KAISER PERMANENTE® Safer Alternatives to Potentially High Risk Medications in the Elderly 2017

Endorsed by Pharmacy, Family Practice, OB-GYN, Allergy, Pulmonary, Cardiology, Neurology, Psychiatry, GI, and Diabetes Program

Therapeutic Class	High Risk Medication	Common Indications	Alternative Medication	Suggested Starting Sig
Antibiotics *Increased risk of pulmonary toxicity, peripheral neuropathy, & hepatotoxicity with long term use.*	**Nitrofurantoin** *May be drug of choice due to allergies, drug interactions, or resistance.*	Infection	Trimethoprim/sulfamethoxazole DS* Ciprofloxacin* Trimethoprim	1 DS tablet BID x 3 days* 250 mg BID x 3 days* 100 mg BID x 3 days **Dose for renal function*
Antidepressants *Strong anticholinergic and sedative properties leading to orthostatic hypotension, confusion, and falls. Anticholinergics increase risk for physical, functional, & cognitive decline.* *Includes combination products.*	**Amitriptyline** **Clomipramine** **Desipramine** **Doxepin** (>6mg/day) **Imipramine** **Nortriptyline** **Paroxetine** **Trimipramine**	Depression	Escitalopram Fluoxetine Sertraline Venlafaxine	10 mg QD 10 mg QD 12.5 - 25 mg QD 37.5-75 mg QD
		Headache/migraine prophylaxis	Propranolol IR Topiramate Divalproex DR	40mg BID 25 mg QPM 125 mg BID
		Pain	Non-pharmacologic treatment Acetaminophen Duloxetine Gabapentin Lidocaine topical (OTC) Capsaicin topical (OTC)	Acupuncture, exercise, physical therapy 325-500 mg TID *max 1500 mg daily* 30-60 mg daily 300-600 mg TID **Dose for renal function* Apply thin layer; follow package instructions. Apply thin layer; follow package instructions.
		Sleep *Limit pharmacologic treatment to 14 days or less.*	Non-pharmacologic treatment Melatonin (OTC) Doxepin 10 mg/mL oral solution Mirtazapine Trazodone	Sleep hygiene; cognitive behavior therapy 3 mg one hr before bedtime 3-6 mg 30-60 min before bedtime 7.5 mg one hr before bedtime 25-50 mg one hr before bedtime
Antiemetics *Strong anticholinergic and sedation properties.*	**Promethazine**	Nausea/Vomiting	Prochlorperazine Ondansetron	5 - 10 mg TID prn 4 - 8 mg q 12 prn
		Cough/Cold	Guaifenesin/Dextromethorphan	1 - 2 tsp Q4-6 hrs prn
Antihistamines *Strong anticholinergic and sedation properties. Clearance reduced with age. Anticholinergics increase risk for physical, functional, & cognitive decline.*	**Chlorpheniramine** **Clemastine** **Cyproheptadine** **Dimenhydrinate** **Diphenhydramine** **Doxylamine** **Hydroxyzine*** **Meclizine** **Promethazine** **Scopolamine** **May be appropriate as an alternative to a benzodiazepine for anxiety*	Allergies	Fluticasone nasal spray (OTC) Cetirizine Fexofenadine	2 sprays per nostril daily 5 mg QD 60 mg QD; *adjust for renal impairment*
		Dizziness	Identify and address underlying cause(s) of dizziness. Consider medication side effects, vertigo, cerebrovascular disease, neck disorders, visual impairment, physical deconditioning, disequilibrium due to peripheral neuropathy or parkinsonism, etc.	
