


Case Study

Medications with Increased Risk for Elderly Patients

A woman brings her 85-year old mother to see you in your office for a new patient visit, routine checkup, and review of her medications. The patient has recently moved from another state to live with her daughter. She has a history of Alzheimer's disease, as well as a history of "some sleep troubles." Her previous physician prescribed a low dosage of amitriptyline to help her fall asleep. Your physical examination of the patient today is unremarkable. During the review of the patient's medication, you question the safety of the amitriptyline. You turn to the "ACE Card" to review concerns about the medication and alternative approaches to care. MPM



ACE Cards™


Medications with Increased Risk for the Elderly


Acute Care for the Elders (ACE) Program
Aurora Sinai Medical Center/UW Medical School of Medicine & Public Health

Medications of Risk	Concerns	Alternatives
Long acting benzodiazepines Diazepam Flurazepam Chlordiazepoxide	Prolonged half-life (up to several days). Confusion, oversedation, falls, & increased mortality.	Short acting benzodiazepines: Lorazepam 0.5-1mg prn anxiety Temazepam 7.5mg prn insomnia
Tricyclic antidepressants, tertiary amines Amitriptyline Doxepin Imipramine	Anticholinergic effects: Confusion, oversedation, orthostasis, falls, urinary retention, constipation, increased intraocular pressure, & cardiac arrhythmias.	Depression: Consider SSRI. Avoid fluoxetine. Neuropathic pain Gabapentin Nortriptyline (low dose) Duloxetine
Conventional antipsychotics Chlorpromazine Thioridazine Haloperidol	Anticholinergic effects: See above. Extrapyramidal effects (EPS): bradykinesia/akinesia, stiffness, cogwheel rigidity, akathisia, & tardive dyskinesia.	Behavioral approach. Haloperidol 0.5-1mg. - Least anticholinergic. Risperidone 0.5-1mg. - Least EPS.
Antihistamines Diphenhydramine Hydroxyzine	Anticholinergic effects: See above.	Loratadine Fexofenadine Cetirizine
Antiemetics, Phenothiazines Promethazine Prochlorperazine Trimethobenzamide	Anticholinergic effects: See above. Extrapyramidal effects (EPS): See above.	Treat underlying cause. Prochlorperazine 5mg IV for a short length of therapy only. Contraindicated in Parkinson's disease pts. Ondansetron 2mg IV

References:

- Fick DM, Cooper JW, Wade WE, et al. Updating the Beers criteria for potentially inappropriate medication use in older adults. *Arch Intern Med* 2003; 163:2716-2724.
- Chatka DS, Takahashi PY, Hoel RW. Inappropriate medications for elderly patients. *Mayo Clin Proc* 2004; 79: 122-139.






ACE Cards™

Medications with Increased Risk for the Elderly

Medications of Risk	Concerns	Alternatives
Analgesics NSAIDs Ibuprofen Naproxen Indomethacin Ketorolac Opiates Propoxyphene → Meperidine →	NSAIDs: GI bleed (especially with concurrent anticoagulants or prednisone), nephrotoxicity, hyperkalemia, fluid retention, increased BP, CNS effects. Opiates: Confusion, oversedation, & constipation. → Decreased balance, falls, CNS → depression. Few additional benefits vs. APAP alone. → Potentially toxic metabolites. →	APAP 0.5-1g TID scheduled May add codeine 15mg or oxycodone 5mg Celecoxib 100mg BID for short-term therapy APAP, codeine, or oxycodone (see doses above) Morphine sulfate 1-2mg IV q2h PRN Hydromorphone 0.1-0.2mg IV q2h PRN
GI/GU antispasmodics Dicyclomine Hyoscyamine Oxybutynin Tolterodine	Anticholinergic effects: Confusion, oversedation, orthostasis, falls, urinary retention, constipation, increased intraocular pressure, & cardiac arrhythmias.	Behavioral approach Use lowest dose possible, for short length of therapy. Long-acting oxybutynin and tolterodine are safer alternatives.
Muscle relaxants Carisoprodol Cyclobenzaprine	Anticholinergic effects: See above. Also, prolonged half-lives.	Avoid if possible. Consider physical therapy. Lidocaine patch
Ferrous sulfate at doses greater than 325mg daily	Increased risk of constipation with a minimal increase in efficacy.	If high doses needed, add a stool softener such as docusate.
Digoxin at doses greater than 0.125mg daily for heart failure	Arrhythmias, anorexia, nausea, vision changes, & confusion.	Use 0.125mg daily Monitor for signs and symptoms of toxicity. Monitor levels.
Nitrofurantoin if Cr _{CL} is less than 50 ml/min	Increased risk of peripheral neuropathy. Less effective when Cr _{CL} is less than 30 ml/min.	Consider other antibiotics if sensitivities allow.

This card is not intended as a substitute for clinical judgment.

Justin Dähmer, PharmD candidate, Katherine Claxton, PharmD, Lynne Spearbraker, PharmD, & Michael Malone, MD - Revised 12/06



This ACE (Acute Care for the Elders) Card® on *Medications with Increased Risk for Elderly Patients* was developed by Dr. Michael Malone, Medical Director of Senior Services, at Aurora Health Care in Milwaukee, WI. These geriatric care reminder cards will be published in *MPM* as resources to help clinicians manage common conditions that plague elderly patients. The complete series of cards can be ordered from Dr. Malone at Michael.Malone.MD@aurora.org.