D-2-D
DARE TO DEPRESCRIBE

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Objectives

1. Define Deprescribing

2. List common triggers and barriers to Deprescribing.

3. Articulate a systematic approach to Deprescribing.

4. Discuss the rationale for Deprescribing common drug categories.

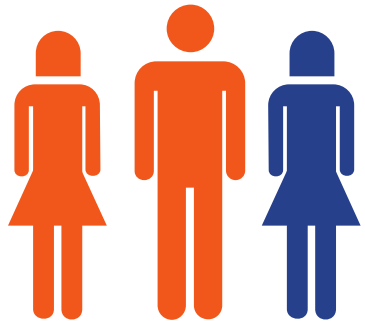
5. Become familiar with tools to assist with Deprescribing.

What is polypharmacy?

- While there is no consensus definition for polypharmacy, most studies have used a numerical threshold of **5 or more medications per day**

1. JAMA 2017;318(17):1728
2. Duerden M, et al. Prescriber 2014;25:44-47

Elderly context ?



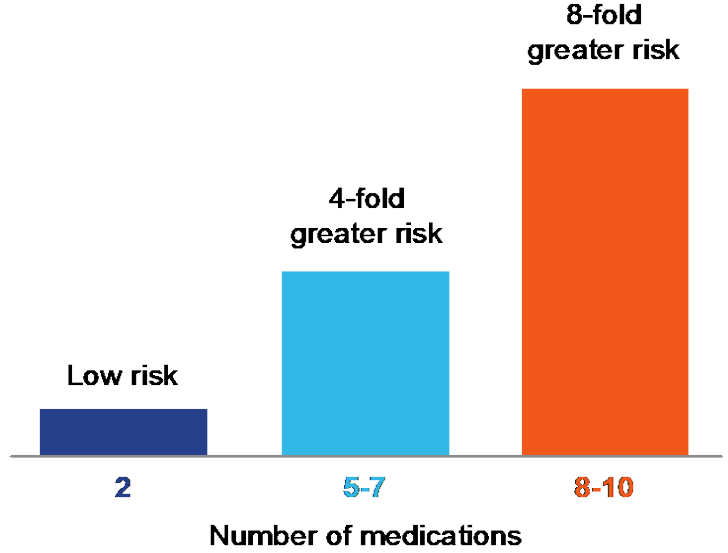
2 out of 3 Canadians over the age of 65 take **at least 5 different prescription medications**

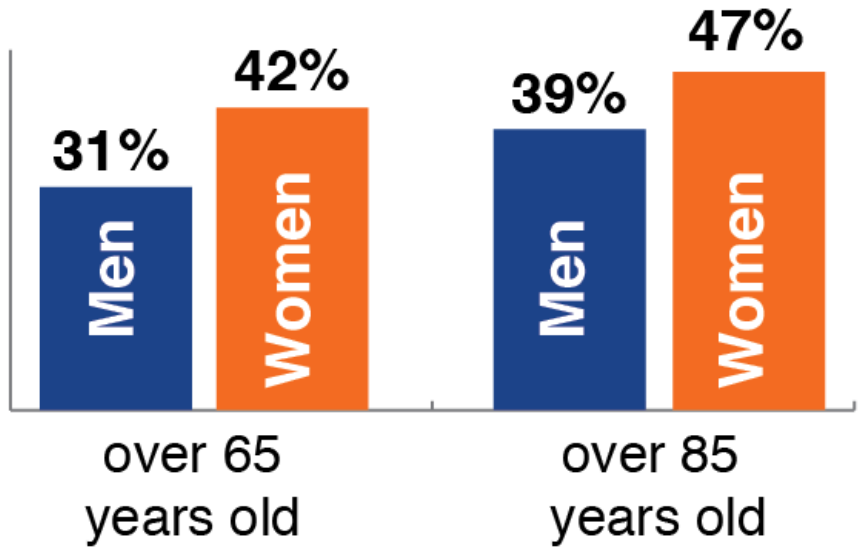
1 out of 4 Canadians over the age of 65 take **at least 10 different prescription medications**

Canadian Institute for Health Information. 2014. Drug Use Among Seniors on Public Drug Programs in Canada.

