

CMS: High-Risk Medications

(Relevant for older people defined as greater than 65 years of age)

Drug classification	High-risk agents to Avoid (H) = considered Highest-risk ¹	Reason for Risk	Non-high risk alternatives Drug
Amphetamines	<ul style="list-style-type: none"> • amphetamine & dextroamphetamine (H) (<i>ADDERALL/XR</i>) • benzphetamine (H) (<i>DIDREX</i>) • dexmethylphenidate (H) (<i>FOCALIN/XR</i>) • dextroamphetamine (H) (<i>DEXADRINE, DEXTROSTAT</i>) • diethylpropion (H) (<i>DURAD, TENUATE, TEPANIL</i>) • <i>INTUNIV</i> (H) • methamphetamine (H) (<i>DESOXYN</i>) • methylphenidate (H) (<i>RITALIN/LA, CONCERTA, DAYTRANA, METADATE CD</i>) • phendimetrazine (H) (<i>BONTRIL</i>) • phentermine (H) (<i>ADIPEX-P</i>) 	CNS stimulation: agitation, insomnia; hypertension, myocardial ischemia; dependence; appetite suppression	Consider discontinuing

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Analgesics	<ul style="list-style-type: none"> indomethacin (<i>INDOCIN</i>) ketorolac (H) (<i>TORADOL</i>) 	<p>Ketorolac: Gastrointestinal bleeding risk increased in elderly.</p> <p>Indomethacin: GI bleeding/peptic ulcer in high-risk patients. Has more adverse effects than other NSAIDs. Edema may worsen heart failure.</p>	<p><u>mild pain:</u> APAP ibuprofen naproxen meloxicam</p> <p><u>moderate/severe pain:</u> <i>tramadol</i> <i>morphine sulfate (MS CONTIN)</i> <i>hydrocodone/APAP (VICODIN, etc)</i> <i>oxycodone (OXYIR)</i> <i>oxycodone/APAP (PERCOCET)</i> <i>fentanyl patch (DURAGESIC)</i> <i>OXYCONTIN</i> <i>AVINZA</i></p> <p><u>use lowest dose possible to avoid side effects and reduce pain</u></p>
Anti-adrenergics	<ul style="list-style-type: none"> guanabenz guanfacine (<i>TENEX</i>) methyl dopa (<i>ALDOMET</i>) methyl dopa/HCTZ (<i>ALCOLOR, ALDORIL</i>) 	Orthostatic hypotension, bradycardia, CNS adverse effects	HCTZ lisinopril enalapril losartan metoprolol
Anti-anxiety	<ul style="list-style-type: none"> meprobamate (H) (<i>EQUINIL</i>) aspirin/meprobamate (H) (<i>EQUAGESIC</i>) 	Dependence; sedation; depression; confusion; falls; fractures; respiratory depression (especially in COPD)	<p><u>anxiety:</u> <i>buspirone (BUSPAR)</i></p> <p><u>sleep:</u> ROZEREM</p>

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Anti-emetics	<ul style="list-style-type: none"> • trimethobenzamide (H) (<i>TIGAN</i>) • promethazine (H) (<i>PHENERGAN</i>) 	Anticholinergic side effects: worsened cognition & behavioral problems (especially in dementia); urinary retention OR incontinence; questionable efficacy	<i>TRANSDERM-SCOP</i> <i>ondansetron (ZOFTRAN)</i> <i>granisetron (KYTRIL)</i> <i>prochlorperazine (COMPAZINE)</i> <i>metoclopramide (REGLAN)*</i> *avoid using long-term and/or in Parkinson's disease
Antihistamines APAP= acetaminophen PSE= pseudoephedrine	<ul style="list-style-type: none"> • APAP/dextromethorphan/diphenhydramine (H) • APAP/diphenhydramine/phenylephrine (H) • APAP/diphenhydramine/PSE (H) • APAP & diphenhydramine (H) • Brompheniramine / combination products (H) • carbetapentane/diphenhydramine/phenylephrine (H) • carbinoxamine / combination products (H) • chlorpheniramine / combination products (H) • clemastine (H) • codeine/promethazine/phenylephrine (H) • codeine & promethazine (H) • cyproheptadine (H) • dexbrompheniramine-Pyrimamine (H) • dexchlorpheniramine • dexchlorpheniramine/dextromethorphan/PSE (H) • dexchlorpheniramine/guaifenesin/PSE (H) • dexchlorpheniramine/hydrocodone/phenylephrine (H) • dexchlorpheniramine/methscopolamine/PSE (H) • dexchlorpheniramine & PSE (H) • dextromethorphan & promethazine (H) • diphenhydramine (H) • diphenhydramine/hydrocodone/phenylephrine (H) • diphenhydramine & phenylephrine (H) • diphenhydramine & PSE (H) • diphenhydramine & magnesium salicylate (H) • doxylamine • hydroxyzine hydrochloride (H) • hydroxyzine pamoate (H) 	Anticholinergic side effects: worsened cognition & behavioral problems (especially in dementia); urinary retention OR incontinence; confusion; enhanced sedation;	<i>Levocetirizine (XYZAL)</i> <i>CLARINEX</i>

