

Figure 1. Propoxyphene (Darvon) & Combination Products (Darvon w/ ASA, Darvon-N & Darvocet-N)

Appropriate for Use in the Elderly?

No

Propoxyphene is an opioid analgesic that has been available for many years, despite limited efficacy even when compared with acetaminophen or aspirin. Propoxyphene may cause constipation and cognitive impairment, as well as other CNS effects. Several epidemiologic studies have identified an association between cognitive impairment with propoxyphene and an increased risk of falls and fractures in elderly adults. In addition, many propoxyphene products also contain acetaminophen which may result in unintentional overdoses and hepatotoxicity if the elderly individual is taking other RX or OTC products containing this acetaminophen.

Instead

Consider acetaminophen (alone or in combination with codeine), ibuprofen, celecoxib, or short-term naproxen.
Consider narcotics such as morphine for severe pain.

Figure 2. Indomethacin (Indocin & Indocin SR)

Appropriate for use in the elderly?

No

Indomethacin produces the most CNS adverse effects such as headache, vertigo, and dizziness of all NSAIDs when used chronically. Although all NSAIDs may increase the risk of serious GI complications such as perforation, obstruction and hemorrhage (especially in elderly patients), potent agents such as indomethacin also have an increased risk over other NSAID and COX-2 inhibitors. Acute renal failure, hypertension, and worsening heart failure also occur in elderly patients.

Use topical agents if appropriate (ie. Lidocaine patch)
Acetaminophen is the drug of choice for mild/moderate musculoskeletal pain, while opioid analgesics are typically for moderate/severe nociceptive pain in the elderly. Use NSAIDs with caution because of ceiling effect and renal and gastrointestinal adverse effects. **Start with lowest dose and increase gradually.**

Ibuprofen: 2400mg/24 hours (every 8 to 12 hours)

Choline magnesium trisalicylate: 5500mg/24 hours (every 8-12 hours)

Celecoxib: osteoarthritis 200mg QD or in divided doses
rheumatoid arthritis; 100-200mg BID

Consider concomitant use of a PPI to prevent peptic ulcer disease.

Tramadol is also an alternative analgesic agent.

Instead

Figure 3. Ketorolac (Toradol)

Appropriate for Use in the Elderly?

No

Ketorolac has significant adverse effects including serious GI complications such as perforation, obstruction and hemorrhage especially in elderly patients. Ketorolac is not appropriate for chronic use. Acute renal failure, hypertension, and worsening heart failure also occur in elderly patients.

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Choline magnesium trisalicylate: 5500mg/24 hours (every 8-12 hours)

Celecoxib: osteoarthritis 200mg QD or in divided doses
rheumatoid arthritis; 100-200mg BID

Consider concomitant use of a PPI to prevent peptic ulcer disease in elderly patients taking higher dosages of NSAID chronically.

Tramadol is also an alternative analgesic agent.

Instead

Figure 4. Piroxicam (Feldene)

Appropriate for Use in the Elderly?

No

Piroxicam has significant adverse effects including serious GI complications such as perforation, obstruction and hemorrhage especially in elderly patients. Acute renal failure, hypertension, and worsening heart failure also occur in elderly patients.

Use topical agents if appropriate (ie. Lidocaine patch)
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Consider concomitant use of a PPI to prevent peptic ulcer disease in elderly patients taking higher dosages of NSAID chronically.

Tramadol is also an alternative analgesic agent.

Instead

Figure 5. Doxazosin (Cardura)

Appropriate for Use in the Elderly?

No

Doxazosin has been a useful drug for treating hypertension and BPH which are present commonly in many elderly men. Unfortunately doxazosin, similar to prazosin and terazosin, has a significant potential for dizziness and postural hypotension which may increase the risk of falls and fractures. In addition, the drug may cause dry mouth, somnolence, and asthenia. In the Medical Therapy of Prostatic Symptoms (MTOPS) study, doxazosin did not decrease the risk of acute urinary retention and the need for invasive therapy in men with progressive BPH unlike finasteride (alone or in combination with doxazosin). The Antihypertensive and Lipid Lowering Treatment to Prevent Heart Attack Trial (ALLHAT) also demonstrated a significantly increased risk of heart failure with doxazosin as compared with chlorthalidone. Although combining doxazosin with other antihypertensive agents may lessen HF risk, current data suggest that it is not eliminated.

Instead

Tamsulosin and alfuzosin are preferred for BPH symptoms.

If doxazosin must be used for HTN, it should be used in combination with other antihypertensive drugs.

Figure 6. High Dose Digoxin (Lanoxin)
(> 0.125 mg daily)

Appropriate for Use in the Elderly?