		Itching/Rash	Cetirizine Loratadine Triamcinolone 0.025% cream	5 mg QD 10 mg QD Apply thin layer 2-4 times daily
		Sleep *Limit pharmacologic treatment to 14 days or less.*	Non-pharmacologic treatment Melatonin (OTC) Doxepin 10 mg/mL oral solution Mirtazapine Trazodone	Sleep hygiene; cognitive behavior therapy 3 mg one hr before bedtime 3-6 mg 30-60 min before bedtime 7.5 mg one hr before bedtime 25-50 mg one hr before bedtime
Antispasmodics *Strong anticholinergic properties. Should be used on as-needed basis (short-term).*	**Dicyclomine** **Hyoscyamine**	GI motility disorders/ IBS-D	Non-pharmacologic treatment Peppermint oil (OTC) Loperamide	Dietary adjustments, physical activity Variable; OTC available as liquid drops or capsules (e.g., Pepogest: 1 softgel TID) 2mg 45 minutes before a meal regularly

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Antipsychotics (typical & atypical) *Increased risk of stroke and greater risk of cognitive decline and mortality in persons with dementia.*	**Typical, all (e.g., haloperidol, fluphenazine, chlorpromazine, mesoridazine)** **Atypical, all (e.g., risperidone, olanzapine, quetiapine)**	Behavioral Problems in Dementia *Not FDA Approved Indication*	Avoid antipsychotics for behavioral problems of dementia or delirium unless non-pharmacologic options (e.g., behavioral interventions) have failed or are not possible AND the older adult is threatening substantial harm to self or others. Possible pharmacologic alternatives with some evidence include SSRIs (e.g., citalopram, sertraline) and anticonvulsants (e.g., carbamazepine, valproate, gabapentin).	
Barbiturates *High rate of physical dependence; tolerance to sleep benefits; risk of overdose at low dosages. Associated with increased fall risk and confusion. Includes combination products.*	**Butalbital** **Phenobarbital** **Secobarbital**	Headache	Acetaminophen/aspirin/caffeine Ibuprofen Naproxen	500 mg (aspirin) once, may repeat 400 mg once, may repeat if needed 500mg once, may repeat if needed
		Seizures	Appropriate alternatives (e.g., levetiracetam, lamotrigine) dependent on type of seizure disorder.	
Benzodiazepines (short, intermediate, and long-acting) *Older adults have increased sensitivity to benzodiazepines and decreased metabolism of long – acting agents; in general, all benzodiazepines increase risk of cognitive impairment, delirium, falls, fractures, and motor vehicles crashes in older adults.*	**Alprazolam** **Lorazepam** **Temazepam** **Triazolam** **Chlordiazepoxide** **Clonazepam** **Diazepam** **Flurazepam** *May be appropriate for seizure disorders, GAD, withdrawal, REM sleep disorders, & periprocedural anesthesia.*	Anxiety	Buspirone Escitalopram Fluoxetine Sertraline	5 - 10 mg BID 10 mg QD 10 mg QD 12.5 - 25 mg QD
		Sleep *Limit pharmacologic treatment to 14 days or less.*	Non-pharmacologic treatment Melatonin (OTC) Doxepin 10 mg/mL oral solution Mirtazapine Trazodone	Sleep hygiene; cognitive behavior therapy 3 mg one hr before bedtime 3-6 mg 30-60 min before bedtime 7.5 mg one hr before bedtime 25-50 mg one hr before bedtime
Cardiovascular Agents *Increased stroke, heart attack, syncope risk due to rapid decrease in blood pressure with alpha agonists, nifedipine IR, and dipyridamole* *Increased risk of toxicity with high-dose digoxin due to slow renal clearance*	**Guanabenz** **Methyldopa** **Guanfacine** **Reserpine** (>0.1 mg/day) **Nifedipine** (short acting)	Hypertension	Use preferred agents listed in GHC Hypertension Guideline. Avoid use of short-acting BP drugs due to risk of hypotension.	
	Digoxin (>0.125 mg/day) *If on digoxin >0.125 mg/day, get updated digoxin level, potassium, and creatinine labs, then adjust as needed. Individualize digoxin dose per clinical circumstances and digoxin level.*	Heart Failure	Optimize ACEI, beta-blocker, aldosterone antagonist, and/or ARB-neprilysin inhibitor before using digoxin. Goal digoxin level ≤1.0 ng/mL (ideally 0.5-0.8 ng/mL) in heart failure with reduced ejection fraction (HFrEF).	
		Atrial Fibrillation	Digoxin Diltiazem XT Verapamil SR Metoprolol tartrate Metoprolol succinate (2nd due to cost)	≤0.125 mg QD 120 mg QD 120 mg QD 25 mg BID 50 mg QD
	Dipyridamole IR (short acting)	Platelet Aggregation	Aspirin Clopidogrel	81 mg QD 75 mg QD
Endocrine	**Megestrol** *Increases risk of thrombotic events and possibly death in older adults.*	Weight gain	Avoid use due to minimal effect on weight gain.	