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	<ul style="list-style-type: none"> phenylephrine & promethazine (H) promethazine (H) triprolidine <p>Note: Various brand name drugs apply.</p>		
Antiparkinson/antipsychotics	<ul style="list-style-type: none"> benztropine (<i>COGENTIN</i>) trihexyphenidyl 	Delirium, worsen cognitive impairment, worsen constipation, worsen urinary retention; not recommended to prevent antipsychotic-associated extrapyramidal effects; not very effective for Parkinson's disease	Consider discontinuing or using atypical antipsychotic
Antipsychotics	<ul style="list-style-type: none"> thioridazine (H) (<i>MELLARIL</i>) 	CNS side effects; seizure risk; extrapyramidal effects: tremor, slurred speech, muscular rigidity, dystonia (involuntary muscle contractions), bradykinesia (slowing of movement), akathisia (inability to sit/stand still)	<i>haloperidol (HALDOL)</i> <i>risperidone (RISPERDAL)*</i> ABILIFY* FANAPT* GEODON* INVEGA* SEROQUEL* ZYPREXA* *atypical antipsychotics associated w/ increased mortality when used to treat behavioral issues in elderly w/ dementia

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Barbiturates	<ul style="list-style-type: none"> • butabarbital (H) (<i>BUTISOL</i>) • butalbital / combinations (H) (<i>FIORICET, FIORINAL, DOLGIC, ESGIC</i>) • mephobarbital (H) (<i>MEBARAL</i>) • pentobarbital (H) (<i>NEMBUTAL</i>) • phenobarbital (H) (<i>LUMINAL</i>) • secobarbital (H) (<i>SECONAL</i>) 	Higher risk of side effects: falls; fractures; confusion; cognitive impairment; dependence	<p><u>sleep:</u> ROZEREM</p> <p><u>mild pain:</u> APAP ibuprofen naproxen meloxicam</p> <p><u>moderate/severe pain:</u> tramadol morphine sulfate (<i>MS CONTIN</i>) hydrocodone/APAP (<i>VICODIN, etc</i>) oxycodone (<i>OXYIR</i>) oxycodone/APAP (<i>PERCOCET</i>) fentanyl patch (<i>DURAGESIC</i>) OXYCONTIN AVINZA</p>
Belladonna alkaloids CPM= chlorpheniramine PE=phenylephrine	<ul style="list-style-type: none"> • atropine/hyoscyamine/phenobarbital/scopolamine (H) (<i>BELLADONNA ALKALOIDS, DONNATAL, ANTISPASMODIC ELIXIR</i>) • atropine & edrophonium (<i>ENLON</i>) • belladonna (H) • belladonna/ergotamine/phenobarbital (H) (<i>BELLAMINE</i>) • butabarbital/hyoscyamine/phenazopyridine (H) (<i>PHENAZOPYRIDEINE PLUS, PHENAZOFORTE PLUS</i>) • digestive- enzymes/ hyoscyamine/ phenyltoloxamine (H) (<i>DIGEX NF</i>) 	Anticholinergic AEs: worsened cognition & behavioral problems (especially in dementia); urine retention; agitation & delirium	<p><u>constipation:</u> psyllium fiber (<i>METAMUCIL</i>) polyethylene glycol (<i>MIRALAX</i>) docusate</p> <p><u>diarrhea:</u> loperamide (<i>IMODIUM</i>) aluminum hydroxide atropine & difenoxin (<i>MOTOFEN</i>) atropine & diphenoxylate (<i>LOMOTIL, LONOX, LOGEN, LOMANATE</i>)</p>
Benzodiazepines (long-acting)	<ul style="list-style-type: none"> • amitriptyline & chlordiazepoxide (H) (<i>LIMBITROL DS</i>) 	Dependence; depression; prolonged sedation; confusion; falls; fractures; respiratory depression (especially in COPD); accumulation of drug	buspirone (<i>BUSPAR</i>) chlordiazepoxide (H) (<i>LIBRIUM</i>) diazepam (<i>VALIUM</i>) flurazepam (<i>DALMANE</i>)

