

Practice Guidelines

Beers Criteria for Inappropriate Medication Use in Older Patients: An Update from the AGS

Key Points for Practice

- Avoid most antipsychotics in patients with Parkinson disease complicated by psychosis, although quetiapine, clozapine, and pimavanserin may be used with caution.
- Avoid using rivaroxaban and dabigatran in older adults because of a higher bleeding risk than warfarin and other direct oral anticoagulants.
- Avoid tramadol use because of the risk of hyponatremia from syndrome of inappropriate antidiuretic hormone secretion.
- Avoid prescribing opioids with benzodiazepines or gabapentinoids because the combinations increase the risk of severe respiratory depression.

From the *AFP* Editors

The Beers Criteria for Potentially Inappropriate Medication Use in Older Adults (i.e., at least 65 years of age), originally developed by Mark H. Beers in 1991, continue to be used by the American Geriatrics Society (AGS) to provide guidance regarding medications that should be avoided in most older patients or in certain situations. The goals are to improve medication selection, educate physicians and patients, avoid adverse effects, and help evaluate care quality and medication use trends for older adults. The 2019 update uses the five criteria outlined in 2015; these include medications that should typically be avoided in most older patients, medications that should be avoided in older patients

Coverage of guidelines from other organizations does not imply endorsement by *AFP* or the AAFP.

This series is coordinated by Sumi Sexton, MD, editor-in-chief.

A collection of Practice Guidelines published in *AFP* is available at <https://www.aafp.org/aafp/practguide>.

CME This clinical content conforms to AAFP criteria for continuing medical education (CME). See CME Quiz on page 11.

Author disclosure: No relevant financial affiliations.

with certain conditions, medications that should be used with caution because of benefits that may offset risks, medication interactions, and changes in dosing based on kidney function. In addition to these criteria, decisions about medications should take into account a variety of factors, including stopping medications when they are no longer beneficial.

Updates

REMOVALS

In this update, some medications were removed from the list of potentially inappropriate medications for most older patients and for those with certain conditions, as well as the list of those that should be used cautiously. Numerous medications, including bupropion (Wellbutrin), pseudoephedrine, vasodilators, and caffeine, were removed because they have the same effects on all patients without a difference in older adults. For patients with dementia, histamine H₂ receptor antagonists were removed because the evidence against them is weak and the panel did not want to restrict alternatives to proton pump inhibitors, which have strong evidence of increasing risks of *Clostridioides difficile* infection and fracture.

ADDITIONS

With the 2019 updates, several medications were added to the list of potentially inappropriate medications for most older patients and for those with certain conditions, as well as to the list of medications that should be used cautiously and those that have clinically important medication interactions. Glimepiride (Amaryl) is now included in the list of sulfonylureas at higher risk of causing severe prolonged hypoglycemia, and methscopolamine (Pamine) and pyrilamine, which are strong anticholinergics with weak evidence of effectiveness, are now considered potentially inappropriate.

Serotonin-norepinephrine reuptake inhibitors were added to the new use-with-caution list

PRACTICE GUIDELINES

for patients with a history of falls or fractures because they increase the risk of both. Whereas most antipsychotics are considered inappropriate for patients who have Parkinson disease with psychosis, the guidelines recommend using pimavanserin (Nuplazid), quetiapine (Seroquel), and clozapine (Clozaril) cautiously.

Other medications added to the use-with-caution list include rivaroxaban (Xarelto), which, like dabigatran (Pradaxa), increases the risk of serious bleeding more than warfarin (Coumadin) or other direct oral anticoagulants; tramadol, which can cause hyponatremia by inducing syndrome of inappropriate antidiuretic hormone secretion; dextromethorphan/quinidine (Nuedexta), which has limited effectiveness and a risk of falls and interactions with other medications; and trimethoprim/sulfamethoxazole (TMP/SMX), which increases the risk of hyperkalemia when used in combination with angiotensin-converting enzyme inhibitors or angiotensin receptor blockers in patients with diminished kidney function.

New medication interactions to note include opioids with benzodiazepines, gabapentin (Neurontin), or pregabalin (Lyrica) because of the risk of severe respiratory depression; phenytoin (Dilantin) with TMP/SMX because of the risk of phenytoin toxicity; theophylline with ciprofloxacin because of the risk of theophylline toxicity; and warfarin with ciprofloxacin, macrolides, or TMP/SMX because of the risk of bleeding.

MODIFICATIONS

The criteria were adjusted to state that nonbenzodiazepine sedative-hypnotics (i.e., the “z-drugs” zolpidem [Ambien], eszopiclone [Lunesta], and zaleplon [Sonata]), like benzodiazepines, should be avoided in patients with delirium. Small changes were made regarding the use of alpha blockers and clonidine to specify the high risk of orthostatic hypotension in older patients and to specify that digoxin is not preferred for treating atrial fibrillation or heart failure. The recommendation to avoid sliding-scale insulin was edited to specify the increased risk of hypoglycemia. A recommendation to avoid using metoclopramide (Reglan) for longer than 12 weeks was added to match U.S. Food and Drug Administration recommendations.

Recommendations regarding medications that should not be used in older persons with heart

failure were organized based on symptom control, including to avoid nondihydropyridine calcium channel blockers in the presence of reduced ejection fraction. Nonsteroidal anti-inflammatory drugs, cyclooxygenase-2 inhibitors, thiazolidinediones, and dronedarone (Multaq) should be used with caution in those with well-controlled heart failure and avoided in those with symptoms of heart failure. Cilostazol (Pletal) should be avoided entirely in patients with heart failure.

For primary prevention of cardiovascular disease or colorectal cancer, aspirin for primary prevention should be used with caution in patients older than 70 years (decreased from 80 years based on increased risk and uncertain benefit). This caution does not apply to secondary prevention, where benefits exceed risk.

Editor’s Note: Several resources exist to aid physicians in medication selection for older patients, including the Beers criteria and the STOPP/START criteria. Because of the large number of medications covered, these resources are limited in their utility at the point of care. The American Geriatrics Society has an iGeriatrics app that includes the Beers criteria but requires an annual subscription. Ideally, these resources could be integrated into electronic health records with recommended alternatives when an inappropriate medication is ordered. Two additional resources include a previous *AFP* article, “Geriatric Assessment: An Office-Based Approach” (<https://www.aafp.org/afp/2018/0615/p776.html>), and an editorial, “Deprescribing Is an Essential Part of Good Prescribing” (<https://www.aafp.org/afp/2019/0101/p7.html>).—Michael Arnold, MD, Editorial Fellow

Guideline source: American Geriatrics Society

Evidence rating system used? Yes

Systematic literature search described? Yes

Guideline developed by participants without relevant financial ties to industry? No

Recommendations based on patient-oriented outcomes? Yes

Published source: *Journal of the American Geriatrics Society*, April 2019;67(4):674-694

Available at: <https://onlinelibrary.wiley.com/doi/abs/10.1111/jgs.15767>

Lisa Croke

AFP Senior Associate Editor ■