

AU INFORMED

Volume 17 Number 5 (Issue 307 - Falls)

Tuesday, September 3, 2019

Guest Editors: Summers Hester, Megan Fonteno, Heather Richards, Pharm.D. Candidates, Bernie Olin, Pharm.D.

Key Inforbits:

- Tips to Terminate Tumbling
- Fall Prevention Day
- 2019 Beer's List Updates
- Signs/Symptoms You're About to Fall?
- Associated Disease States
- What to do if you fall?

DON'T FALL FOR THAT

Falling is a common occurrence around the world, especially in the elderly population. In fact, 25% of Americans ≥ 65 years old fall each year.¹ With the increasing number of falls leading to broken bones, head injuries, and death, fall prevention remains important. This newsletter will provide updated tips and insights on how to limit falls for patients.

Every 19 minutes an older adult dies from a fall¹

Tips to Terminate Tumbling²

- **Evaluate Current Healthcare Status**
 - Make an appointment with your physician
 - Discuss new/previous medications
 - Check vision and hearing annually
- **Physical Activity**
 - Staying seated an entire day causes body stiffness and increases fall risk
 - Engage in 20 minutes of activity a day to help joints and to stay nimble
- **Sleep**
 - 7 to 9 hours of sleep per night is recommended
 - This will let the body adequately recover and perform the following day
- **Wear appropriate footwear**
 - Inappropriate footwear (loose, thin, smooth) can lead to more falls
- **Stand up slowly**
 - Standing up too quickly may result in reduced blood flow
- **Make the home safe**
 - Clear hallways, install appropriate lighting, and remove cords from walkways
 - Will make it easier to see and reduce falling risk
- **Limit alcohol intake**
 - Any alcohol will reduce balance and awareness
- **Assisted devices - railings, walkers, canes**
 - Great to hold onto an assistive device in case of weakness or shakiness
- **Positive Support System**
 - Having family and friends nearby to help with errands (grocery store, walks around the neighborhood) and encouragement
- **Always discuss falls with primary care provider**
 - Having a fall may mean there is an underlying cause (side effect, vision impairment, etc.) that may present again

National Fall Prevention Day: September 23, 2019

In 2008, the National Council on Aging initiated a national fall prevention awareness day to show older adults different strategies to best prevent and recover from a fall. There are statistics every year that report the media effects, how many states participate, and how many individuals are reached during this time. Each year the goal is for the number of participants and individuals reached to increase. In 2016, 41 states participated with coalition members reaching 1.5 million individuals. In 2017, the board celebrated a decade of empowering seniors with confidence to protect themselves from fall-related injuries. Media reached 87 million

individuals while 1.1 million individuals were reached with fall-risk screenings and prevention programs. In 2018, the numbers of participants and media effects were the highest achieved. The day was recognized in 43 states and the District of Columbia. The media effects reached 154.7 million people while 2.5 million individuals were reached through screenings, participation in community fall prevention programs, and public awareness events. The goal is to continue to educate and provide support for older patients and those at a higher risk for falls. In all, the aim is to reduce the mortality caused by falls to less than 25 percent of Americans.³

More than 40% of people hospitalized from hip fractures do not return home and are not capable of living independently again.⁴

Need more Continuing Education hours...?

Pharmacist CE Training⁵

Pharmacists are the most accessible healthcare providers to older adults. Prevention of falls begins with pharmacists identifying patients at risk for falls, recognizing modifiable risk factors, and educating patients on medications that increase the risk of falling.

Thanks to the collaboration of the CDC and APhA, there is a free, online accredited CE program to increase knowledge about risk factors and assist in counseling older adults to ensure their safety.

[Click here for access to the training](#)

Every 11 seconds an older adult is treated in the ER for a fall¹

2019 BEER'S CRITERIA UPDATES

The American Geriatrics Society (AGS) Beers Criteria is a list of medications that cause safety concerns for older adults (≥ 65 years). The goal is to minimize the use of these medications in older adults to decrease side effects and ultimately reduce fall risk. Since the 2015 update, there have been several modifications in which pharmacists should know to stay up-to-date and to uphold an oath committed to better service of patients. The AGS Beers Criteria should be viewed as a recommendation for healthcare professionals to educate patients on potential side effects and promote patient safety.⁶

The AGS Beers Criteria names many commonly prescribed drug classes as inappropriate medications to use in older adults. Many of these drug classes cause side effects that may be exacerbated in older adults. Diseases states may also alter drug effects. These drug classes include but are not limited to: anticholinergics, alpha agonists, barbiturates, benzodiazepines, sulfonylureas, opioids, NSAIDs, and muscle relaxants.⁴ While these medications may still be used, pharmacists should assess

patients to ensure they can safely take a medication.