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Calcium channel blockers	<ul style="list-style-type: none"> nifedipine (short-acting immediate release only) (H) (<i>ADALAT CC, PROCARDIA</i>) 	Hypotension; constipation	nifedipine ER (<i>PROCARDIAXL</i>)
Cardiac glycosides	<ul style="list-style-type: none"> digoxin (<i>LANOXIN, DIGITEK, LANOXICAPS</i>) 	No additional efficacy vs lower doses; toxicity due to reduced renal clearance	Consider discontinuing or dose reduction (e.g. 0.125mg) with monitoring

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Estrogens and progestins	<p>Oral</p> <ul style="list-style-type: none"> • ANGELIQ • conjugated estrogen (<i>PREMARIN, ESTINYL</i>) • conjugated estrogen & medroxyprogesterone (<i>PREMPRO, PREMPHASE</i>) • esterified estrogen (<i>MENEST</i>) • esterified estrogen & methyltestosterone (H) (<i>COVARYX, ESTRATEST</i>) • estropipate (<i>OGEN, ORTHO-EST</i>) • estradiol (H) (<i>ESTRACE, GYNODIOL</i>) (H) • estradiol/norethindrone (H) (<i>ACTIVELLA, MIMVEY</i>) • FEMHRT (H) • JEVANTIQUE (H) • JINTELI (H) • Megestrol (<i>MEGACE/ES</i>) (H) • ORTHOPREFEST (H) • PREFEST (H) <p>Transdermal</p> <ul style="list-style-type: none"> • estradiol patch (H) • ALORA patch (H) • ESTRASORB (H) • ESCLIM patch (H) • CLIMARA PRO patch (H) • COMBIPATCH (H) • VIVELLE-DOT patch (H) • MENOSTAR patch (H) • DIVIGEL topical gel (H) • ELESTRIN topical gel (H) • EVAMIST topical spray (H) 	Increased risk of breast &/or endometrial cancer; NOT cardioprotective	<p><u>Hot flashes*:</u></p> <ul style="list-style-type: none"> venlafaxine (<i>EFFEXOR</i>) paroxetine (<i>PAXIL</i>) fluoxetine (<i>PROZAC</i>) sertraline (<i>ZOLOFT</i>) gabapentin <p>* nondrug therapy should be emphasized</p> <p><u>Bone density:</u></p> <ul style="list-style-type: none"> Calcium vitamin D alendronate (<i>FOSAMAX</i>) ACTONEL Ibandronate (<i>BONIVA</i>) EVISTA <p><u>Genitourinary symptoms:</u></p> <ul style="list-style-type: none"> Femring Premarin vaginal cream Vagifem

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Narcotics ASA=aspirin APAP= acetaminophen	<ul style="list-style-type: none"> • ASA/caffeine/propoxyphene (<i>DARVON COMPOUND</i>) • APAP & pentazocine (H) (<i>TALACEN</i>) • APAP & propoxyphene (<i>DARVOCET</i>) • meperidine (H) (<i>DEMEROL</i>) • meperidine & promethazine (H) (<i>MEPROZINE</i>) • naloxone & pentazocine (H) (<i>TALWIN NX</i>) • pentazocine (H) (<i>TALWIN</i>) • propoxyphene hydrochloride (<i>DARVON</i>) • propoxyphene napsylate (<i>DARVON</i>) 	Enhanced CNS effects: confusion, hallucinations; falls; fractures; seizure risk	<u>mild pain:</u> APAP ibuprofen naproxen meloxicam <u>moderate/severe pain:</u> tramadol morphine sulfate (<i>MS CONTIN</i>) hydrocodone/APAP (<i>VICODIN, etc</i>) oxycodone (<i>OXYIR</i>) oxycodone/APAP (<i>PERCOCET</i>) fentanyl patch (<i>DURAGESIC</i>) <i>OXYCONTIN</i> <i>AVINZA</i>
Oral hypoglycemics	<ul style="list-style-type: none"> • chlorpropamide (H) (<i>DIABINESE, INSULASE</i>) • glyburide (<i>DIABETA, MICRONASE, GLYCRON, GLYNASE</i>) (H) • glyburide/metformin (<i>GLUCOVANCE</i>) (H) 	Prolonged hypoglycemia; risk of SIADH	glimepiride (<i>AMARYL</i>) glipizide (<i>GLUCOTROL</i>)
Sedative hypnotics	<ul style="list-style-type: none"> • chloral hydrate (<i>SOMNOTE</i>) (H) • <i>LUNESTA</i> (H) • zaleplon (<i>SONATA</i>) (H) • zolpidem (<i>AMBIEN/CR, INTERMEZZO, EDLUAR, ZOLPIMIST</i>) (H) 	Cognitive impairment, delirium, unsteady gait, syncope, falls, accidents, fractures, tolerance, delirium, risk of overdose (narrow therapeutic window – chloral hydrate)	Temazepam Trazodone ROZEREM <i>Limit use of sedative hypnotic to short-term use</i>

