

Ways of Preventing Misuse Include:

- Asking the pharmacist for non-childproof caps so that medication is easier to access
- Asking for labels with large print
- Setting an alarm clock
- Using a calendar or chart to track medication
- Using a pill organizer, such as commercial organizers, egg cartons, etc.
- Coordinating the time of medication with an individual's daily schedule; for example, taking medication with the evening news

SAMPLE CHARTS FOR MEDICATION TRACKING

Medicines I Take				
Name of Drug/ What It's For	Color/ Shape	Directions/ Cautions	Times	

Name of Drug/Directions	SUN	MON	TUE	WED	THU	FRI	SAT

Adapted from: CSAP Training Library, *Volunteers Working with the Elderly and Alcohol, Tobacco, and Other Drug Problem Prevention*



CAUSES OF MEDICATION MISUSE

- **Cognitive (thought) Impairment**

These include sensory loss or memory problems. Possible misuses include sometimes forgetting or misplacing medications.

- **Physiological Disorders**

These include difficulty swallowing; inability to open bottles. Possible misuses include medication that is not taken or is taken infrequently.

- **Physical Recovery**

Sometimes when people feel better, they stop taking their medication. Result: an illness caused by an infectious agent such as bacteria isn't cured, because the proper dose to completely destroy the agent isn't taken.

- **Confusing Package Inserts**

Inserts can be frustrating since they are written in unfamiliar medical terms that are difficult to read, spell, pronounce and may be in Latin; the print is often too small to read; a patient may not be able to read.

- **Self-care practices**

These include self-diagnosing and use of over-the-counter (OTC) drugs. Television ads promote the use of harmless OTC preparations. Interactions between prescribed medications and OTC products complicate medical care.

- **Multiple sources of treatment**

Many older adults see several physicians to treat specialized conditions. Without communication between providers, this could result in duplicated services and mixed medications.

- **Uninformed service providers**

Physicians are sometimes unaware of drug interactions and side effects of the medications they prescribe. They may fail to intervene in a serious situation by mistaking the physical and emotional symptoms of substance misuse/abuse with the normal aging process. The pharmacist should be recognized as an authority on drug interactions and side effects.

DRUGS AND YOUR BODY: DRUGS COMMONLY USED BY OLDER ADULTS

Types of Drugs	Medical condition
Beta Blockers – Metoprolol, Atenolol, Bystolic; Calcium Channel <i>Blockers</i> - Amlodipine, Nifedipine, Diltiazem, Verapamil	Hypertension, Angina (Chest Pain)
Anticonvulsants – Tegretol, Dilantin, Phenobarbital, Lamictal, Zonegran, Trileptal, Depakote, Depakene, Topamax	Seizures, Mood Disorders
Antidepressants – Prozac, Zoloft, Elavil, Paxil, Lexapro, Celexa, Effexor, Pristiq, Wellbutrin	Depression, Anxiety
Vasodilators – Inhalers Proventil, Proair, Ventolin, Theophylline; Steroids – Pulmicort, Advair, Symbicort	Asthma, Bronchitis, Emphysema
Benzodiazepines, Anxiolitics, Sedative Hypnotics – Serax, Dalmane, Restoril, Xanax, Ativan, Valium	Sleep Disorders, Anxiety
Antipsychotics – Mellaril, Haldol, Thorazine, Zyprexa, Seroquel, Risperdal, Invega, Abilify, Latuda	Psychotic Disorders, Behavioral Problems, Mood & Sleep Disorders
Non-steroidal Anti-inflammatory (NSaIDs) – Motrin, Indocin, Celebrex, Naproxen, Mobic, Voltaren	Arthritis, Osetoarthritis, Pain
Gastrointestinal antiulcer agents – Axid, Pepcid, Zantac, Prilosec, Nexium, Protonix, Aciphex, Prevacid	Peptic and Gastric Ulcers, Inhibits Gastric Acid Secretion
Diuretics – Hydrocholothiazide (HCTZ), Lasix, Demadex, Aldactone, Triamterine	Edema, Hypertension
ACE Inhibitors, Antihypertensive – Zestril, Vasotec, Monopril, Accupril, Mavik ; ARB's, Antihypertensive – Losartan, Diovan, Benicar, Micardis	Heart failure, Hypertension, Kidney Protection
Atrial Fibrillation, Tachycardia –Lanoxin	Heart failure



