Insert the date you spoke to the patient about the intervention. If the patient was not consulted, insert the date you attempted to counsel the patient.

- **Pharmacy Name, Store Number, NCPDP/NPI Number, Phone and Fax**
  These fields will display the contact information for the pharmacy where the intervention is triggered.

- **Pharmacist Signature, Name and Pharmacist ID (License of NPI Number)**
  Signature, Full Name and ID of the pharmacist who carried out the patient consultation

---

Once you have completed both pages of the Compliance and Persistency (CP) Pharmacy Service Bill (page 1) and Intervention Assessment Feedback form (page 2), fax or mail the forms to:

**Walgreens Health Services**  
Attention: MTM  
1411 Lake Cook Road MS L415  
Deerfield, IL 60015  
Fax (866) 352-5318
Pharmacy Service Bill for Appropriateness of Therapy (AOT)

Due Date:

An MTM opportunity has been identified for this patient. This form is used to provide feedback to Walgreens Health Services (WHS) as to how successful the suggested intervention was, as well as to provide information to appropriately reimburse for services rendered. WHS must receive this form by the Due Date printed above to receive full payment for your services. Failure to submit this form by this Due Date will result in a rejected service bill.

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<table>
<thead>
<tr>
<th>Patient Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Name: (Last Name, First Name)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rx Info</th>
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</thead>
<tbody>
<tr>
<td>Date of Service</td>
</tr>
<tr>
<td>Auth Code:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appropriateness of Therapy Review – This program targets the use of recommended medication regimens in certain disease states identified according to evidence-based medicine and nationally recognized guidelines.</td>
</tr>
<tr>
<td>AOT Conflict:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key Message to Prescriber</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Secondary Rx Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please fill out the following information for medication(s) added to the patient's profile as a result of the intervention</td>
</tr>
<tr>
<td>Secondary Rx Drug Name and Strength:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person communicating with the patient:</td>
</tr>
<tr>
<td>☐ Pharmacist</td>
</tr>
<tr>
<td>Patient Contact Status: (Check all that apply)</td>
</tr>
<tr>
<td>☐ Counseled patient regarding clinical compliance</td>
</tr>
<tr>
<td>☐ Patient is not willing to discuss</td>
</tr>
<tr>
<td>Patient Contact Information:</td>
</tr>
<tr>
<td>☐ Phone: (_____) _______ - ____</td>
</tr>
<tr>
<td>☐ Best time of day to contact: _<em><strong>:</strong></em> am / pm</td>
</tr>
</tbody>
</table>

Also complete Page 2

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Page: 1
Intervention Assessment Feedback for Appropriateness of Therapy (AOT)

You must submit both pages of this form and include your signature on the second page of this form in order to receive payment.

### Prescriber Feedback

**Prescriber Response:** (Check one.)

- Prescriber agrees clinically with pharmacist’s recommendation
- Prescriber does not agree with clinically pharmacist’s concern
- The patient cannot tolerate the medication or it is contraindicated
- The patient’s diagnosis supports current therapy
- Prescriber is aware of the concern and Prescriber is monitoring the patient
- The patient has tried and failed the medication in the past
- The patient is no longer under my care
- No response after three attempts

**Prescriber Action:** (Check one.)

- Will change the patient’s therapy
- Will NOT change the patient’s therapy
- Will discuss with the patient

### Rx Feedback for Secondary Prescription

**RX Disposition:**

- Rx Dispensed
- Rx Not Dispensed (Check why not dispensed.)
  - Financial Cost
  - Substituted OTC Product
  - Patient: (Check all that apply.)
    - Believes current medication is working (even though may not be feeling better)
    - Feels better since starting treatment with current medication and is not experiencing any side effects
    - Believes current medication is better than alternative medication
    - Is reluctant to try new medication
    - Has tried the alternative medication in the past without success
    - Has tried the alternative medication in the past, and although it has worked, it caused patient too many side effects
- Patient to talk with Prescriber
- Patient did not show up to pick up Rx (No Show)
- Do not know

### Pharmacist Contact Time and Signature

**Total time spent on MTM Intervention (including prescriber contact, prep work, patient consultation, and form completion): ______ min**

**Date of Consult:**

<table>
<thead>
<tr>
<th>Pharmacy Name and Store Number:</th>
<th>NCPDP or NPI Number:</th>
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**Phone:**