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Skeletal muscle relaxants ASA=aspirin	<ul style="list-style-type: none"> • ASA/caffeine/orphenadrine (H) • ASA/carisoprodol/codeine (H) • ASA & carisoprodol (H) • ASA & methocarbamol (H) • carisoprodol (H) (<i>SOMA</i>) • chlorzoxazone (H) (<i>PARAFON FORTE</i>) • cyclobenzaprine (H) (<i>FLEXERIL, AMRIX, FEXMID</i>) • metaxalone (H) (<i>SKELAXIN</i>) • methocarbamol (H) (<i>ROBAXIN</i>) • orphenadrine (H) (<i>NORFLEX</i>) 	Anticholinergic side effects: worsened cognition & behavioral problems (especially in dementia); urinary retention OR incontinence; confusion sedation; weakness; questionable efficacy (at lower doses)	baclofen (<i>LIORESAL</i>) tizanidine (<i>ZANAFLEX</i>)
Tricyclic antidepressants	<ul style="list-style-type: none"> • amitriptyline/combinations (<i>ELAVIL, VANATRIP</i>) (H) • clomipramine (<i>ANAFRANIL</i>) (H) • doxepin (<i>SINEQUAN, SILENOR</i>) (H) • imipramine (<i>TOFRANIL</i>) (H) • Trimipramine (<i>SURMONTIL</i>) (H) 	Anticholinergic effects (e.g., confusion, dry mouth, constipation), cognitive impairment, delirium, sedation, orthostatic hypotension	nortriptyline desipramine trazodone (<i>low dose</i>)
Vasodilators	<ul style="list-style-type: none"> • dipyridamole (short-acting only) (<i>PERSANTINE</i>) • ergot mesyloid (<i>ERGOMAR</i>) • isoxsuprine (<i>VASODILAN</i>) 	Orthostatic hypotension; ineffective for stroke prevention; unproven &/or questionable efficacy	<u>stroke prevention:</u> aspirin <i>PLAVIX</i> <i>AGGRENOX</i> <u>Alzheimer's/dementia:</u> galantamine rivastigmine <i>ARICEPT</i> <i>EXELON</i>

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Other (androgen, anabolic steroid; thyroid drug; urinary anti- infectives, psych, cardiac)	<ul style="list-style-type: none"> • methyltestosterone (H) (<i>ANDROID, TESTRED</i>) • nitrofurantoin (H) (<i>FURADANTIN</i>) • nitrofurantoin macrocrystals (H) (<i>MACRODANTIN</i>) • nitrofurantoin macrocrystals-monohydrate (H) (<i>MACROBID</i>) • thyroid desiccated (H) (<i>ARMOUR THYROID</i>) • <i>SERENTIL</i> (H) • ergoloid (<i>HYDERDINE</i>) (H) • reserpine/combinations (H) • ticlopidine (<i>TICLID</i>) (H) 	Methyltestosterone = cardiac side effects & prostatic enlargement in men Nitrofurantoin = nephrotoxicity (kidney) Thyroid desiccated = cardiac AEs	NA <u>urinary tract infections</u> ciprofloxacin trimethoprim-sulfamethoxazole (<i>BACTRIM DS</i>) <u>thyroid:</u> levothyroxine (<i>SYNTHROID</i>) levoxyl <u>anti-platelet</u> clopidogrel

References

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