DRUGS AND YOUR BODY: DRUGS COMMONLY USED BY OLDER ADULTS

CONTINUED:

Antianginal – Isordil, Nitroglycerin, Isosorbide Mono	Angina Pain
Systemic Corticosteroid for Inflammation and Immunosuppression – Prednisone, Methylprednisolone	Rheumatoid Arthritis, Inflammatory Disorders, Adrenal Insufficiency
Antiparkinson, Antidyskinetic – Sinemet, Eldepryl	Parkinson's Disease
Antimanic Psychotherapeutic Agent – Lithium	Bipolar Disorder
Narcotic Analgesic – Darvocet, Percodan, Demerol, Codeine, Percocet (hydrocodone with acetaminophen), Vicodin, Norco, Oxycontin	Pain
Non-Narcotic Analgesic – Ultram, Ultracet	Pain
Antibiotics – Penicillin, Ampicillin, Amoxicillin Ciprofloxacin, Cephalsporins, Levaquin, Avelox, Zithromax, Augmentin, Cleocin	Infection

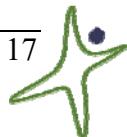


SYMPTOMS OF ADVERSE DRUG REACTIONS IN OLDER ADULTS

Adverse Drug Reaction	Possible Causes
Abnormal Heart Rate	<ul style="list-style-type: none"> • Alcohol • Clonidine • OTC cold medicine (Pseudoephedrine) • Caffeine • Inhalers • Dilantin • Elavil • Theophylline
Agitation/Irritability	<ul style="list-style-type: none"> • Alcohol • Antidepressants • Anxiolytic Withdrawal • Caffeine • Phenobarbital
Anorexia/Loss of Appetite	<ul style="list-style-type: none"> • Alcohol • Antihistamines • Codeine • Benzodiazepines • Demerol • Dilantin • Antidepressants • Haldol • NSAIDs (Motrin, Indocin, etc.) • Mellaril • Tagamet • Phenobarbital • Theophylline
Depression	<ul style="list-style-type: none"> • Alcohol • Inderal (Beta Blockers) • Lanoxin



Adverse Drug Reaction	Possible Causes
Gastrointestinal Distress	<ul style="list-style-type: none"> • Alcohol • Aspirin • Prednisone • NSAIDs (Motrin, Indocin, etc.) • Laxatives • Theophylline • Prozac (Antidepressants) • Antipsychotics • Lithium
Hypotension/Falling	<ul style="list-style-type: none"> • Alcohol • Clonidine/Other Antihypertensives • Elavil/Other Antidepressants • Beta-Blockers • Lasix/Other Diuretics • Nitroglycerin/Cardiac Medicine
Impotence	<ul style="list-style-type: none"> • Alcohol • Beta-Blockers • Clonidine/Other Antihypertensives • Cogentin • Elavil/Other Antidepressants • Mellaril/Other Psychotropics
Nausea/Vomiting	<ul style="list-style-type: none"> • Alcohol • Lithium • Clonidine/Other Antihypertensives • Potassium Chloride • Theophylline • Lanoxin • Ampicillin, Erythromycin (Antibiotics) • Narcotic Analgesic (codeine, hydrocodone) • Prednisone • NSAIDS (Motrin, Celebrex, etc)



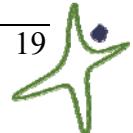
Adverse Drug Reaction	Possible Causes
Sedation/Drowsiness	<ul style="list-style-type: none"> • Alcohol • Antihistamines • Clonidine/Other Antihypertensives • Benzodiazepines / Sedative Hypnotics • Mellaril/Haldol/Other Antipsychotics • Narcotic Analgesic (codeine, hydrocodone) • Nembutal
Urinary Problems	<ul style="list-style-type: none"> • Alcohol • Elavil/Other Antidepressants • Lasix/Other Diuretics • Thorazine/Other Antipsychotics • Lithium
Vision Disturbances	<ul style="list-style-type: none"> • Alcohol • Lithium • Dilantin • Nitroglycerin • Lanoxin

Alcohol is the one drug that is associated with **every one** of these adverse drug reactions.