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<tr>
<th>Fax:</th>
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<td></td>
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</tbody>
</table>

**Pharmacist Signature:**

<table>
<thead>
<tr>
<th>Pharmacist Name: (Last Name, First Name)</th>
<th>Pharmacist ID:(Lic or NPI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

When complete, please fax or mail to:

Fax: (866) 352-5318

Mail: Walgreens Health Services

OR

1411 Lake Cook Road MS L415

Deerfield, IL 60015

Attention: MTM

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Page: 2
Pharmacy Service Bill for Inappropriate Medications in the Elderly (IMIE)

An MTM opportunity has been identified for this patient. This form is used to provide feedback to Walgreens Health Services (WHS) as to how successful the suggested intervention was, as well as to provide information to appropriately reimburse for services rendered. WHS must receive this form by the Due Date printed above to receive full payment for your services. Failure to submit this form by this Due Date will result in a rejected service bill.

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<table>
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<tbody>
<tr>
<td>Date of Service</td>
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<tr>
<td>Auth Code:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inappropriate Medications in the Elderly Review (IMIE) — This program targets medications to avoid in the elderly. Several lists of high-risk medications have been published (e.g. Beers, McLeod, and Zhan) to aid in more appropriate drug selection in this patient population.</td>
</tr>
<tr>
<td>IMIE Conflict:</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Key Message to Prescriber</th>
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<td>Please fill out the following information for medication(s) added to the patient’s profile as a result of the intervention</td>
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<td>Secondary Rx Drug Name and Strength:</td>
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<td>Person communicating with the patient:</td>
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<tr>
<td>☐ Pharmacist</td>
</tr>
<tr>
<td>Patient Contact Status: (Check all that apply)</td>
</tr>
<tr>
<td>☐ Counseled patient regarding clinical compliance</td>
</tr>
<tr>
<td>☐ No response after three attempts</td>
</tr>
<tr>
<td>Patient Contact Information:</td>
</tr>
<tr>
<td>☐ Phone: (_____) <em><strong><strong>-</strong></strong></em>_</td>
</tr>
<tr>
<td>☐ Best time of day to contact: ____ : ____ am / pm</td>
</tr>
</tbody>
</table>

Also complete Page 2
Intervention Assessment Feedback for Inappropriate Medications in the Elderly (IMIE)

Patient Name:                                                                         DOB:                       Case Number:

You must submit both pages of this form and include your signature on the second page of this form in order to receive payment.

Prescriber Feedback

Prescriber Response: (Check one.)

- Prescriber agrees clinically with pharmacist's recommendation
- Prescriber does not agree with clinically pharmacist's concern
- The patient cannot tolerate the medication or it is contraindicated
- The patient's diagnosis supports current therapy
- Prescriber is aware of the concern and Prescriber is monitoring the patient
- The patient has tried and failed the medication in the past
- The patient is no longer under my care
- No response after three attempts

Prescriber Action: (Check one.)

- Will change the patient's therapy
- Will NOT change the patient's therapy
- Will discuss with the patient

Rx Feedback for Secondary Prescription

RX Disposition:

- Rx Dispensed
- Rx Not Dispensed (Check why not dispensed.)
  - Financial Cost
  - Substituted OTC Product
  - Patient: (Check all that apply.)
    - Believes current medication is working (even though may not be feeling better)
    - Feels better since starting treatment with current medication and is not experiencing any side effects
    - Believes current medication is better than alternative medication
    - Is reluctant to try new medication
    - Has tried the alternative medication in the past without success
    - Has tried the alternative medication in the past, and although it has worked, it caused patient too many side effects
- Patient to talk with Prescriber
- Patient did not show up to pick up Rx (No Show)
- Do not know

Pharmacist Contact Time and Signature

Total time spent on MTM Intervention (including prescriber contact, prep work, patient consultation, and form completion): _____ min

Date of Consult:                      Pharmacy Name and Store Number:       NCPDP or NPI Number:

Phone:                                Fax:

Pharmacist Signature:                             Pharmacist Name: (Last Name, First Name)  Pharmacist ID: (Lic or NPI)

X

When complete, please fax or mail to:

Fax: (866) 352-5318     Mail: Walgreens Health Services
OR 1411 Lake Cook Road MS L415     Phone: (866) 352-5310
Deerfield, IL 60015
Attention: MTM

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Pharmacy Service Bill for Compliance and Persistency (C&P)

Due Date:

An MTM opportunity has been identified for this patient. This form is used to provide feedback to Walgreens Health Services (WHS) as to how successful the suggested intervention was, as well as to provide information to appropriately reimburse for services rendered. WHS must receive this form by the Due Date printed above to receive full payment for your services. **Failure to submit this form by this Due Date will result in a rejected service bill.**

You must submit both pages of this form and include your signature on the second page of this form in order to receive payment.

