

## DRUGS TO AVOID IN THE ELDERLY

### A Summary on High Risk Medications

Gateway Health<sup>SM</sup> is committed to providing safe, quality health care for our members. One of our quality initiatives includes reducing the number of Medicare Assured<sup>SM</sup> members age 65 or older that may be taking a high risk medication. Our initiative is based off the American Geriatric Society's Beers Criteria, which was developed to assist healthcare providers with improving medication safety in older adults. For a complete review of the Beers Criteria, please visit the following website:

<http://www.americangeriatrics.org/press/id:5907>

Help us in our goal of providing high quality healthcare to our members by reviewing the following chart. If any of your patients are 65 or older and currently taking one of the identified medications, please review the AGS recommendations and rationale to prescribe a safer alternative. Avoiding these medications can help reduce unwanted and potentially dangerous side effects for our members.

Therapeutic Category / Drug(s)	Recommendation, Rationale	Alternatives
Tertiary TCAs, alone or in combination: <ul style="list-style-type: none"> <li>• Amitriptyline</li> <li>• Doxepin (&gt;6mg/day)</li> <li>• Imipramine</li> </ul>	Avoid.  Highly anticholinergic, sedating, and cause orthostatic hypotension; the safety profile of low-dose doxepin ( $\leq 6$ mg/day) is comparable to that of placebo.	Depression <ul style="list-style-type: none"> <li>• SSRI</li> <li>• SNRI</li> <li>• Bupropion</li> <li>• Viibryd</li> <li>• Trazodone</li> <li>• Mirtazapine</li> </ul> Insomnia <ul style="list-style-type: none"> <li>• Trazodone</li> <li>• Rozerem</li> </ul> Migraine Prophylaxis <ul style="list-style-type: none"> <li>• Propranolol</li> <li>• Topiramate</li> <li>• Divalproex sodium</li> </ul> Neuropathic Pain <ul style="list-style-type: none"> <li>• Gabapentin</li> <li>• Duloxetine</li> <li>• Lyrica</li> </ul>

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		For all indications a trial of nortriptyline prior to use of amitriptyline.
Anti-Parkinson's agents: <ul style="list-style-type: none"> <li>• Benztropine</li> <li>• Trihexyphenidyl</li> </ul>	Avoid.  Not recommended for prevention of extrapyramidal symptoms with antipsychotics; more effective agents available for treatment of Parkinson disease.  Anticholinergic adverse effects: difficulty urinating, dizziness, blurry vision, confusion.	Parkinson's disease <ul style="list-style-type: none"> <li>• Amantadine</li> <li>• Apomorphine</li> <li>• Carbidopa/levodopa</li> <li>• Entacapone</li> <li>• Pramipexole</li> <li>• Ropinirole</li> <li>• Selegiline</li> <li>• Tolcapone</li> <li>• Bromocriptine</li> </ul> Drug Induced EPS <ul style="list-style-type: none"> <li>• Discontinuation or dose lowering of offended drug recommended</li> </ul>
Anticonvulsants: <ul style="list-style-type: none"> <li>• Carbamazepine</li> <li>• Oxcarbazepine</li> </ul>	Caution advised due to SIADH; patient should have sodium levels checked upon starting or changing dose	<ul style="list-style-type: none"> <li>• Lamotrigine</li> <li>• Topiramate</li> </ul>
Antidepressants: <ul style="list-style-type: none"> <li>• Paroxetine</li> </ul>	Avoid in med with BPH  Caution advised due to anticholinergic effects, sedation and orthostatic hypotension	<ul style="list-style-type: none"> <li>• Other SSRIs</li> </ul>
Barbiturates: <ul style="list-style-type: none"> <li>• Butalbital/APAP/Caffeine</li> </ul>	Avoid.  High rate of physical dependence; tolerance to sleep benefits; greater risk of overdose at low dosages.	<ul style="list-style-type: none"> <li>• Ibuprofen</li> <li>• Naproxen</li> <li>• Meloxicam</li> <li>• Tramadol</li> <li>• Acetaminophen</li> </ul>

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Skeletal muscle relaxants <ul style="list-style-type: none"> <li>• Chlorzoxazone</li> <li>• Cyclobenzaprine</li> <li>• Methocarbamol</li> <li>• Orphenadrine</li> </ul>	Avoid.  Most muscle relaxants are poorly tolerated by older adults because of anticholinergic adverse effects, sedation, and increased risk of fractures; effectiveness at dosages tolerated by older adults is questionable.	<ul style="list-style-type: none"> <li>• Baclofen</li> <li>• Tizanidine</li> </ul>

