

Medication and fall safety for older adults

By Lori Hammond, DNP, MSN, RN-BC, CNEcl, and Kelly Moseley, DHSc, MSN, RN

Older adults, those age 65 and older, are enjoying healthier lives and living longer. The percentage of older adults in 1910 was 4% and in 2010, 13%. The expected percentage in 2030 is 20%. For this reason, learning how to promote safety precautions for this patient population is more important than ever. A thorough assessment is needed to provide an individualized care plan because safety precautions depend on the older adult's unique situation more than his or her exact age. This article discusses how to best promote medication and fall safety for your at-risk older adult patients.

Medication safety

Medication safety issues for older adults include pharmacokinetic changes, non-adherence to the medication plan, and polypharmacy.

Pharmacokinetic changes in the older adult include absorption, distribution, metabolism, and excretion. Absorption

is affected by reduction of blood flow to the gastrointestinal tract, decreased absorptive surface related to diminished function of villi, reduction of hydrochloric acid in the stomach, and slowed gastric emptying. Distribution is affected by decreased lean body mass, total body water, and protein intake. Metabolism is affected by a drop in liver function. Hepatic metabolism decreases every year after age 25. Excretion is affected by decreased blood flow to the renal system and a lower number of healthy nephrons. All of these changes can affect medication effectiveness.

Older adults may be nonadherent to a medication plan for several reasons. Some patients may have a decrease in cognition, forgetting to take medications as prescribed. The opposite can occur if a patient forgets he or she took a medication and takes more than the prescribed amount. And decreased hand dexterity and vision can cause difficulty when trying to take medications correctly.

Financial constraints may also be an issue. Many medications are costly and unaffordable for older adults. In addition, older patients may experience denial and refuse to believe they need medication. Another factor for older adults is fear of illness and/or medications. Some patients may not take medications due to a fear of "getting hooked." Patient education is important to overcome this fear.

Older adults take 35% of all prescribed medications and 42% of all over-the-counter (OTC) medications. Every day, the average older adult takes four to five prescription medications, such as anti-hypertensives, beta-blockers, diuretics,



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insulin, and potassium supplements, along with OTC medications, such as laxatives and nonsteroidal anti-inflammatory drugs. Taking five or more medications concurrently is considered polypharmacy.

Polypharmacy puts older adults at risk for negative outcomes, including adverse drug reactions, drug interactions, hospitalization, poor quality of life, and death. The goal for the older adult is to take the least amount of medications while still taking necessary medications.

Polypharmacy may occur for a number of reasons. Living to an older age is creating more time to have chronic diseases. Older adults can experience a decrease in organ function, leading to different medication effects. And living to an older age also creates wear and tear that causes chronic pain.

Older adults may visit multiple healthcare providers and use different pharmacies, which increases the chance of doubling up on medications and can lead to medication interactions when pharmacists don't know every medication being taken. They may also be taking herbal or alternative remedies that are unknown to healthcare providers and pharmacists.

Instruct your patients to keep a current list of all medications being taken, including herbal preparations or OTC medications, and provide a copy to their healthcare provider and a family member or trusted friend. The medication list should be reviewed at least annually to determine if interactions or multiple medications prescribed for the same purpose are present.

Some patients may take medication incorrectly; for example, taking half of a dose to make the medication last longer due to lack of financial resources. Find out if your patients can afford prescribed medications. If the answer is "no," you can ask the healthcare provider about prescribing a medication used for the same

consider this

A home health nurse is completing a home assessment for Mr. B, 70, who recently underwent hip surgery. Upon walking into his home, the nurse notes that there's a throw rug in the entryway. When she turns into the living room, there are runners (rugs) leading down the hallways into the bedrooms and the walkways are cluttered. Lightbulbs throughout the home aren't functioning. In the bathroom, there's a low-height toilet, adequate lighting, and a bathtub/shower without grab bars.

Mr. B tells the nurse that he feels like his glasses "don't work as well as they used to." The nurse notes that Mr. B has a pill organizer that he places on the bathroom counter so he remembers to take his medications every day. He states, "I wear nonslip socks so I don't fall down when I walk around the house." He reports that he has no living family or friends and he's afraid if he falls nobody will know.

The nurse initiates a social work referral and makes the following recommendations:

- Remove all throw rugs.
- Install an elevated toilet.
- Remove clutter from walkways.
- Replace lightbulbs.
- Install grab bars for the toilet and shower.
- Schedule an eye exam.
- Obtain a home medical alert system.

purpose but at a lower cost. You may also request a social work consult for financial assistance in affording medications.

Review each medication with your patients to ensure that they understand correct dosing and adverse reactions to watch for when taking the medication. Allow them to ask questions and print instructions summarizing the teaching based on their health literacy level. It's important to determine your patients' health literacy level to ensure that they're able to understand the instructions provided.

Some patients may have difficulty reading the label or seeing the pill or color of the pill. For this reason, encourage your older adult patients to have an eye exam every year.

