

## POTENTIALLY INAPPROPRIATE MEDICATIONS IN THE ELDERLY

Table 1. List of Targeted Medications

MEDICATION OR CATEGORY	PRESCRIBING CONCERN	ALTERNATIVES TO CONSIDER WHEN APPROPRIATE
<b>2006 HEDIS Measures</b>		
<b>Antianxiety</b> <b>Equagesic, Miltown, Equanil</b> (meprobamate)	Highly addictive and sedating anxiolytic. Taper off slowly.	Medium or short-acting benzodiazepines, such as Ativan* (<3mg/day) or Serax*(< 60mg/day)
<b>Antiemetic: Tigan</b> (trimethobenzamide)	Extrapyramidal side effects.	N/A
<b>Analgesic : Toradol</b> (ketorolac)	Significant GI side effects (bleeding).	Limit to 5-day treatment duration.
<b>Antihistamines</b> <b>Benadryl</b> (diphenhydramine) <b>Periactin</b> (cyproheptadine) <b>Phenergan</b> (promethazine) <b>Polaramine</b> (dexchlorpheniramine) <b>Vistaril</b> (hydroxyzine) <b>Tripelennamine</b>	Has potent anticholinergic effect that may lead to sedation and confusion. Not recommended for hypnotic use. Use the smallest dose possible to treat emergent allergic reactions.	Consider a non-sedating antihistamine for long-term allergy use (e.g., Claritin OTC).
<b>Antipsychotics: Mellaril</b> (thioridazine)	CNS and extrapyramidal side effects.	Consider atypical: Risperdal
<b>Amphetamines/Anorexic agents</b> <b>Adderall</b> (amphetamine mixtures) <b>Adipex</b> (phentermine) <b>Cyclert</b> (pemoline) <b>Didrex</b> (benzphetamine) <b>Dexedrine</b> (dextroamphetamine) <b>Desoxyn</b> (methamphetamine) <b>Prelu-2</b> (phendimetrazine) <b>Ritalin</b> (methylphenidate) <b>Tenuate</b> (diethylpropion)	These drugs have potential for causing dependence, hypertension, angina and myocardial infarction.	N/A
<b>Barbiturates /Phenobarbital</b> <b>Alurate</b> (aprobarbital) <b>Butisol</b> (butabarbital) <b>Mebaral</b> (mephobarbital) <b>Nembutal</b> (pentobarbital) <b>Seconal</b> (secobarbital) <b>Tuinal</b> (amobarbital/secobarbital)	Highly addictive and cause more adverse effects than most sedative or hypnotic drugs in elderly patients.	N/A
<b>Long-acting Benzodiazepines</b> <b>Dalmane</b> (flurazepam) <b>Librium</b> (chlordiazepoxide) <b>Librax</b> (clidinium/chlordiazepoxide) <b>Limbitrol</b> (chlordiazepoxide/amitriptyline) <b>Valium</b> (diazepam)	These have a longer half-life in the elderly, producing prolonged sedation and increasing the incidence of falls and fractures.	Medium or short-acting benzodiazepines, such as: Ativan*(<3 mg/day) or Serax*(< 60 mg/day)
<b>Calcium Channel Blockers</b> <b>Procardia, Adalat</b> (nifedipine)	Potential for rebound hypertension or constipation.	Consider long-acting nifedipine (Procardia XL) or Norvasc, Plendil*
<b>Gastrointestinal Antispasmodic</b> <b>Bentyl</b> (dicyclomine)	Highly anticholinergic.	Avoid long-term use. Consider an SSRI for anxiety-related GI Sx.
<b>Belladonna alkaloids</b> <b>Atropine sulfate, Belladonna</b> <b>Donnatal</b> (belladonna/phenobarb) <b>Levsin, Levsinex</b> (hyoscyamine) <b>Pro-Banthine</b> (propantheline) <b>Transderm-Scop</b> (scopolamine)	Highly anticholinergic and generally produces substantial toxic effects in the elderly. Additionally, effectiveness at doses tolerated by the elderly is questionable.	Avoid long-term use. May consider an SSRI if patient is being treated for anxiety-related GI symptoms.
<b>Skeletal muscle relaxants</b> <b>Soma</b> (carisoprodol) <b>Paraflex</b> (chlorzoxazone) <b>Flexeril</b> (cyclobenzaprine)	Centrally-acting muscle relaxant which causes sedation and anticholinergic adverse effects.	Avoid muscle relaxants if possible (poorly tolerated in elderly).