No

Digoxin continues to have a role in the management of heart failure and atrial fibrillation (AF). Digoxin is considered an adjunctive therapy in HF where it has been shown to reduce hospitalizations for worsening HF. However ACE inhibitors (or ARBs) and beta-blockers such as carvedilol are preferred therapies because of established benefits on morbidity and mortality in patients with HF. Although digoxin may be useful for rate control in AF, beta-blockers, diltiazem and verapamil are preferred for many patients with AF. (Anticoagulation remains a key therapy in AF.) Dosages of digoxin greater than 0.125mg daily may result in toxicity due to the decreased renal function commonly present in elderly patients.

Instead

Diltiazem, verpamil, and/or metoprolol may be appropriate alternatives depending on the individual patient. Consider other drugs for rate control in atrial fibrillation

Maintain digoxin concentrations between
0.5 to 1.0 ng/ml

Figure 7. Amiodarone (Cordarone)

Appropriate for Use in the Elderly?

No

Amiodarone is an important drug in the management of arrhythmias, however, published evidence of its safety and efficacy in elderly is still limited. Major studies such as the Atrial Fibrillation Follow-up Investigation of Rhythm Management (AFFIRM) have enrolled elderly patients, but the mean age was only 70 years. AFFIRM and other studies have generally not supported the superiority of rhythm over rate control in AF. In addition, adverse effects from antiarrhythmic agents have been common. Amiodarone has been associated with prolongation of the QT interval and precipitating torsade de pointes especially in the presence of risk factors such as hypokalemia and hypomagnesemia, although its risk may be lower than that of quinidine, sotalol and other antiarrhythmic agents. In addition, amiodarone carries a significant risk of hyper- or hypothyroidism (the latter especially in elderly patients), as well as pulmonary and ophthalmologic adverse effects. Drugs interactions can be common including with warfarin. Appropriate anticoagulation is a key therapy for preventing stroke in patients with AF.

Instead

Beta-blockers, diltiazem, and verapamil are preferred for rate control over antiarrhythmic agents in AF.

Use of warfarin (therapeutic INR) decreases risk of cardioembolic stroke. Aspirin may be preferred in low risk patients.

Figure 8. Amitriptyline (Elavil), Chlordiazepoxide-amitriptyline (Limbitrol), Perphenazine-amitriptyline (Triavil)

Appropriate for Use in the Elderly?

No

Amitriptyline should not be used as first-line antidepressant therapy in elderly patients because of strong anticholinergic and sedative properties. In addition, cardiac toxicity is more likely to occur in the presence of underlying cardiac disease. Amitriptyline may cause significant orthostatic hypotension in older adults even in lower dosages, thereby increasing the risk of falls and fractures. Although nortriptyline or desipramine may be used if a TCA is required, alternatives such as sertraline or citalopram generally are preferred as they may be safer in elderly patients."

Instead

Sertraline, citalopram, escitalopram, mirtazepine, and bupropion may be preferred depending on the patient's comorbid conditions.

Figure 9. Doxepin (Sinequan)

Appropriate for Use in the Elderly?

No

Doxepin should not be used as first-line antidepressant therapy in elderly patients because of strong anticholinergic and sedative properties. In addition, cardiac toxicity is more likely to occur in the presence of underlying cardiac disease. Doxepin may cause significant orthostatic hypotension in older adults even in lower dosages, thereby increasing the risk of falls and fractures. Although nortriptyline or desipramine may be used if a TCA is required, alternatives such as sertraline or citalopram generally are preferred as they may be safer in elderly patients."

Instead

Sertraline, citalopram, escitalopram, mirtazepine, and bupropion may be preferred depending on the patient's comorbid conditions.

Figure 10. Daily Fluoxetine (Prozac)

Appropriate for Use in the Elderly?

No

Although the daily administration of fluoxetine in healthy older adults has been shown to be safe and effective in clinical trials, concern exists because of the prolonged half-life of fluoxetine and nor-fluoxetine especially in more medically complex elderly patients. In addition, a risk of producing excessive CNS stimulation, sleep disturbances, and increasing agitation exists especially with daily fluoxetine. Fluoxetine may also cause multiple drug interactions. Safer alternatives such as sertraline or citalopram exist.

Instead

Sertraline, citalopram, escitalopram, mirtazepine, and bupropion may be preferred depending on the patient's comorbid conditions

Figure 11. High Dose Short-Acting Benzodiazepines [for Anxiety]

Lorazepam (Ativan) 3 mg, Oxazepam (Serax) 60 mg, Alprazolam (Xanax) 2 mg, Temazepam (Restoril) 15 mg, and Triazolam (Halcion) 0.25 mg.

