

# Updated Beer's Criteria for Potentially Inappropriate Medication Use in Older Adults

## Reference Chart

Antimicrobial Agents Included in the American Geriatrics Society's 2023 Updated Beer's Criteria		
Medication Name	Recommendation(s)	Rationale
Nitrofurantoin	<ol style="list-style-type: none"> <li>1. Avoid in residents with a creatinine clearance (CrCl) &lt;30mL/min.</li> <li>2. Avoid prescribing for long-term UTI prophylaxis/suppression.</li> </ol>	<sup>1,2</sup> Potential for pulmonary toxicity, hepatotoxicity, and peripheral neuropathy, especially with long term use. Safer alternatives are generally available.
Trimethoprim/ Sulfamethoxazole	<ol style="list-style-type: none"> <li>1. Use with caution in residents receiving ACEI, ARB, or ARNI medications with decreased/declining renal function.</li> <li>2. Renal dose adjustments necessary in residents with creatinine clearance &lt;30mL/min.</li> <li>3. Avoid in residents receiving phenytoin.</li> <li>4. Avoid, or closely monitor INR, in residents receiving warfarin.</li> </ol>	<sup>1,2</sup> Increased risk of hyperkalemia when used concurrently with an ACEI, ARB, or ARNI in the presence of decreased CrCl. <sup>2</sup> Increased risk of worsening renal function due to crystalluria. <sup>3</sup> Increased risk of phenytoin toxicities. <sup>4</sup> Increased risk of bleeding (increased INR).
Ciprofloxacin	<ol style="list-style-type: none"> <li>1. Renal dose adjustments necessary in residents with a creatinine clearance (CrCl) &lt;30mL/min.</li> <li>2. Avoid, or closely monitor INR, in residents receiving warfarin.</li> <li>3. Avoid in residents receiving theophylline.</li> <li>4. Closely monitor in patients with existing cardiac disease and/or receiving concurrent medications with cardiac effects</li> </ol>	<sup>1</sup> Increased risk of CNS effect (e.g., seizures, confusion) and tendon rupture. <sup>2</sup> Increased risk of bleeding (increased INR). <sup>3</sup> Increased risk of theophylline toxicities. <sup>4</sup> Increased risk for cardiac effects, including prolonged QTc interval and/or aortic aneurysm/dissection.
Macrolides	<ol style="list-style-type: none"> <li>1. Avoid, or closely monitor INR, in residents receiving warfarin</li> <li>2. Closely monitor in patients with existing cardiac disease and/or receiving concurrent medications with cardiac effects</li> </ol>	<sup>1</sup> Increased risk of bleeding (increased INR). <sup>2</sup> Increased risk for cardiac effects, including prolonged QTc interval.

Adapted from: AGS 2023 Updated Beers Criteria: <https://doi.org/10.1111/jgs.18372>