Estrogens (systemic) *Increased risk of cancer, cancer related death, and clots with systemic therapy. Lack of cardioprotective effect or cognitive protection. Includes combination and transdermal products. Acceptable to*	**Conjugated estrogen** **Estradiol** **Esterified estrogen** **Estropipate**	Osteoporosis	Alendronate Calcium and Vitamin D	70 mg per week 1200 mg and 800 IU daily
		Hot Flash	Non-pharmacologic treatment Venlafaxine Escitalopram Gabapentin	Keep cool environment, limit triggers, relaxation or behavioral therapy 37.5-75 mg daily 10 mg QD 600-900 mg QD

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use intravaginal estrogen.		Vaginal Atrophy	Estradiol Vaginal Tablet Estradiol Vaginal Cream Estradiol Vaginal Ring	Insert 1 tablet (10 mcg) daily for 2 weeks, then 1 tablet twice weekly Insert 2 g/day for 1-2 weeks, then 1 g 1-3 times per week Insert 2mg Estring, remains in place for 90 days
Hypoglycemics *Risk of severe hypoglycemia*	**Glyburide**	Diabetes	Glimepiride Glipizide	1 – 2 mg daily 5 mg BID
	Premixed insulins (70/30, 50/50)		Rapid or short-acting insulin with basal or long-acting insulin (Humulin N with Humalog)	Titrate appropriately.
Hypnotics/Sleepers *NOT "safer" than benzodiazepines. Increase risk of falls, fractures, delirium, ED visits, hospitalizations, vehicle crashes; minimal improvement in sleep latency and duration.*	**Zolpidem** **Eszopiclone** **Zaleplon**	Sleep *Limit pharmacologic treatment to 14 days or less.*	Non-pharmacologic treatment Melatonin (OTC) Doxepin 10 mg/mL oral solution Mirtazapine Trazodone	Sleep hygiene; cognitive behavior therapy 3 mg one hr before bedtime 3-6 mg 30-60 min before bedtime 7.5 mg one hr before bedtime 25-50 mg one hr before bedtime
Narcotics *CNS effects leading to increased confusion and toxicity risk.*	**Meperidine**	Pain	Morphine LA Ibuprofen + PPI (gastro-protection) Hydrocodone/APAP	15 mg BID 200 - 400 mg TID 5/325 mg ½ - 1 tab TID
NSAIDs *Increased risk of GI bleed, CNS effects, and acute kidney injury.*	**Ketorolac** **Indomethacin**	Pain	Acetaminophen Meloxicam + PPI (gastro-protection) Naproxen + PPI (gastro-protection)	325-500 mg TID *max 1500 mg daily* 7.5 mg QD 250 mg BID
Parkinson Agents	**Benztropine** **Trihexyphenidyl**	Parkinson Disease	Avoid use. Anticholinergics generally not tolerated in older adults.	
		Drug-induced Extrapyramidal Symptoms	Reduce the dose of offending agent (e.g. antipsychotic) or switch offending agent to an alternative (e.g., quetiapine).	
Skeletal Muscle Relaxants *High risk of sedation and falls. Cyclobenzaprine & orphenadrine have strong anticholinergic effects*	**Cyclobenzaprine** **Methocarbamol** **Carisoprodol** **Chlorzoxazone** **Metaxalone** **Meprobamate** **Orphenadrine**	Pain/Muscle spasms	Non-pharmacologic treatment Acetaminophen Naproxen + PPI (gastro-protection) Duloxetine Gabapentin Capsaicin (OTC)	Increase activity; heat/cold packs 325-500 mg TID *max 1500 mg daily* 250 mg BID 30 mg daily 300-600 mg TID **Dose for renal function* Apply thin layer; follow package instructions.
Thyroid *High risk of TSH suppression, risk of palpitations / arrhythmias*	**Desiccated thyroid, pork** **Liothyronine (Cytomel, T3)**	Hypothyroidism	Levothyroxine	Adjust to euthyroid