

**Table 4. 2019 American Geriatrics Society Beers Criteria® for Potentially Inappropriate Medications: Drugs To Be Used With Caution in Older Adults<sup>a</sup>**

Drug(s)	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation
Aspirin for primary prevention of cardiovascular disease and colorectal cancer	Risk of major bleeding from aspirin increases markedly in older age. Several studies suggest lack of net benefit when used for primary prevention in older adult with cardiovascular risk factors, but evidence is not conclusive. Aspirin is generally indicated for secondary prevention in older adults with established cardiovascular disease.	Use with caution in adults $\geq 70$ years	Moderate	Strong
Dabigatran Rivaroxaban	Increased risk of gastrointestinal bleeding compared with warfarin and reported rates with other direct oral anticoagulants when used for long-term treatment of VTE or atrial fibrillation in adults $\geq 75$ years.	Use with caution for treatment of VTE or atrial fibrillation in adults $\geq 75$ years	Moderate	Strong
Prasugrel	Increased risk of bleeding in older adults; benefit in highest-risk older adults (eg, those with prior myocardial infarction or diabetes mellitus) may offset risk when used for its approved indication of acute coronary syndrome to be managed with percutaneous coronary intervention.	Use with caution in adults $\geq 75$ years	Moderate	Weak
Antipsychotics Carbamazepine Diuretics Mirtazapine Oxcarbazepine SNRIs SSRIs TCAs Tramadol	May exacerbate or cause SIADH or hyponatremia; monitor sodium level closely when starting or changing dosages in older adults	Use with caution	Moderate	Strong
Dextromethorphan/ quinidine	Limited efficacy in patients with behavioral symptoms of dementia (does not apply to treatment of PBA). May increase risk of falls and concerns with clinically significant drug interactions. Does not apply to treatment of pseudobulbar affect.	Use with caution	Moderate	Strong
Trimethoprim- sulfamethoxazole	Increased risk of hyperkalemia when used concurrently with an ACEI or ARB in presence of decreased creatinine clearance	Use with caution in patients on ACEI or ARB and decreased creatinine clearance	Low	Strong

Abbreviations: ACEI, angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; PBA, pseudobulbar affect; SIADH, syndrome of inappropriate antidiuretic hormone secretion; SNRI, serotonin-norepinephrine reuptake inhibitor; SSRI, selective serotonin reuptake inhibitor; TCA, tricyclic antidepressant; VTE, venous thromboembolism.

<sup>a</sup>The primary target audience is the practicing clinician. The intentions of the criteria include (1) improving the selection of prescription drugs by clinicians and patients; (2) evaluating patterns of drug use within populations; (3) educating clinicians and patients on proper drug usage; and (4) evaluating health-outcome, quality-of-care, cost, and utilization data.

## DISCUSSION

The 2019 AGS Beers Criteria® update contributes to the critically important evidence base and discussion of medications to avoid in older adults and the need to improve medication use in older adults. The 2019 AGS Beers Criteria® include 30 individual criteria of medications or medication classes to be avoided in older adults (Table 2) and 16 criteria specific to more than 40 medications or medication classes that should be used with caution or avoided in certain diseases or conditions (Tables 3 and 4). As in past

updates, there were several changes to the 2019 AGS Beers Criteria®, including criteria that were modified or dropped, a few new criteria, and some changes in the level of evidence grading and clarifications in language and rationale (Tables 8–10).

The 2019 AGS Beers Criteria® is the third such update by the AGS and the fifth update of the AGS Beers Criteria® since their original release.<sup>1,2,10–12</sup> The criteria was first published almost 30 years ago in 1991, making them the longest running criteria for PIMs in older adults.