Fall safety

Falls are a leading cause of injury in older adults; one out of four older adults fall every year. Injuries from falls may be minor, such as lacerations or bruises, or major, such as fractures or head trauma.



on the web

AARP:

www.aarp.org

National Center on Elder Abuse:

<https://ncea.acl.gov>

National Council on Aging:

www.ncoa.org

National Institute on Aging:

www.nia.nih.gov/health

Nutrition.gov:

www.nutrition.gov

Medicare.gov:

www.medicare.gov

In addition to physical injuries, falls can cause mental and/or emotional effects. After a fall—minor or major—older adults may become afraid of falling again. This fear of falling can lead to a decrease in activity, mobility, and quality of life.

Older adults are at risk for falls for several reasons. Falls can be caused by the effects of medications, living conditions, chronic illnesses, decreased vision, and loss of balance to name a few. Some medications may cause drowsiness, confusion, or dizziness. Living condition risks include throw rugs on floors, uneven floors, steps or stairs, slippery floors, pets, cluttered walkways, poor lighting, and/or a lack of grab bars. Another risk factor is poorly planned room layout or having objects either too high or low. Some patients may have difficulty reaching objects in lower cabinets or on high shelves. Frequently used items should be kept in easy-to-reach areas.

Assess your patients' mental status, gait, and physical limitations (such as poor eyesight or hearing loss), which can place them at risk for falls. If they're at risk, instruct your patients to wear nonslip

socks/shoes at all times. A home assessment should be conducted to ensure safety precautions are in place, including removing throw rugs, installing grab bars in the bathroom, adding a nonslip surface or mat to the shower/bathtub, and maintaining adequate lighting.

Encourage your older adult patients to increase physical activity to improve balance, strength, and coordination. If independent exercise isn't possible, ask the healthcare provider to refer the patient for physical therapy.

Review your patients' medications to clarify if they include possible drowsiness, confusion, or dizziness effects. If so, instruct them to get up and change positions slowly until the presence of these effects has been determined. Also determine if patients need to be aware of medication they should take early in the day, such as a diuretic, or once they're in bed, such as a sleep aid.

In addition to promoting medication safety, encouraging older adults to undergo an annual eye exam can reduce the risk of falls. Also ensure that hearing devices and/or glasses are working properly.

Older adults living at home and at risk for falls may benefit from using a medical alert system that automatically notifies emergency personnel of a fall. Suggest that they have a family member or friend check on them frequently in case of a fall or illness.



key points

Medications

- Obtain a complete list of all medications and allergies.
- Determine if the patient's medications have drug/drug or food/drug interactions.

Environmental

- Recommend that the patient's home be assessed for safety.
- Suggest the removal of throw rugs throughout the house and installation of grab bars in the bathroom.
- Encourage the use of nonslip socks.

Financial

- Refer the patient to a social worker for assistance with purchasing medications, if needed.

Cognitive

- Assess for cognitive impairment.
- Recommend the use of medication reminders and daily medication dispensers.
- Suggest the use of a medical alert system.

Free from harm

Providing individual care for older adult patients requires assessment, critical thinking, and interventions tailored to their specific needs. When we ensure that preventive methods are in place, we can help keep at-risk older adults free from injury. ■

REFERENCES

Centers for Disease Control and Prevention. Pocket guide: preventing falls in older patients. 2018. www.cdc.gov/steady/pdf/STEADI-PocketGuide-508.pdf.

Centers for Disease Control and Prevention. Take a stand on falls. 2017. www.cdc.gov/features/older-adult-falls/index.html.

Edelman M, Ficarelli CT. Keeping older adults safe at home. *Nursing*. 2012;42(1):65-66.

Haider SJ, Johnell K, Weitoft GR, Thorslund M, Fastbom J. The influence of educational level on polypharmacy and inappropriate drug use: a register-based study of more than 600,000 older people. *J Am Geriatr Soc*. 2009;57(1):62-69.

Jarvis C. *Physical Examination and Health Assessment*. 7th ed. St. Louis, MO: Elsevier; 2015.

Lilley L, Collins S, Snyder J. *Pharmacology and the Nursing Process*. St. Louis, MO: Elsevier; 2015.

Meiner SE. *Gerontologic Nursing*. 5th ed. St. Louis, MO: Mosby; 2014.

National Council on Aging. Falls prevention. 2017. www.ncoa.org/healthy-aging/falls-prevention.

Potter P, Perry P, Stockert P, Hall A. *Fundamentals of Nursing*. 9th ed. St. Louis, MO: Elsevier; 2016.

The Joint Commission. Transitions of care: managing medications. 2016. www.jointcommission.org/assets/1/23/Quick_Safety_Issue_26_Aug_2016.pdf.

US Food and Drug Administration. 4 medication safety tips for older adults. 2017. www.fda.gov/ForConsumers/ConsumerUpdates/ucm399834.htm.

At Texas Tech University Health Sciences Center School of Nursing in Odessa, Tex., Lori Hammond and Kelly Moseley are Assistant Professors.

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