

## High Risk Medication Alternative Table

| Description                   | High Risk Medication                                                                                                                                                                                                                                                                                                                                                                                                                             | Rationale for risk*                                                                                                                                                                                                                    | Alternatives                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <b>Anticholinergics</b>       | brompheniramine <sup>3</sup> ,<br>carbinoxamine <sup>3</sup> ,<br>chlorpheniramine <sup>3</sup> ,<br>clemastine <sup>3</sup> , cyproheptadine <sup>1</sup> ,<br>dexbrompheniramine <sup>3</sup> ,<br>dexchlorpheniramine <sup>3</sup> ,<br>diphenhydramine (oral) <sup>3</sup> ,<br>dimenhydrinate <sup>3</sup> ,<br>doxylamine <sup>3</sup> , hydroxyzine <sup>1</sup> ,<br>meclizine, promethazine <sup>1</sup> ,<br>triprolidine <sup>3</sup> | Highly anticholinergic, clearance reduced with advanced age, and tolerance develops when used as hypnotic; greater risk of confusion, dry mouth, constipation, and other anticholinergic effects and toxicity.                         | <b>Allergy:</b> levocetirizine, desloratadine, montelukast, azelastine, intranasal steroid (e.g., fluticasone <sup>4</sup> ), OTCs such as cetirizine, loratadine, fexofenadine, or intranasal normal saline (member to pay out of pocket)<br><b>Cough:</b> OTCs such as guaifenesin, dextromethorphan (member to pay out of pocket)<br><b>Anti-emetic:</b> ondansetron-oral <sup>1</sup> , granisetron-oral <sup>1</sup> , aprepitant-oral <sup>1</sup> |
|                               | benztropine (oral) <sup>1</sup> ,<br>trihexyphenidyl <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                | Not recommended for prevention of extrapyramidal symptoms with antipsychotics; more-effective agents available for treatment of Parkinson's disease.                                                                                   | carbidopa & levodopa, carbidopa & levodopa & entacapone, ropinirole, pramipexole, amantadine                                                                                                                                                                                                                                                                                                                                                             |
| <b>Antithrombotics</b>        | dipyridamole - oral short acting <sup>1</sup> (does not apply to ER combination with aspirin)                                                                                                                                                                                                                                                                                                                                                    | May cause orthostatic hypotension; more effective alternatives available; intravenous form acceptable for use in cardiac stress testing.                                                                                               | dipyridamole & aspirin <sup>4</sup> , clopidogrel                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Anti-infective</b>         | nitrofurantoin                                                                                                                                                                                                                                                                                                                                                                                                                                   | Potential for pulmonary toxicity; safer alternatives available; lack of efficacy in patients with CrCl < 60 mL/min due to inadequate drug concentration in the urine.                                                                  | For <b>UTI Treatment</b> , use sulfamethoxazole/trimethoprim, fluoroquinolone (i.e., ciprofloxacin), cephalosporins (i.e., cephalexin), amoxicillin-clavulanate<br>For <b>UTI Prophylaxis</b> , consider methenamine hippurate                                                                                                                                                                                                                           |
