



Clinical Pharmacology & Toxicology Pearl of the Week

~ Medication Use in Older Adults – Beers Criteria ~

- ✓ Because of physiological deterioration, increasing comorbidities, polypharmacy, and other age-related factors, adults generally become more susceptible to adverse drug events with advancing age.
- ✓ The Beers Criteria for Potentially Inappropriate Medication Use in Older Adults (“Beers List”), are guidelines from the American Geriatric Society for healthcare professionals to help improve the safety of prescribing medications for older adults.
- ✓ The criteria are intended for use in adults 65 years and older in all ambulatory, acute, and institutionalized settings of care, except for the hospice and palliative care settings.
- ✓ These criteria include lists of medications in which the potential risks may be greater than the potential benefits for people 65 and older.
- ✓ The intention of the Beers Criteria is to improve medication selection, educate clinicians and patients, reduce adverse drug events, and serve as a tool for evaluating quality of care, cost, and patterns of drug use of older adults.
- ✓ The criteria also include drug-drug interactions to avoid and dose recommendations in older adults with poor creatinine clearance.
- ✓ Some examples of drugs that the Beers criteria group recommends avoiding in older adults include:
 - anticholinergic agents (e.g. diphenhydramine, dimenhydrinate, scopolamine, benztrapine, TCAs)
 - clonidine
 - some peripheral alpha-1 blockers (e.g. prazosin, terazosin)
 - digoxin as first line treatment for atrial fibrillation
 - barbiturates
 - benzodiazepines
 - the “Z drugs” (zolpidem, zopiclone)
 - rapid acting insulin sliding scales
 - metoclopramide
 - NSAIDS (chronic use)
 - skeletal muscle relaxants (e.g. cyclobenzaprine)
 - immediate release nifedipine
 - long-acting sulfonylureas
 - proton pump inhibitors for > 8 weeks
 - antipsychotics (unless using for psychiatric illnesses such as bipolar disorder or schizophrenia or for short term antiemetic therapy)
- ✓ Limitations of the criteria include:
 - evidence for the benefits and harms of medications in older adults is often limited, so decisions on the composition of the criteria were often made in context of best-available evidence
 - cannot account for the complexity of all individuals and patient subpopulations, and thus should not be taken as “the final word” as to whether a specific drug is appropriate or inappropriate for an individual patient
 - do not apply to patients at the end of life or receiving palliative care, when risk-benefit considerations of drug therapy can be different
 - unlike the STOP/STARTT criteria, Beers does not provide guidance on starting potentially appropriate medication (i.e. inappropriately unprescribed)

Example of table within the Beers Criteria update:

TABLE 7 Drugs with strong anticholinergic properties.

Antidepressants

Amitriptyline
Amoxapine
Clomipramine
Desipramine
Doxepin (>6 mg/day)
Imipramine
Nortriptyline
Paroxetine

Antiemetics

Prochlorperazine
Promethazine

Antihistamines (first-generation)

Brompheniramine
Chlorpheniramine
Cyproheptadine
Dimenhydrinate
Diphenhydramine
Doxylamine
Hydroxyzine
Meclizine
Promethazine
Triprolidine

Antimuscarinics (urinary incontinence)^a

Darifenacin
Fesoterodine
Flavoxate
Oxybutynin
Solifenacin
Tolterodine
Trospium

Antiparkinsonian agents

Benzotropine
Trihexyphenidyl

Antipsychotics

Chlorpromazine
Clozapine
Olanzapine
Perphenazine

Antispasmodics

Atropine
Clidinium-chlordiazepoxide
Dicyclomine
Homatropine
Hyoscyamine
Scopolamine

Skeletal muscle relaxants

Cyclobenzaprine
Orphenadrine

The Clinical Pharmacology (CP) physician consultation service is available Mon-Fri, 8am-5pm. The on-call physician is listed in ROCA on the AHS Insite page. CP consultations are also available through Netcare e-referral and Specialist Link. You can also find us in the [Alberta Referral Directory](#) (ARD) by searching "Pharmacology" from the ARD home page. Click [HERE](#) for more details about the service.

The Poison and Drug Information Service (PADIS) is available 24/7 for questions related to poisonings. Please call 1-800-332-1414 (AB and NWT) or 1-866-454-1212 (SK). Information about our outpatient Medical Toxicology Clinic can be found in [Alberta Referral Directory](#) (ARD) by searching "Toxicology" from the ARD home page.

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