Use of High-Risk Medications in the Elderly and Safer Alternate Treatments

Certain medications are more likely to have adverse effects for people over the age of 65. There are often safer alternate treatments that are highly effective. Below is a list of high risk medications compiled by the PHP Plan Pharmacist. These are the medications included in the Plan formulary, as well as potential risks and alternative treatment options. Please consider these recommendations when prescribing for patients 65 and older.

The Use of High-Risk Medications in the Elderly is a HEDIS (Healthcare Effectiveness Data and Information Set) performance measure that assesses the percentage of Plan Members 65 years of age and older who received at least one or two different high-risk medications.

Therapeutic Class	High Risk Medications	Potential Risks	Safer Treatment Options†
Alpha-Blockers, Central	Guanabenz Guanfacine Methyldopa Reserpine (>0.1 mg/day)	May cause bradycardia, sedation, orthostatic hypotension, and exacerbate depression.	ACE inhibitors / ARBs Beta-blockers Calcium channel blockers Thiazide diuretics
Anti-Anxiety Agents	Meprobamate	Meprobamate has a high risk of abuse, and is highly sedating. Use in the elderly may result in confusion, falls/fractures,and respiratory depression.	Buspirone SSRIs (Fluoxetine, Citalopram, Paroxetine) SNRIs (Venlafaxine, duloxetine)
Anti-emetics	Promethazine Trimethobenzamide (Tigan)	Elderly patients are more susceptible to anticholinergic adverse events including urine retention, confusion, and sedation.	For N/V: Ondansetron (QL = 45/30)
Antiparkinson Agents	Benztropine Trihexyphenidyl	Elderly patients are more susceptible to anticholinergic adverse events including urine retention, confusion,	Carbidopa / levodopa, Pramipexole, Ropinirole, Bromocriptine, Amantadine, Selegiline

† Treatment alternatives may require prior authorization or step therapy.

For the most current formulary listings, please consult: positivehealthcare.net/california/php/for-members/drug-benefit/formulary/

		hallucinations and psychotic-like symptoms	
Anti-Psychotics	Thioridazine (Mellaril) Mesoridazine	Thioridazine has a high potential for CNS and extrapyramidal adverse events. It has been associated with tremor, slurred speech, muscle rigidity, dystonia, bradykinesia, and akathisia.	Atypical antipsychotics: Risperidone, Olanzapine, Ziprasidone, Abilify, Saphris, quetiapine (Please note, all antipsychotics have been associated with increased mortality when used to treat psychosis related to dementia.)
Antithrombotics	Dipyridamole (Persantine, NOTE: does NOT include combination product with aspirin) Ticlopidine (Ticlid)	These agents been shown to be no better than aspirin in preventing clotting and may be considerably more toxic. Dipyridamole is associated with an increased risk of orthostatic hypotension in the elderly. Ticlopidine is associated with an increased risk of hematologic effects (e.g., neutropenia, thrombocytopenia, aplastic anemia), increased cholesterol and triglycerides, and GI bleed).	For prevention of thromboembolic complications of cardiac valve replacement: Warfarin For prevention of stroke: Clopidogrel, Aggrenox, Aspirin
Barbiturates	Phenobarbital (Luminal) Mephobarbital (Mebaral) Secobarbital (Seconal) Butabarbital (Butisol) Pentobarbital (Nembutal) Butalbital and Butalbital combinations (Fioricet/Codeine)	These medications are highly addictive and cause more adverse effects than most other sedatives in the elderly, greatly increasing cognitive impairment, confusion, and risk of falls.	PLEASE NOTE: Patients being switched off barbiturates should be tapered slowly over a prolonged period of time. **For seizures**: Divalproex, Levetiracetam, Lamotrigine, Carbamazepine **For sleep**: Consider non-pharmacologic interventions, focusing on proper sleep hygiene. Rozerem may be considered as a safer option with less abuse