MEDICATION OR CATEGORY	PRESCRIBING CONCERN	ALTERNATIVES TO CONSIDER WHEN APPROPRIATE
<b>Skelaxin</b> (metaxalone) <b>Robaxin</b> (methocarbamol) <b>Norflex</b> (orphenadrine)		
<b>Oral estrogen</b> (Premarin, Ogen, Menest)	Not cardio-protective and carcinogenic potential for breast and endometrium.	Weigh risk versus benefit. Not routinely recommended for osteoporosis.
<b>Oral Hypoglycemics</b> <b>Diabinese</b> (chlorpropamide)	Prolonged half-life. Risk of hypoglycemia and SIADH.	Consider a second-generation sulfonylurea, such as: Glucotrol*
<b>Darvocet</b> (propoxyphene/acetaminophen) <b>Darvon</b> (propoxyphene) <b>Darvon-N</b> (propoxyphene)	These products have few analgesic advantages over acetaminophen with increased adverse effects, including confusion and hallucinations.	Other moderate pain relievers, such as: Tylenol or NSAIDs*/Cox-2 inhibitors, Tylenol w/codeine* or Vicodin*
<b>Demerol</b> (meperidine)	May cause CNS side effects (confusion or seizure).	Consider alternatives (morphine)
<b>Talwin</b> (pentazocine) <b>Talacen</b> (pentazocine/acetaminophen) <b>Talwin NX</b> (pentazocine/naloxone) <b>Talwin Cmpd</b> (pentazocine/aspirin)	This narcotic analgesic causes a higher incidence of CNS side effects than other narcotic drugs, including confusion and hallucinations.	Other moderate pain relievers, such as: Tylenol or NSAIDs* Tylenol w/codeine* or Vicodin*
<b>Vasodilators</b> <b>Cyclospasmol</b> (cyclandelate) <b>Persantine</b> (dipyridamole)-short acting <b>Hydergine</b> (ergot mesyloids) <b>Vasodilan</b> (isoxsuprine)	Cyclospasmol and Vasodilan: Lack of efficacy Persantine: May cause orthostatic hypotension	Avoid use if possible
<b>Macrochantin</b> (nitrofurantoin)	Can potentially lead to renal impairment.	Bactrim DS* Vibramycin*
<b>Desiccated thyroid</b>	Concerns about cardiac effect.	Levothyroid* (levothyroxine)
<b>Android, Virilon, Testred</b> (methyltestosterone)	Potential for prostatic hypertrophy and cardiac effect.	Avoid use if possible
<b>Non - HEDIS Measures</b>		
<b>Norpace, Norpace CR</b> (disopyramide)	Most potent negative inotrope and may induce heart failure.	Consider an alternate anti-arrhythmic drug.
<b>NSAIDs</b> <b>Indocin, Indocin SR</b> (indomethacin)	These products produce CNS side effects.	Consider short-term use of NSAIDs or long-term use of Cox-2 inhibitors if chronic treatment is necessary.
<b>Tagamet</b> (cimetidine)	Common CNS side effects and potential for drug-drug interactions.	Consider an alternate H2 antagonist: Zantac*, Papsid* or Axid*
<b>Ticlid</b> (ticlopidine)	Diarrhea and leuko	Consider an alternative (e.g., low dose aspirin or Plavix).
<b>Tricyclic antidepressants</b> <b>Elavil</b> (amitriptyline) <b>Limbitrol, Limbitrol DS</b> (amitriptyline/chlordiazepoxide) <b>Sinequan</b> (doxepin)	These antidepressants have strong anticholinergic and sedating properties and are rarely the antidepressant of choice in the elderly.	Consider an antidepressant with less sedation and fewer anticholinergic effects, such as: Pamelor* Norpramin* (If using a combination product with an anti-anxiety agent added such as Limbitrol or Limbitrol DS, consider an alternative antidepressant with a separate agent for anxiety.)

\*Available in generic

These potentially inappropriate medications in the elderly were selected for review based on recent literature in the Archives of Internal Medicine 2003;163:2716-2724 and newer HEDIS measures. Please review this information and consider prescribing an alternative when appropriate. This information is not intended to replace your clinical judgment. Treatment should be individualized based on patient history and clinical circumstances.