Pharmacists are the last line of defense for patients when it comes to safety and efficacy. Pharmacists have many resources available to them to optimize patient care. The Beers Criteria is just one of those tools. Upon reviewing a patient's profile, a pharmacist should be able to identify these medications to appropriately manage a patient's therapy. Many drug utilization reviews evaluate older adults taking medications that appear on the Beers Criteria. The AGS uses a variety of sources to provide evidence for decision-making. All removals, additions, and modifications are provided with justification and evidence. Pharmacists can use this evidence to communicate with physicians and improve patient outcomes. With the knowledge of the Beers Criteria, medication side effects and safety profiles, and a patient's medication history, pharmacists and other healthcare providers can take appropriate steps to optimize patient care.



The financial toll for older adult falls is expected to increase as the population ages and may reach \$67.7 billion by 2020.¹



Below is a summary table of the Beers criteria list update. The updates include medication additions and removals. Every alteration came with specific reasoning based on levels of evidence.

Removal ⁶		
Disease State	Medications included	Reasoning
Epilepsy	Bupropion, Chlorpromazine, Clozapine, Maprotiline, Olanzapine, Thioridazine, Thiothixene, Tramadol	Not unique to older adults
Dementia	H2-receptor antagonists	Did not want to limit options for GERD therapy and evidence was weak.
Parkinson's disease	Aripiprazole	Removed as preferred therapy as there were more safety concerns
SIADH/ hyponatremia	Carboplatin, Cyclophosphamide, Cisplatin, Vincristine	Fell outside the scope of criteria
Insomnia	Oral decongestants (Phenylephrine, Pseudoephedrine), Stimulants (Amphetamine, Armodafinil, Methylphenidate, Modafinil), Theobromines (Theophylline, Caffeine)	Not unique to older adults

Additional Medications to Use with Caution ⁶		Additional Medications ⁶	
Medications	Reasoning	Medications	Reasoning
Rivaroxaban	Serious bleeding compared to other anticoagulants	Glimepiride	Severe, prolonged hypoglycemia in older adults
Tramadol	Risk of SIADH/ hyponatremia	Methscopolamine	Strong anticholinergic
Dextromethorphan/ quinidine	Limited efficacy with increased fall risk	Pyrilamine	Strong anticholinergic
Trimethoprim/ Sulfamethoxazole (TMP/SMX)	Increased hyperkalemia risk with ACEIs and ARBs in reduced kidney function	Pimavanserin	Treats psychosis in Parkinson's Disease

Signs/Symptoms You're Going to Fall^{7,8}

- Sense of motion or spinning (vertigo)
- Feeling of faintness or lightheadedness (presyncope)
- Loss of balance or unsteadiness
- Feeling a floating sensation or dizziness
- Vision changes, such as blurriness
- Confusion



In 2015: the total cost of fall injuries was 50 billion dollars¹

SYMPTOMS ⁹	ASSOCIATED DISEASE STATES ⁹
VERTIGO	<p>Benign Paroxysmal Positional Vertigo (BPPV): Calcium crystals in the inner ear are dislodged from their normal positions (normally these control balance)</p> <ul style="list-style-type: none"> ○ Most common cause of vertigo in adults <p>Ménière's Disease: Causes fluctuating hearing loss and buzzing, ringing or “fullness” feeling in the ear</p> <ul style="list-style-type: none"> ○ Exact cause is unknown <p>Migraines: Dizziness and sensitivity to motion</p> <p>Acoustic Neuroma: A slow-growing benign tumor that affects the nerves of the inner ear</p> <p>Vestibular Neuritis: Inflammatory disorder that can affect nerves in the balance portion of the inner ear</p> <p>Ramsay Hunt Syndrome: Shingles-like infection in the facial, auditory, and vestibular nerves near one ear</p> <ul style="list-style-type: none"> ○ Also known as herpes zoster oticus <p>Head Injury: Ex: concussion</p> <p>Motion Sickness: Dizziness during boat rides, cars, airplanes, or roller coasters</p> <ul style="list-style-type: none"> ○ Common in patients with migraines <p>Persistent Postural-Perceptual Dizziness: Symptoms occur when sensation of movement occurs in your head</p>
LIGHTHEADEDNESS	<p>Orthostatic Hypotension: Standing up/sitting too quickly causing a significant drop in blood pressure</p> <p>Cardiovascular Disease: Examples: abnormal heart rhythm, narrowed or blocked blood vessels, thickened heart muscle, decrease in blood volume</p>
LOSS OF BALANCE	<p>Vestibular Problems: Deformities within the inner ear that cause changes in balance</p> <p>Nerve Damage to Legs: May lead to difficulty walking</p> <p>Joint, Muscle or Vision Problems: Muscle weakness, unstable joints, and eyesight difficulties</p> <p>Medications: Side effects</p> <p>Certain Neurological Conditions: Examples: cervical spondylosis and Parkinson's Disease</p>