DRUGS AND YOUR BODY

Age-Related Physical Change	Impact on Medication Use
Increase in Body Fat <ul style="list-style-type: none"> Amount of lean body mass decreases Amount of fatty tissue increases 	Drugs distributed in fat have a wider distribution and a less immediate and more prolonged effect in the body. This effect is frequently seen with sleeping medications, tranquilizers and anesthetics.
Decrease in Body Water <ul style="list-style-type: none"> Percentage of body weight comprised of water decreases 	Certain medication, if given in the adult dose, is more concentrated and potent in an older adult. For example, a given amount of alcohol results in a higher blood alcohol level and quicker intoxication than when the person was younger.
Decrease in Action of Gastrointestinal System <ul style="list-style-type: none"> Stomach emptying is delayed Intestinal mobility slows 	The slowing of gastric emptying in seniors corrects for their loss of absorptive surface area; therefore, the amount of drug absorbed is the same in the old and the young. However, despite similar absorption, drug action may be decreased or delayed in seniors. In addition, their risk of gastric lesions is increased.
Decrease in Albumin <ul style="list-style-type: none"> Albumin in the blood stream decreases 	Albumin is a protein in the blood stream. Once a drug is absorbed into the blood, it may bind to albumin. However, only the unbound portion of the drug is active. As the amount decreases in the body, the quantity of the unbound, active drug increases, and what would normally be a therapeutic dose of a drug for a younger adult may be toxic for an older adult. One example is the anticoagulant warafin.
Decrease in Liver Function <ul style="list-style-type: none"> Liver decreases in size Blood flow to the kidney decreases Filtering capacity decreases 	Metabolism, or the chemical detoxification of a drug, takes place in the liver. With age, some drugs may accumulate in the body because they are metabolized too slowly. Thus, the concentration of the drug is higher.
Decrease in Kidney Function <ul style="list-style-type: none"> Kidneys decrease in size Blood flow to the kidney decreases Filtering capacity decreases 	As kidney function decreases with age, certain drugs and alcohol are excreted more slowly and thus remain active longer in the body.



SAFE USE OF MEDICATION **DO's and DON'Ts**



These guidelines can help older adults understand and properly use medications.

DO

- Always tell your doctor about past problems you have had with drugs (such as rashes, indigestion, dizziness or lack of appetite).
- When your doctor prescribes a new drug, be sure to mention *all* other medicines you are currently taking—including those prescribed by another doctor and those you buy without a prescription.
- When you start a new drug, ask your doctor or pharmacist about side effects that may occur, about special rules for storage, and about foods or beverages to avoid. Pharmacists are drug specialists and are able to answer most questions about drug use.
- Understand all instructions before taking a medication.
- New information about drugs and how they affect the older user is coming to light daily. Occasionally review with your doctor the need for each medicine.
- Make sure the name of the medicine is clearly printed on the label. Ask your pharmacist to use large type on the label if you find the regular labels hard to read.
- Follow instructions exactly.
- Take exactly the amount of drug prescribed by your doctor and follow the dosage schedule as closely as possible.
- If you think you may have skipped a dose, do not take two doses the next time you are due to take the medicine unless directed by your doctor. Contact your doctor to find out what you should do if you are unsure.
- Telephone your physician for advice.
- Call your doctor promptly if you notice unusual reactions.



- Keep all medications in one safe place, for example, a medicine cabinet for non-refrigerated medications that can be locked to avoid theft or misuse by visitors. The 2013 National Survey of Drug Use and Health found that 68% of people who abuse prescription pain relievers indicated they got them from friends or relatives, and the National Institute of Drug Abuse (NIDA) reports that over 9 million people use prescription medication for non-medical uses.
- Keep medications for external and internal use separate.
- Check the expiration date on all prescriptions and OTC drugs.
- Organize a system for taking medications. For example, use a chart or plastic pill container.
- Keep a daily record of the drugs you are taking, especially if your treatment schedule is complicated or you are taking more than one drug at a time. The record should show the name of the drug, the doctor who prescribed it, the amount you take, and the times of day for taking it. Include a space to check off each dose as you take it. Keep a copy in your medicine cabinet and one in your wallet or pocketbook.
- If child-proof containers are hard for you to handle, ask your pharmacist for easy-to-open containers.
- Discard old medicines properly; many drugs lose their effectiveness over time. To learn how you can safely discard medications near where you live, visit www.americanmedicinechest.com.

DON'T

- Take two or more medications simultaneously unless directed by a provider.
- Drink alcohol in combination with drugs without first consulting a physician or pharmacist.
- Give, take, or trade medications with another person.
- Save medications in anticipation of future use.
- Take medications in the dark.
- Stop taking medications without first checking with a physician.