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First-generation antihistamines as single agent, or part of combination products: <ul style="list-style-type: none"> <li>• Cyproheptadine</li> <li>• Hydroxyzine</li> <li>• Brompheniramine</li> <li>• Chlorpheniramine</li> <li>• Clemastine</li> <li>• Doxylamine</li> <li>• Diphenhydramine*</li> </ul>	Avoid.  Highly anticholinergic; clearance reduced with advanced age, and tolerance develops when used as hypnotic; increased risk of confusion, dry mouth, constipation, and other anticholinergic effects/toxicity.  *Use of diphenhydramine in special situations, such as acute treatment of severe allergic reaction, may be appropriate.	Antihistamine <ul style="list-style-type: none"> <li>• Nasal saline</li> <li>• Cetirizine liquid</li> <li>• Levocetirizine</li> </ul> Migraine Prophylaxis <ul style="list-style-type: none"> <li>• Propranolol</li> <li>• Timolol</li> <li>• Topiramate</li> <li>• Valproic acid</li> <li>• Divalproex sodium</li> </ul> Anxiety <ul style="list-style-type: none"> <li>• Buspirone</li> <li>• Citalopram</li> <li>• Escitalopram</li> <li>• Sertraline</li> </ul> Pruritis/Urticaria <ul style="list-style-type: none"> <li>• Cetirizine</li> <li>• Levocetirizine</li> </ul> Nausea/Vomiting <ul style="list-style-type: none"> <li>• Ondansetron</li> </ul>
Cardiovascular <ul style="list-style-type: none"> <li>• Digoxin &gt;0.125 mg/day</li> </ul>	Avoid.  In heart failure, no additional benefit is associated with higher dosages, and may increase risk of toxicity;	<ul style="list-style-type: none"> <li>• A lower dose of digoxin (0.125mg) and documentation of on-going monitoring of digoxin levels.</li> </ul>

<ul style="list-style-type: none"> <li>• Alpha blockers</li> </ul>	<p>decreased renal clearance may increase risk of toxicity.</p> <p>Avoid.</p> <p>Causes orthostatic hypotension</p>	<ul style="list-style-type: none"> <li>• Thiazide diuretic</li> <li>• ACE inhibitor</li> <li>• ARB</li> <li>• Long acting CCB</li> </ul>
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<b>Therapeutic Category / Drug(s)</b>	<b>Recommendation, Rationale</b>	<b>Alternatives</b>
<p>Estrogens, with or without progestins</p>	<p>Avoid oral and topical patch. Topical vaginal cream: acceptable to use low-dose intravaginal estrogen for the management of dyspareunia, lower UTI, and other vaginal symptoms.</p> <p>Evidence of carcinogenic potential (breast and endometrium); lack of cardioprotective effect and cognitive protection in older women. Evidence that vaginal estrogens for treatment of vaginal dryness is safe and effective in women with breast cancer, especially at dosages of estradiol &lt;25mcg twice weekly.</p>	<p>Vasomotor symptoms due to Menopause</p> <ul style="list-style-type: none"> <li>• SSRIs</li> <li>• Venlafaxine</li> </ul> <p>Vaginal Atrophy due to Menopause</p> <ul style="list-style-type: none"> <li>• Estring</li> <li>• Premarin vaginal cream</li> </ul> <p>Osteoporosis Prevention</p> <ul style="list-style-type: none"> <li>• Calcium</li> <li>• Vitamin D</li> <li>• Alendronate</li> <li>• Raloxifene</li> </ul>
<p>Oral Antidiabetics:</p> <ul style="list-style-type: none"> <li>• Glyburide</li> <li>• Chlorpropamide</li> </ul>	<p>Avoid.</p> <p>Higher risk of severe prolonged hypoglycemia in older adults.</p>	<ul style="list-style-type: none"> <li>• Glipizide</li> <li>• Glimepiride</li> </ul>
<p>Endocrine-Metabolic Agent</p> <ul style="list-style-type: none"> <li>• Megestrol</li> </ul>	<p>Increased risk of blood clots. Does not have much of an effect on weight gain.</p>	<ul style="list-style-type: none"> <li>• Evaluate risk vs. benefit</li> <li>• Continued monitoring</li> <li>• Patient counseling</li> </ul>
<p>Opioid analgesic</p> <ul style="list-style-type: none"> <li>• Meperidine</li> </ul>	<p>Avoid.</p>	<ul style="list-style-type: none"> <li>• Hydrocodone</li> <li>• Oxycodone</li> <li>• Morphine</li> </ul>