### Patient Info

<table>
<thead>
<tr>
<th>Patient Name: (Last Name, First Name)</th>
<th>DOB: (mm/dd/yyyy)</th>
<th>Gender:</th>
<th>Case #:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

### Rx Info

<table>
<thead>
<tr>
<th>Date of Service</th>
<th>Original Rx #:</th>
<th>NDC Number:</th>
<th>Drug Name:</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Auth Code:</th>
<th>Prescriber Name: (Last Name, First Name)</th>
<th>Prescriber DEA/NPI:</th>
<th>Prescriber Phone #:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

### Program Info

**Compliance and Persistency Review (C&P)** – This program identifies participants who meet specific MTM eligibility criteria and are non-compliant or non-persistent with a medication on the targeted C&P drug list, or who are new to a therapy.

**C&P Conflict:**

### Recommended Talking Points

### Patient Feedback

Person communicating with the patient:

- [ ] Pharmacist
- [ ] Pharmacist Intern
- [ ] Resident

**Patient Contact Status: (Check all that apply)**

- [ ] Counseled patient regarding clinical compliance
- [ ] Patient is not willing to discuss
- [ ] Patient advised to speak with Prescriber
- [ ] No response after three attempts

**Patient Contact Information:**

- [ ] Phone: (_____) _____-______ am / pm
- [ ] Fax: (_____) _____-______
- [ ] eMail: _________@____________.____

**Best time of day to contact:**  _:_ _am / _:_ _pm

### Also complete Page 2

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Page: 1
Intervention Assessment Feedback and Program Specific Information for Compliance and Persistency (C&P) 1 & 2

Patient Name: ___________________________ DOB: ___________ Case Number: ___________________________

You must submit both pages of this form and include your signature on the second page of this form in order to receive payment.

**CP 1 & 2 Programs  New to Therapy & Late Refill**

Did the patient accept an offer to enroll in a Refill Reminder Program?
- [ ] Yes
- [ ] No
- [ ] Do not have a Refill Reminder Program

**CP 1 Program Only  New to Therapy**

Morisky Compliance Assessment Scale – (Circle Yes or No for each question.)

1. Do you ever forget to take your medicine? [ ] Yes [ ] No
2. Are you generally not careful about taking your medicine? [ ] Yes [ ] No
3. When you feel better, do you sometimes stop taking your medicine? [ ] Yes [ ] No
4. Sometimes if you feel worse when you take the medicine, do you stop taking it? [ ] Yes [ ] No

Note: If answered yes to any above question, Please recommend compliance aids.

Scoring: 0 pt for each yes, 1 pt for each no. Morisky Scale: 0 = Non-Compliant … 4 = Compliant

**CP 2 Program Only  Late Refill**

How many doses of medication(s) were missed last week?
- [ ] None
- [ ] 1-2 Doses
- [ ] 3-4 Doses
- [ ] More than 4 Doses

Patient does not recall how many doses were missed

Noncompliance reasons (Check all that apply.)

- [ ] Forgot to take dose(s)
- [ ] Forgot to refill medication
- [ ] Had drug samples
- [ ] Filled medication at another pharmacy
- [ ] Has cost issues
- [ ] Cannot open child safety caps
- [ ] Is splitting tablets
- [ ] Has side effects
- [ ] Is taking too many medications
- [ ] Perceives little or no benefit of the medication
- [ ] Does not feel sick
- [ ] Is confused or has lack of understanding about medication or disease state
- [ ] Is taking complementary/ OTC medicines instead
- [ ] Was in hospital
- [ ] Was on vacation and did not refill medication
- [ ] Negative media
- [ ] Other: ___________________________