What If I Fall? 9 Steps to Recover²

- *Stay calm and don't move for a few minutes (moving too quickly can cause more arm).*
- *Determine if anything was injured. Slowly move hands, feet, arms, and legs.*
- *If nothing was injured, slowly roll onto side.*
- *Slowly push up into a crawling position and crawl toward a sturdy piece of furniture.*
- *Put one hand at a time on the piece of furniture.*
- *While supporting yourself, bring your strongest leg up to a 90 degree angle by putting that foot flat on the ground. The other leg will stay at a kneeling position.*
- *Slowly push up to standing using both arms and legs.*
- *Slowly turn around and steady yourself.*
- *Sit and catch your breath for a few minutes before doing anything else.*

Video Demonstration²: <https://dailycaring.com/video-how-to-safely-get-up-after-a-fall/>

Pharmacists are among the most accessible healthcare professionals for the patient population. Fall prevention should be a priority for a pharmacist to engage in routinely. This keeps the older adult population independent and can improve their health outcomes. There are several ways to help: monitoring medications that may increase his/her chance of falling, educating patients on fall prevention as they further age, and raising awareness of health risks of falling. With these strategies, older adults will have a better chance of avoiding falls.

References

1. Falls Prevention [Internet]. National Council on Aging (US); 2018-. Available from: <https://d2mkcg26uvq1cz.cloudfront.net/wp-content/uploads/Falls-Prevention-Fact-Sheet-2018.pdf>
2. Prevent Falls and Fractures [Internet]. U.S. Department of Health & Human Service, National Institute on Aging; 2017 Mar 15 [cited 2019 July 31]. Available from: <https://www.nia.nih.gov/health/prevent-falls-and-fractures>
3. Falls Prevention Awareness Day [Internet]. National Council on Aging; c2019. Falls Prevention Awareness Day; [cited 2019 Aug 02]; [2 screens]. Available from: <https://www.ncoa.org/healthy-aging/falls-prevention/falls-prevention-awareness-day/>
4. Basics of Fall Prevention [Internet]. Fall Prevention Center of Excellence; 2019. Basics of Fall Prevention; 2019 [cited 2019 August 2]. Available from: <http://stopfalls.org/what-is-fall-prevention/fp-basics/>
5. STEADI- Older Adult Fall Prevention [Internet]. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2019 Jan 31 [cited 2019 July 31]. Available from: <https://www.cdc.gov/steadi/materials.html>
6. American Geriatrics Society 2019 Updated AGS Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults [Internet]. 2019 January 29 [cited 2019 July 31]. Available from: <https://onlinelibrary.wiley.com/doi/full/10.1111/jgs.15767>
7. Important Facts About Falls [Internet]. Centers for Disease Control and Prevention, US Department of Health & Human Services; 2017 Feb 10 [cited 2019 July 31]. Available at: <https://www.cdc.gov/homeandrecreationalafety/falls/adultfalls.html>
8. Baker JM, Sudarsky LR. Gait Disorders, Imbalance, and Falls. In: Jameson J, Fauci AS, Kasper DL, Hauser SL, Longo DL, Loscalzo J. editors. Harrison's Principles of Internal Medicine. 20e. [AU Intranet; Access Pharmacy] New York: McGraw-Hill; 2018 [cited 2019 July 31]. Chapter 23. Available at: <https://accesspharmacy.mhmedical.com/content.aspx?sectionid=192011531&bookid=2129&jumpsectionid=196882190&ResultClick=2>
9. Balance Problems [Internet]. Mayo Foundation for Medical Education and Research; 2018 May 17 [cited 2019 July 31]. Available from: <https://www.mayoclinic.org/diseases-conditions/balance-problems/symptoms-causes/syc-20350474>

Last Dose:

“Our greatest glory is not in never falling, but in rising every time we fall.”
~Confucius [Chinese philosopher, 551 BC to 479 BC]

An electronic bulletin of drug and health-related news highlights, a service of ...

Auburn University, Harrison School of Pharmacy, Drug Information Center

• Phone 334-844-4400 • <http://www.auburn.edu/academic/pharmacy/dilrc/overview.html>

Bernie R. Olin, Pharm.D., Director

Archived issues are available at: <http://www.auburn.edu/academic/pharmacy/dilrc/au-informed.html>