Risk of Drug-Drug interactions

- Medications may have unpredictable effects when they interact with each other.
- More medications means a higher chance of interactions.
- What are inappropriate medications?
  - Canadian seniors who take at least one potentially inappropriate medication





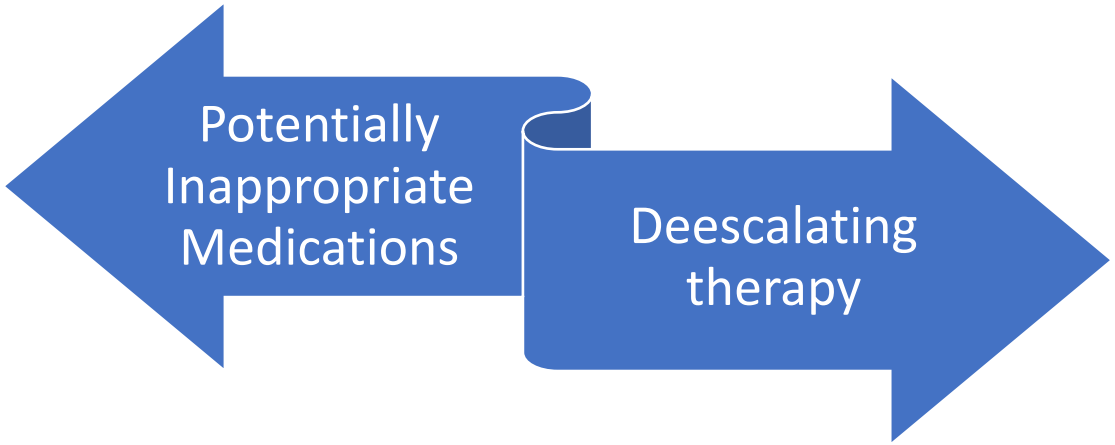
Morgan *et al.* 2016. CMAJ Open; 4: E346-E51.

What is Deprescribing?

- Deprescribing involves **reducing or stopping** potentially inappropriate medications (PIMs) that may no longer be of **benefit or may be causing harm**.
- The goal is to reduce medication burden or harm while improving a patient's **quality of life**
- Deprescribing can improve medication appropriateness by reducing polypharmacy, adverse drug events (ADEs), and other medication-related problems (MRPs).
- Evidence-based guidelines improve the treatment for a number of diseases
  - however, strict adherence to guidelines in frail older adults contributes to medication burden and increased MRPs.
  - **And while numerous guidelines exist to support prescribers in managing diseases, few guidelines provide deprescribing strategies.**

Deprescribing in the Elderly

- Deprescribing
  - A positive approach
  - Patient-centered, shared decision-making, requiring informed patient consent
  - Medication optimization ensures benefits outweigh risks
    - Close monitoring of effects
    - Takes into consideration impact on outcomes important to the older adult, such as
      - Improving the duration and quality of life
      - Symptom control
      - Prevention
  - It is evidence-based

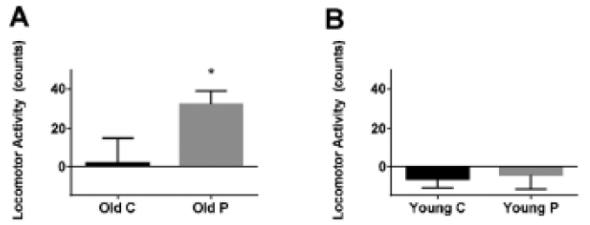


J Clin Outcomes Manag 2016;23:359-69.

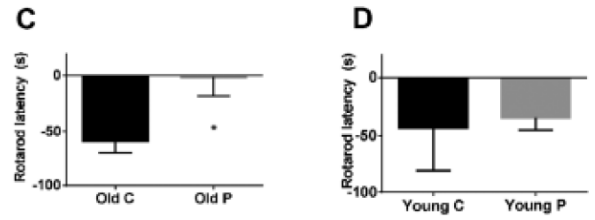
Pre-clinical Evaluation of Polypharmacy

- In observational studies, polypharmacy increases risk of functional impairment, falls, frailty and death.
- Evaluation of the effects of polypharmacy in older adults is ethically and feasibly difficult.