Prescriber:
- [ ] Discontinued medication
- [ ] Changed Strength or SIG

Refill status (Check one)
- [ ] Refilled before patient contact
- [ ] Refilled with intervention today
- [ ] Plan to refill soon
- [ ] No plans to refill medication with prescriber consent
- [ ] No plans to refill medication with no prescriber consent

**Pharmacist Contact Time and Signature**

Total time spent on MTM Intervention (including prescriber contact, prep work, patient consultation, and form completion): ______ min

Date of Consult: ___________________________ Pharmacy Name and Store Number: ___________________________

NCPDP or NPI Number: ___________________________

Phone: ___________________________ Fax: ___________________________

Pharmacist Signature: ___________________________ Pharmacist Name: (Last Name, First Name) ___________________________

Pharmacist ID: (Lic or NPI#) ___________________________

X

When complete, please fax or mail to:

Fax: (866) 352-5318        Mail: Walgreens Health Services

OR

1411 Lake Cook Road MS L415

Deerfield, IL 60015

Questions?

Phone: (866) 352-5310

Attention: MTM

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Medication Therapy Management
Patient Opt-Out Form

In the event that a patient would like to “opt-out” of MTM services, please complete this form and fax it to the following number:
(866) 352-5318

If fax is not available, then mail to the following address:
Walgreens Health Services
1411 Lake Cook Road MS L415
Deerfield, IL 60015
Attention: MTM

Date: ____________________________________

Pharmacy Name: __________________________

Pharmacy Store Number: ____________________

NCPDP/NABP Number: ________________________

Pharmacy Phone Number: ______________________

Pharmacy Fax Number: _________________________

Pharmacist/Technician Name (please print): ________________________

Pharmacist/Technician Signature: _______________________

Patient Name: ________________________________

Patient DOB: ________________________________

Patient ID Number: _____________________________

Case Number (if applicable): _______________________

Patient Signature (if available): _______________________

*For auditing and liability reasons, this form shall be kept on file by MTM services.

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Patient Name: ___________________  Patient Phone #: ___________________

**Patient Contact Attempts**
At least three attempts should be made on different days at various times preferably within 72 hours. Calls should be made between the hours of 10:00 a.m. and 8:00 p.m. (patient’s time zone).

1. **First attempt** date (mm/dd/yy): __________/_______/________
   - Time of attempt: __:__ □ am / □ pm
     - □ Successful attempt
     - Person of contact:
       - □ Patient
       - □ Caregiver name: _______________
     - Person communicating with the patient
       - □ Pharmacist
       - □ Pharmacy Resident
       - □ Pharmacy Intern
     - □ Unsuccessful attempt
     - Reason(s) unable to contact patient
       - □ Wrong number
       - □ Line disconnected
       - □ Moved
       - □ No time to talk

2. **Second attempt** date (mm/dd/yy): __________/_______/_______
   - Time of attempt: __:__ □ am / □ pm
     - □ Successful attempt
     - Person of contact:
       - □ Patient
       - □ Caregiver name: _____________
     - Person communicating with the patient
       - □ Pharmacist
       - □ Resident
       - □ Intern
       - □ Student
     - □ Unsuccessful attempt
     - Reason(s) unable to contact patient
       - □ Wrong number
       - □ Line disconnected
       - □ Moved
       - □ No time to talk
3. **Third attempt** date (mm/dd/yy): ________/_______/_______
   - Time of attempt: __:__ □ am / □ pm
   - □ Successful attempt
     - Person of contact:
       - □ Patient
       - □ Caregiver name: ________________
   - □ Person communicating with the patient
     - □ Pharmacist
     - □ Resident
     - □ Intern
     - □ Student
   - □ Unsuccessful attempt
     - Reasons unable to contact patient
       - □ Wrong number
       - □ Line disconnected
       - □ Moved
       - □ No time to talk

**Overview of phone intervention**

- Patient contact status
  - □ Counseled patient regarding clinical compliance
  - □ Patient is not willing to discuss
  - □ Patient advised to speak with prescriber
  - □ No response after three attempts

- Refill status
  - □ Refilled before patient contact
  - □ Refilled with intervention today
  - □ Plan to refill soon
  - □ No plans to refill medication:
    - □ With prescriber consent
    - □ With no prescriber consent

- Accepted offer to enroll in a refill reminder program during this intervention?
  - □ Yes
  - □ No
  - □ Do not have a refill reminder program

- Total time spent on MTM intervention: _______minutes