	Not an effective oral analgesic in dosages commonly used; may cause neurotoxicity, delirium, cognitive impairment; safer alternatives available.	<ul style="list-style-type: none"> <li>• Fentanyl transdermal</li> <li>• Tramadol*</li> </ul>
Non-opioid analgesic <ul style="list-style-type: none"> <li>• Tramadol</li> </ul>	Avoid in patients with a seizure disorder or a creatinine clearance < 30ml/min	<ul style="list-style-type: none"> <li>• Hydrocodone</li> <li>• Oxycodone</li> <li>• Morphine</li> <li>• Generic NSAIDs</li> </ul>
Dihydropyridine Calcium Channel Blocker <ul style="list-style-type: none"> <li>• Nifedipine, immediate release</li> </ul>	Avoid.  Potential for hypotension; risk of precipitating myocardial ischemia	<ul style="list-style-type: none"> <li>• Nifedipine long acting</li> <li>• Amlodipine</li> <li>• Felodipine</li> </ul>
Anti-infective <ul style="list-style-type: none"> <li>• Nitrofurantoin</li> </ul>	Avoid for long-term suppression.  Potential for pulmonary toxicity, liver toxicity and peripheral neuropathy; safer alternatives available.  <u>Note:</u> this medication has been used safely and effectively in patients with a creatinine clearance as low as 30ml/min.	<ul style="list-style-type: none"> <li>• Sulfamethoxazole-trimethoprim</li> <li>• Ciprofloxacin</li> <li>• Levofloxacin</li> </ul>
Proton Pump Inhibitors <ul style="list-style-type: none"> <li>• Esomeprazole</li> <li>• Lansoprazole</li> <li>• Omeprazole</li> <li>• Pantoprazole</li> </ul>	Avoid using for more than 8 weeks.  Potential for <i>C. difficile</i> pseudomembranous colitis, bone loss, fractures  <u>Note:</u> this does not apply to patients with Barrett's Esophagus or those on chronic NSAIDs	<ul style="list-style-type: none"> <li>• Cimetidine</li> <li>• Famotidine</li> <li>• Ranitidine</li> <li>• Tizanidine</li> </ul>
Opioid agonist/antagonist analgesic <ul style="list-style-type: none"> <li>• Pentazocine</li> </ul>	Avoid.  Opioid analgesic that causes CNS adverse effects, including confusion and hallucinations, more	<ul style="list-style-type: none"> <li>• Tramadol</li> <li>• Generic NSAID</li> <li>• Voltaren gel</li> <li>• Generic Vicodin</li> <li>• Generic Vicoprofen</li> <li>• Celebrex</li> </ul>

	commonly than other narcotic drugs; is also a mixed agonist and antagonist; safer alternatives available.	
<p>Antipsychotic</p> <ul style="list-style-type: none"> <li>• Thioridazine</li> </ul>	<p>Avoid.</p> <p>Highly anticholinergic and greater risk of QT-interval prolongation.</p>	<ul style="list-style-type: none"> <li>• Abilify</li> <li>• Ziprasidone</li> <li>• Olanzapine</li> <li>• Risperidone</li> </ul>
<p>Antiplatelets, Anticoagulants:</p> <ul style="list-style-type: none"> <li>• Ticlopidine</li> <li>• Cilostazol</li>   <li>• Apixaban</li>   <li>• Dabigatran</li> </ul>	<p>Avoid.</p> <p>Safer, effective alternatives available.</p> <p>May lower blood counts; increased risk of infection.</p> <p>Avoid.</p> <p>Increase in bleeding risk</p> <p>Avoid in patients <math>\geq 75</math> yr old or a creatinine clearance <math>&lt; 30</math>ml/min</p>	<ul style="list-style-type: none"> <li>• Clopidogrel</li>   <li>• Warfarin</li> </ul>
<p>Nonbenzodiazepine hypnotics</p> <ul style="list-style-type: none"> <li>• Zaleplon</li> <li>• Zolpidem</li> </ul>	<p>Avoid chronic use (<math>&gt;90</math> days).</p> <p>Benzodiazepine-receptor agonists that have adverse events similar to those of benzodiazepines in older adults (e.g. delirium falls, fractures); minimal improvement in sleep latency and duration; confusion, auto accidents the day following a dose.</p>	<ul style="list-style-type: none"> <li>• Low dose trazodone</li> <li>• Rozerem</li> <li>• Sleep hygiene education</li> </ul>