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			potential. Trazodone, Mirtazapine, Gabapentin, Nortriptyline **For headache:** Sumatriptan
Calcium Channel Blockers	Nifedipine immediate-release (Adalat, Procardia)	Immediate release nifedipine may cause excessive hypotension and constipation in the elderly.	Amlodipine, Felodipine Extended-release Nifedipine
Cardiovascular, Other	Disopyramide Digoxin (>0.125 mg/day)	Disopyramide may induce heart failure in elderly patients. It is also strongly anticholinergic, and may cause urine retention, confusion, and sedation. Digoxin is substantially excreted by the kidney. Because elderly patients are more likely to have decreased renal function, there is an increased risk of toxicity at doses exceeding 0.125 mg/day.	For disopyramide: Beta-blockers, Calcium channel blockers, Flecainide - For digoxin > 0.125 mg/day: In heart failure, digoxin dosages >0.125 mg/day have been associated with no additional benefit and may have increased toxic effects.
Estrogens and Estrogen / Progesterone Products (Oral and Transdermal)	Conjugated estrogen (Premarin) Conjugated estrogen / medroxy-progesterone (Prempro, Premphase) Estradiol, oral (Estrace, Femtrace) Estradiol patch (Alora, Climara, Estraderm, Estradiol, Menostar, Vivelle-Dot) Estradiol / drospirenone (Angeliq) Estradiol / levonorgestrel (ClimaraPro) Estradiol / norethindrone (CombiPatch) Estradiol / norgestimate (Prefest) Estropipate (Ogen, Ortho-Est)Esterified estrogen (Menest) Esterified estrogen / methyltestosterone (Covaryx,	Elderly patients on long-term oral estrogens are at increased risk for breast and endometrial cancer. In addition, results from the Women's Health Initiative (WHI) hormone trial suggest these medications may increase the risk of heart attack, stroke, blood clots, and dementia.	**For Hot Flashes**: Continuously re-evaluate the need for long-term estrogen therapy; evaluate non-drug therapy. Postmenopausal women should avoid using oral estrogens for more than 3 years. After 3 years patients should be titrated off therapy due to the risks outweighing the benefits. **SSRIs, Gabapentin, and Venlafaxine have non-FDA labeled indications (medically accepted use) for hot flashes. **For Bone Density**: Alendronate, Actonel, Evista, Prolia

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	Estratest) Ethinyl estradiol / norethindrone (Activella, FemHRT)		
First Generation Antihistamines	Brompheniramine Carbinoxamine (Arbinoxa, Palgic) Chlorpheniramine Clemastine Cyproheptadine Dexbrompheniramine Dexchlorpheniramine Diphenhydramine (Benadryl) Doxylamine (Doxytex) Hydroxyzine (Vistaril) Promethazine (Phenergan) Triprolidine All combination products containing one of these medications	Elderly patients are more susceptible to anticholinergic adverse events including urine retention, confusion, and sedation.	**For Allergic Rhinitis**: Desloratadine, Azelastine (nasal), Fluticasone (nasal), Flunisolide (nasal), and Nasonex **For N/V**: Ondansetron (QL = 45/30) **For Pruritus**: Desloratadine, Topical steroids **For Anxiety**: SSRIs, buspirone, venlafaxine In addition, there are OTC Options for which coverage may vary depending on benefit plan: Loratadine (Claritin)
Narcotic Analgesics	Meperidine (Demerol) Pentazocine / APAP (Talacen) Pentazocine / naloxone (Talwin NX)	These specific medications are less effective than other narcotics and have more CNS adverse effects such as confusion and hallucina-tions. Also, their use increases the risk of falls and seizures.	**For Moderate Pain**: NSAIDs*, Tramadol, APAP with codeine **For Severe Pain**: Hydrocodone/APAP, Oxycodone, Oxycodone/APAP, Morphine * Gastroprotective therapy with a PPI recommended in chronic NSAID use
Oral Hypo-glycemics	Chlorpropamide (Diabinese) Glyburide (Diabeta)	Associated with an increased risk of hypoglycemia compared to other oral diabetes agents. Chlorpropamide has also been associated with hyponatremia and SIADH in the elderly.	Glipizide Glimepiride
Peripheral Vasodilators	Ergoloid mesylates Isoxsuprine	These agents are associated with increased risk of orthostatic hypo-tension in the elderly. In addition,	For prevention of stroke: Clopidogrel, Aggrenox, Aspirin Peripheral Vascular Disease:

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		they have not been shown to be effective for stroke prevention.	cilostazol For treatment of Alzheimer's / dementia: Galantamine Donepezil
Progestins	Megestrol (Megace, Megace ES)	Megestrol is substantially excreted by the kidney. Because elderly patients are more likely to have decreased renal function, there is an increased risk of toxicity, including adrenal suppression and thrombosis.	Medroxyprogesterone Dronabinol
Sedative Hypnotics	Chloral hydrate Eszopiclone (Lunesta) Zolpidem (Ambien, Ambien CR) Zaleplon (Sonata)	Impaired motor and/or cognitive performance after repeated exposure.	Consider non-pharmacologic interventions, focusing on proper sleep hygiene. Rozerem may be considered as a safer option with less abuse potential. Trazodone Mirtazapine Gabapentin Nortriptyline
Skeletal Muscle Relaxants	Carisoprodol (Soma) Cyclobenzaprine (Flexeril) Methocarbamol (Robaxin) Orphenadrine (Norflex) Metaxalone (Skelaxin) Chlorzoxazone (Parafon Forte) All combination products containing one of these medications	Most muscle relaxants are poorly tolerated in the elderly due to anti-cholinergic effects, sedation and cognitive impairment. In addition, these agents have abuse potential.	**For Spasticity**: Baclofen, Tizanidine, and Dantrolene **For Muscluloskeletal Pain**: oral NSAIDs*, Voltaren gel, duloxetine; May consider non-pharmacologic treatments, such as cryotherapy, heat, massage, stretching/exercise, and transcutaneous electrical nerve stimulation (TENS) * Gastroprotective therapy with a PPI recommended in chronic NSAID use

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Tertiary Amine Tricyclic Antidepressants (TCAs)	Amitriptyline Clomipramine Doxepin (>6 mg/day) Imipramine Trimipramine	Elderly patients are more susceptible to anticholinergic adverse events including urine retention, confusion, and sedation.	**For Depression / Anxiety / OCD**: - Secondary Amine TCAs (Nortriptyline, Protriptyline, Desipramine, Amoxapine) - SSRIs (Fluoxetine, Citalopram, Paroxetine, Sertraline) - SNRIs (Venlafaxine, Cymbalta) - Bupropion For neuropathic pain / fibromyalgia: - Gabapentin, duloxetine, Lyrica For prevention of migraine: Propranolol, Divalproex sodium, Topiramate
Thyroid Hormones	Dessicated thyroid (Armour thyroid, NP Thyroid, Nature-Throid, Westhroid)	Dessicated thyroid may increase the risk of cardiovascular events in the elderly, especially those with coronary artery disease.	Levothyroxine, Levoxyl, Levothroid Current guidelines recommend starting at a low dose and, once cardiovascular tolerance is established, slowly increasing until adequate replacement is achieved.
Urinary Anti-Infectives	Nitrofurantoin (Furadantin) Nitrofurantoin monohydrate/ macrocrystals (Macrobid) Nitrofurantoin macrocrystals (Macrodantin)	Nitrofurantoin is substantially excreted by the kidney. Since elderly patients are more likely to have decreased renal function, nitrofurantoin use is associated with an increased risk of pulmonary toxicity, neuropathy, and hepato-toxicity. In addition, there is a lack of efficacy in patients with a CrCl <60 mL/min due to inadequate drug concentration in the urine.	**For treatment of acute UTI**: Ciprofloxacin, Trimethoprim / sulfamethoxazole (TMP/SMX), Amoxicillin/clavulanate, Cefdinir, Cefaclor, Cefpodoxime, Suprax **For prevention of recurrent UTIs**: **Prescription options include**: TMP/SMX Non-prescription options include practicing good personal hygiene, avoiding baths, and wearing cotton underwear.

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