| <b>Cardiovascular</b>         | digoxin                                                                                                                                                                                                                                                                                                                                                                                                                                          | In heart failure, higher dosages are not associated with additional benefit and may increase risk of toxicity; decreased renal clearance may lead to risk of toxic effects.                                                            | Limit use to no more than 0.125 mg of digoxin per day. Ensure patient is adherent prior to increasing dose of digoxin.                                                                                                                                                                                                                                                                                                                                   |
|                               | disopyramide <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                        | Disopyramide is a potent negative inotrope and therefore may induce heart failure in older adults; strongly anticholinergic; other antiarrhythmic drugs preferred.                                                                     | Consider other antiarrhythmic agents or re-evaluate the need for this medication.                                                                                                                                                                                                                                                                                                                                                                        |
|                               | guanfacine, methyl dopa <sup>1</sup> ,<br>reserpine <sup>3</sup> (>0.1mg/day),<br>guanabenz <sup>3</sup>                                                                                                                                                                                                                                                                                                                                         | High risk of adverse CNS effects; may cause bradycardia and orthostatic hypotension; not recommended as routine treatment for hypertension. Reserpine doses greater than 0.1 mg/day increase risk of adverse effects for 65 and older. | Multiple antihypertensive formulary alternatives available: thiazide or thiazide-type diuretics, ACE inhibitor/ARB, beta blocker, calcium channel blocker                                                                                                                                                                                                                                                                                                |
|                               | nifedipine - immediate release <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                      | Potential for hypotension; risk of precipitating myocardial ischemia.                                                                                                                                                                  | nifedipine er, felodipine er, nisoldipine er                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Central Nervous System</b> | amoxapine, amitriptyline <sup>1</sup> ,<br>clomipramine <sup>1</sup> , desipramine,<br>doxepin (>6mg/day) ,<br>imipramine <sup>1</sup> , nortriptyline,<br>paroxetine, protriptyline,<br>trimipramine <sup>1</sup>                                                                                                                                                                                                                               | Highly anticholinergic, sedating, and causes orthostatic hypotension; safety profile of low-dose doxepin (6 mg/day) is comparable with that of placebo.                                                                                | <b>Neuropathic pain:</b> gabapentin, duloxetine, pregabalin, lidocaine patch <sup>1</sup> , lidocaine topical/ointment <sup>4</sup> , capsaicin topical (OTC – member to pay out of pocket)<br><b>OCD:</b> fluoxetine, sertraline, fluvoxamine<br><b>Depression:</b> citalopram, escitalopram, fluoxetine, sertraline, venlafaxine, desvenlafaxine er <sup>2</sup>                                                                                       |
|                               | amobarbital <sup>3</sup> , butabarbital <sup>3</sup> ,<br>butalbital <sup>3</sup> , mephobarbital <sup>3</sup> ,<br>pentobarbital <sup>3</sup> , secobarbital <sup>3</sup>                                                                                                                                                                                                                                                                       | High rate of physical dependence; tolerance to sleep benefits; risk of overdose at low dosages.                                                                                                                                        | <b>Sedative/Insomnia:</b> ramelteon <sup>4</sup> , doxepin (≤ 6mg /day), trazodone                                                                                                                                                                                                                                                                                                                                                                       |