Adapted from: CSAP Training Library, *Volunteers Working with the Elderly and Alcohol, Tobacco, and Other Drug Problem Prevention*



SAFE USE OF TRANQUILIZERS



Why Do People Take Tranquilizers?

Everyone experiences anxiety and gets worried, tense or nervous at times. However, when anxiety is accompanied by physical symptoms such as a tightness in the chest, trembling, choking or rapid heart beat, and these symptoms interfere with daily living, you may need medical attention. There are many ways these symptoms can be managed. Physical activities or support from family or friends can help. Counseling and medications may also be helpful. "Minor" tranquilizers, or anti-anxiety drugs, recommended by a therapist and prescribed by a doctor, might be used at these times. Ideally, tranquilizers are used in combination with counseling. The goal is usually to limit the dosage and length of an individual's tranquilizer use.

How Do 'Minor' Tranquilizers Affect Older Adults?

Tranquilizers are central nervous system (CNS) depressants classified as sedative-hypnotics. They slow down the nervous system and can cause drowsiness.

- Some individuals, particularly older people, may become sleepy, dizzy or unsteady on their feet and confused when taking these drugs.
- If the medication is taken at night, these side effects may occur the next day.
- You should not drive, operate machinery, or do jobs that require you to be alert when taking tranquilizers.
- The effects are increased if taken at the same time as other CNS depressants such as antihistamines, sleeping pills, prescription pain relievers or muscle relaxants.
- It is important to avoid alcohol when taking tranquilizers, because alcohol is also a powerful CNS depressant.
- Mixing large amounts of drugs and alcohol can cause unconsciousness and even death.
- Some drugs may affect the body's use of tranquilizers. A doctor or pharmacist can tell you which drugs are safe to take with tranquilizers. Always tell the doctor what other medications you are taking.



- Once you are taking a tranquilizer, do not stop taking it suddenly. This can cause withdrawal symptoms such as convulsions, muscle cramps, sweating and vomiting. When it is time, the doctor will help you to gradually reduce taking this medication.
- Sometimes people taking tranquilizers are afraid they will not be able to handle their problems without medication. They may insist on taking it longer than is recommended. Since those who take tranquilizers for a long period of time may become dependent on them, it is important to take this medication only under the careful supervision of a doctor.

How Do I Take Tranquilizers Safely?

- Make sure the doctor knows about all of your current medications (prescription and OTC) before you begin taking tranquilizers.
- Ask the doctor to explain any possible side effects of the tranquilizer she/he prescribed.
- Follow the doctor's instructions carefully.
- Take only the amount of tranquilizer the doctor specifies—no more, no less.
- Take the tranquilizer only as often as prescribed—not more or less frequently.
- If you forget one dose of the medicine, do not double the next dose.
- Let the doctor know if you experience excessive drowsiness or other side effects—sometimes a shorter acting tranquilizer can relieve those complaints.
- Let the doctor know if you feel unusually chilly while taking tranquilizers. Sometimes they can cause a change in body temperature.
- Try to avoid caffeine (found in coffee, tea, cola drinks, and chocolate) while taking tranquilizers—it can counteract the effects of the tranquilizer.
- If you think you may have taken too many tranquilizers, get emergency help right away.

Adapted from: National Institute on Aging and Food and Drug Administration
and <http://www.isate.memphis.edu/tranquilizers.html>



SAFE USE OF MEDICATIONS BY OLDER ADULTS RESOURCES

For more information on the safe use of medications, you can contact the following agencies:

- **Elder Health Program, University of Maryland School of Pharmacy** (www.pharmacy.umaryland.edu/centers/lamy/)
University of Maryland School of Pharmacy [SEP]
220 Arch Street, 12th Floor [SEP]
Baltimore, MD 21201 [SEP]
Phone: 410-706-2434 [SEP] Fax: 410-706-1488 [SEP]
E-mail: lamycenter@rx.umaryland.edu
- **Food and Drug Administration, Center for Drug Evaluation and Research**
www.fda.gov/AboutFDA/CentersOffices/OfficeofMedicalProductsandTobacco/CDER/default.htm
1-855-543-3784
- **National Institute on Aging**
www.nia.nih.gov/
1-800-222-2225