Appropriate for Use in the Elderly?

No

Because of increased sensitivity to benzodiazepines in elderly patients, smaller doses may be effective as well as safer. Total daily doses should rarely exceed the suggested maximum.

Instead

Lorazepam < 2 mg/d
Oxazepam < 60 mg/d
Alprazolam < 0.75 mg/d

**Figure 12. Long Acting Benzodiazepines
(Chlordiazepoxide [Librium], chlordiazepoxide+amitriptyline [Librax],
clidinium+chlordiazepoxide [Librax], Diazepam [Valium], Quazepam [Doral],
Halazepam [Paxipam], Clorazepate [Tranxene])**

Appropriate for use in the elderly?

No

Older benzodiazepines (BZDP) such as diazepam, have a prolonged half-life due to their lipid solubility and the presence of active metabolites. In elderly patients, their half-life may potentially exceed several days, resulting in prolonged sedation and increasing the risk of falls and fractures.

Short- and intermediate-acting BZDP are preferred if a benzodiazepine is actually required.

Instead

Evaluate need for drug; Consider possible alternatives with possible gradual dosage reduction and/or discontinuation

Anxiolytics:

Alprazolam: 0.125-0.25mg BID; NTE 4mg QD

Buspirone 5mg BID; up to 20-30mg QD: NTE 60mg QD

Lorazepam: 0.5mg BID to TID; NTE 3mg/day

Oxazepam: 10mg BID to TID; NTE 60mg/day

Sedative/Hypnotics:

Zolpidem: 5mg QHS; NTE mg/day

Temazepam 7.5mg QHS; up to 15mg PRN

Zaleplon 5mg QHS; NTE 7-10 days

Figure 13. Skeletal Muscle Relaxants (Methocarbamol [Robaxin], Carisoprodol [Soma], Chlorzoxazone [Paraflex], Metaxalone [Skelaxin], Cyclobenzaprine [Flexeril])

Appropriate for use in the elderly?

No

Most skeletal muscle relaxants are poorly tolerated by elderly patients. Some drugs, including cyclobenzaprine, may have anticholinergic adverse effects as well as causing sedation and weakness. Agents such as carisoprodol are metabolized to meprobamate which has a significant abuse potential. In addition, effectiveness of these drugs at dosages tolerated by elderly patients is questionable. The long-term safety and efficacy of skeletal muscle relaxants for chronic low back pain is unclear and not recommended.

Instead

Non-drug modalities should be tried first for back pain. Acetaminophen, ibuprofen or short-term naproxen should be tried for low back pain.

Patients must be monitored individually for cause of muscle spasm. Spasticity: Multidisciplinary care and education are needed regarding factors such as proper seating, proper footwear, or underlying problems which may be worsen spasticity.

Appropriate Alternatives to Consider³:

Baclofen: 40 to 100mg daily in divided doses

Tizanidine (Zanaflex): Initial dose 4mg, may be increased by 2 to 4 mg. NTE 36mg/day.

Figure 14. Oxybutynin [Ditropan-excludes Ditropan XL]

Appropriate for use in the elderly?

No

Regular release products containing oxybutynin, a urinary antispasmodic agent, may be poorly tolerated by many elderly patients.

Anticholinergic effects are common and include confusion and agitation in addition to traditional anticholinergic effects of constipation and tachycardia. In addition, their effectiveness at dosages tolerated by elderly patients is questionable.

Instead

Use extended release or transdermal formulations of oxybutynin and newer drugs for urinary incontinence such as long-acting tolterodine (Detrol LA) and others.

Figure 15. Anticholinergic Antihistamines
(Chlorpheniramine [Chlor-trimeton], Diphenhydramin [Benadryl], Hydroxyzine [Atarax & Vistaril], Cyproheptadine [Periactin], Promethazine [Phenergan], Tripeleennamine, Dexchlorpheniramine [Polaramine])

Appropriate for use in the elderly?

No

Some nonprescription and prescription antihistamines have potent anticholinergic properties. In addition to traditional anticholinergic symptoms of constipation, urinary retention, and blurred vision, these drugs may cause confusion and delirium, especially if other drugs with anticholinergic properties are present. Nonanticholinergic antihistamines are preferred in elderly patients especially when needing to treat allergies chronically.

Consider the following alternatives

Loratidine 10mg QD; 10mg every other day in renal or hepatic failure.

Cetirizine 10mg QD; Decrease by 50% in renal or hepatic failure.

Fexofenadine 60mg BID or 180mg QD; 60mg QD in renal failure.

Instead