| Description                               | High Risk Medication                                                                                                                                                     | Rationale for risk*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Alternatives                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Central Nervous System (continued)</b> | phenobarbital <sup>1</sup>                                                                                                                                               | High rate of physical dependence; tolerance to sleep benefits; risk of overdose at low dosages.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Seizure:</b> levetiracetam, ethosuximide, gabapentin, divalproex sodium, valproic acid, lamotrigine, topiramate, felbamate, carbamazepine, Dilantin, phenytoin, oxcarbazepine, pregabalin                                                                                                                                                                                                                           |
|                                           | meprobamate <sup>1</sup>                                                                                                                                                 | High rate of physical dependence; very sedating.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | buspirone                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                           | eszopiclone <sup>3</sup> , zaleplon <sup>3</sup> , zolpidem                                                                                                              | 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.                                                                                                                                                                                                                                                                                                                                                                                                                | Consider short-term use (< 90 days); suggest sleep hygiene techniques; re-evaluate the need for this medication after 90 days; ramelteon <sup>4</sup> , doxepin (≤ 6mg /day), trazodone                                                                                                                                                                                                                                |
|                                           | ergoloid mesylates <sup>1</sup> , isoxsuprine <sup>3</sup>                                                                                                               | Lack of efficacy.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Consider ChEI's (donepezil, rivastigmine <sup>4</sup> , galantamine <sup>4</sup> ), memantine                                                                                                                                                                                                                                                                                                                          |
| <b>Endocrine</b>                          | estrogens** with or without progesterone (oral and topical patch products only)                                                                                          | 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; women with a history of breast cancer should discuss risks and benefits of low-dose vaginal estrogen (estradiol < 25 mcg twice weekly) with their provider. Avoid oral and topical patch. Vaginal cream or vaginal tablets: acceptable to use low-dose intravaginal estrogen for the management of dyspareunia, recurrent lower urinary tract infections, and other vaginal symptoms. | Premarin vaginal cream, estradiol vaginal cream, yuvafem tablet, OTC lubricants such as KY Jelly or Astroglide (member to pay out of pocket)<br><br><b>Bone density:</b> calcium with vitamin D (OTC), alendronate, risedronate <sup>2</sup> , ibandronate-oral, raloxifene <sup>4</sup> , Prolia <sup>1</sup><br><br><b>Hot flashes:</b> venlafaxine er, paroxetine er, sertraline, fluoxetine, gabapentin, clonidine |
|                                           | chlorpropamide <sup>3</sup> , glyburide <sup>3</sup> , glimepiride                                                                                                       | Prolonged half-life in older adults; can cause prolonged hypoglycemia.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | glipizide, glipizide er                                                                                                                                                                                                                                                                                                                                                                                                |
|                                           | megestrol acetate                                                                                                                                                        | Minimal effect on weight; increases risk of thrombotic events and possibly death in older adults.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Depressed patients - mirtazapine; treatment of cachexia associated with AIDS - oxandrolone and dronabinol <sup>1</sup>                                                                                                                                                                                                                                                                                                 |
|                                           | Desiccated thyroid <sup>3</sup>                                                                                                                                          | Concerns about cardiac effects; safer alternatives available.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | levothyroxine, levoxl, liothyronine, Synthroid, unithroid, Cytomel                                                                                                                                                                                                                                                                                                                                                     |
| <b>Pain Medications</b>                   | meperidine HCl <sup>3</sup>                                                                                                                                              | Not an effective oral analgesic in dosages commonly used; may cause neurotoxicity; safer alternatives available.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Multiple formulary opioid analgesics available. Use the lowest effective dose of opioid and small quantity for the shortest duration possible. Avoid long-duration, sustained release opioids in opioid naïve individuals.                                                                                                                                                                                             |
|                                           | indomethacin <sup>1</sup> , ketorolac <sup>1</sup> (includes oral and injectable routes only)                                                                            | Increases risk of GI bleeding and peptic ulcer disease in high-risk groups.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Short term use of etodolac, meloxicam, nabumetone, ibuprofen, naproxen, sulindac. If these alternatives are used chronically, consider adding a PPI or misoprostol.                                                                                                                                                                                                                                                    |
| <b>Skeletal Muscle Relaxants</b>          | carisoprodol <sup>3</sup> , chlorzoxazone <sup>1</sup> , cyclobenzaprine <sup>1</sup> , metaxalone <sup>3</sup> , methocarbamol <sup>1</sup> , orphenadrine <sup>3</sup> | Most muscle relaxants are poorly tolerated by older adults because of anticholinergic adverse effects, sedation, risk of fracture; effectiveness at dosages tolerated by older adults is questionable.                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Spasticity:</b> baclofen (start with a low dose and titrate slowly up and down), tizanidine<br><b>Muscle spasm:</b> NSAID (use with PPI or misoprostol for long term use), massage therapy, physical therapy                                                                                                                                                                                                        |

<sup>1</sup> = Prior Authorization required, <sup>2</sup> = Step Therapy required, <sup>3</sup> = Non-Formulary, <sup>4</sup> = Quantity Limit. Refer to formulary for tier placement of all drugs.

\*American Geriatrics Society. American Geriatrics Society 2019 Updated Beers Criteria for Potential Inappropriate Medication Use in Older Adults. J Am Geriatr Soc 2019.

\*\* Conjugated estrogens, esterified estrogens, estradiol, estropipate (including combination products, oral and transdermal routes). Some estrogen products will require Prior Authorization.

Abbreviations: OTC- over the counter; ER- extended release; TCAs- tricyclic antidepressants; OCD- obsessive compulsive disorder; ChEI's- cholinesterase inhibitors; PPI- proton pump inhibitor; NSAID- nonsteroidal anti-inflammatory drug