Locomotor activity in open field

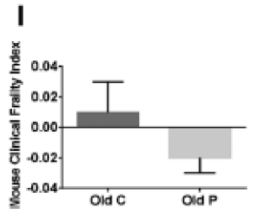


Rotarod latency



Polypharmacy impaired physical function in old but not in young mice

Mouse clinical frailty index



Huizer-Pajkos et al., JGBS 2016 6

THE GERONTOLOGICAL SOCIETY OF AMERICA®

Journals of Gerontology: Biological Sciences
cite as: *J Gerontol A Biol Sci Med Sci*, 2016, Vol. 71, No. 5, 571–577
doi:10.1093/gerona/glv046
Advance Access publication May 4, 2015

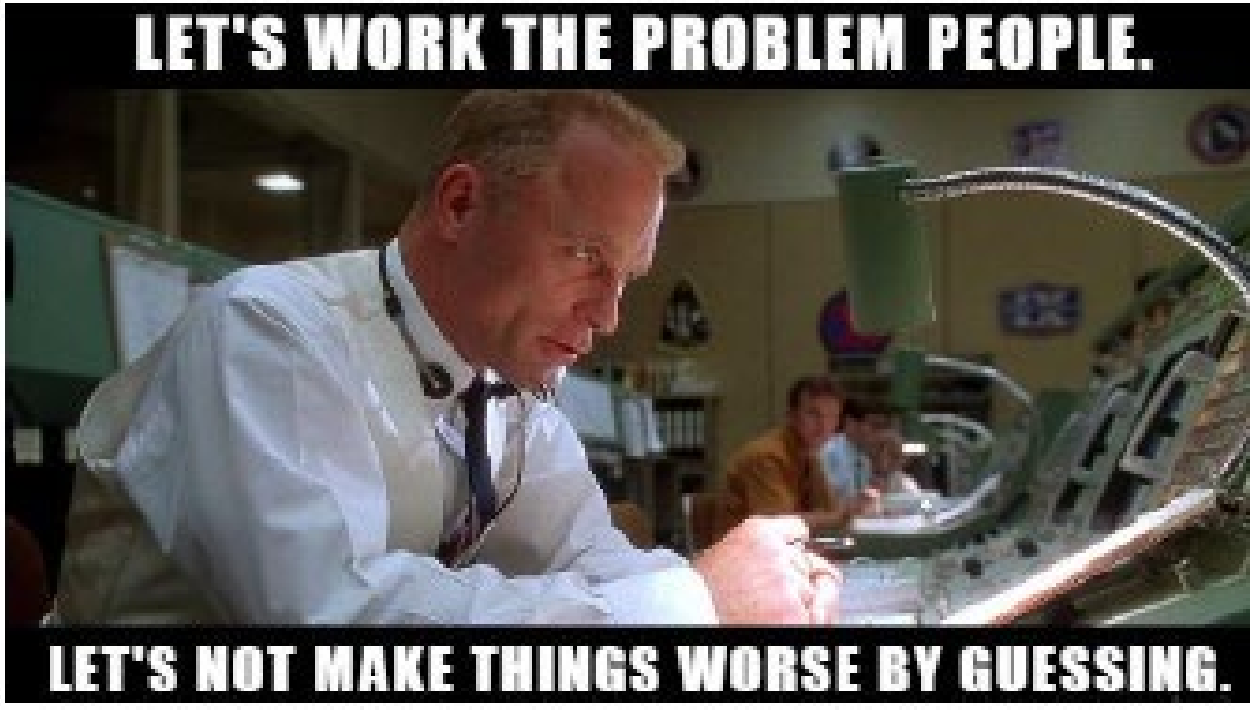
OXFORD

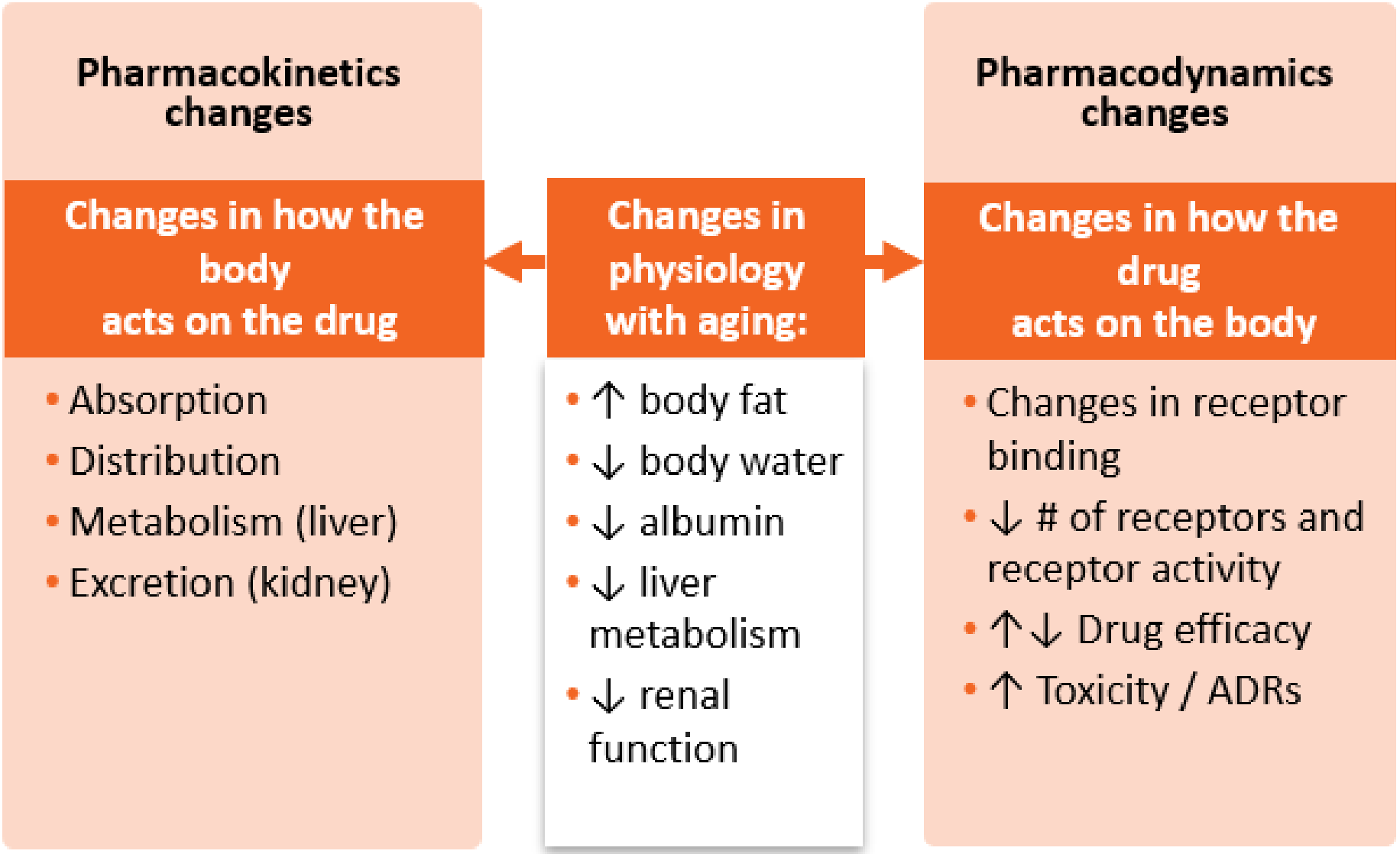
Original Article

Adverse Geriatric Outcomes Secondary to Polypharmacy in a Mouse Model: The Influence of Aging

Aniko Huizer-Pajkos,[1] Alice E. Kane,[1,2] Susan E. Howlett,[3] John Mach,[1,2] Sarah J. Mitchell,[4] Rafael de Cabo,[4] David G. Le Couteur,[2,5] and Sarah N. Hilmer[1,2]


Houston, we have a problem.


LET'S WORK THE PROBLEM PEOPLE.
LET'S NOT MAKE THINGS WORSE BY GUESSING.


Pharmacokinetics changes
Changes in how the body acts on the drug
• Absorption
• Distribution
• Metabolism (liver)
• Excretion (kidney)
Changes in physiology with aging:
• ↑ body fat
• ↓ body water
• ↓ albumin
• ↓ liver metabolism
• ↓ renal function
Pharmacodynamics changes
Changes in how the drug acts on the body
• Changes in receptor binding
• ↓ # of receptors and receptor activity
• ↑↓ Drug efficacy
• ↑ Toxicity / ADRs

Things to Remember: Changes with Aging + Pharmacokinetics

- Absorption usually does not change
- Distribution
- Metabolism
  - Slowed Phase I, cytochrome P450, reactions
  - Phase II reactions are essentially unchanged
  - Drug-drug interactions
- Excretion
  - Hepatic
  - Renal
  - Active drug metabolites may accumulate

Things to Remember:
Physiologic Changes Associated with Disease States

- Cardiac Disease
  - Impaired cardiac output (decreased absorption, metabolism, clearance)
  - Greater susceptibility to cardiac adverse effects

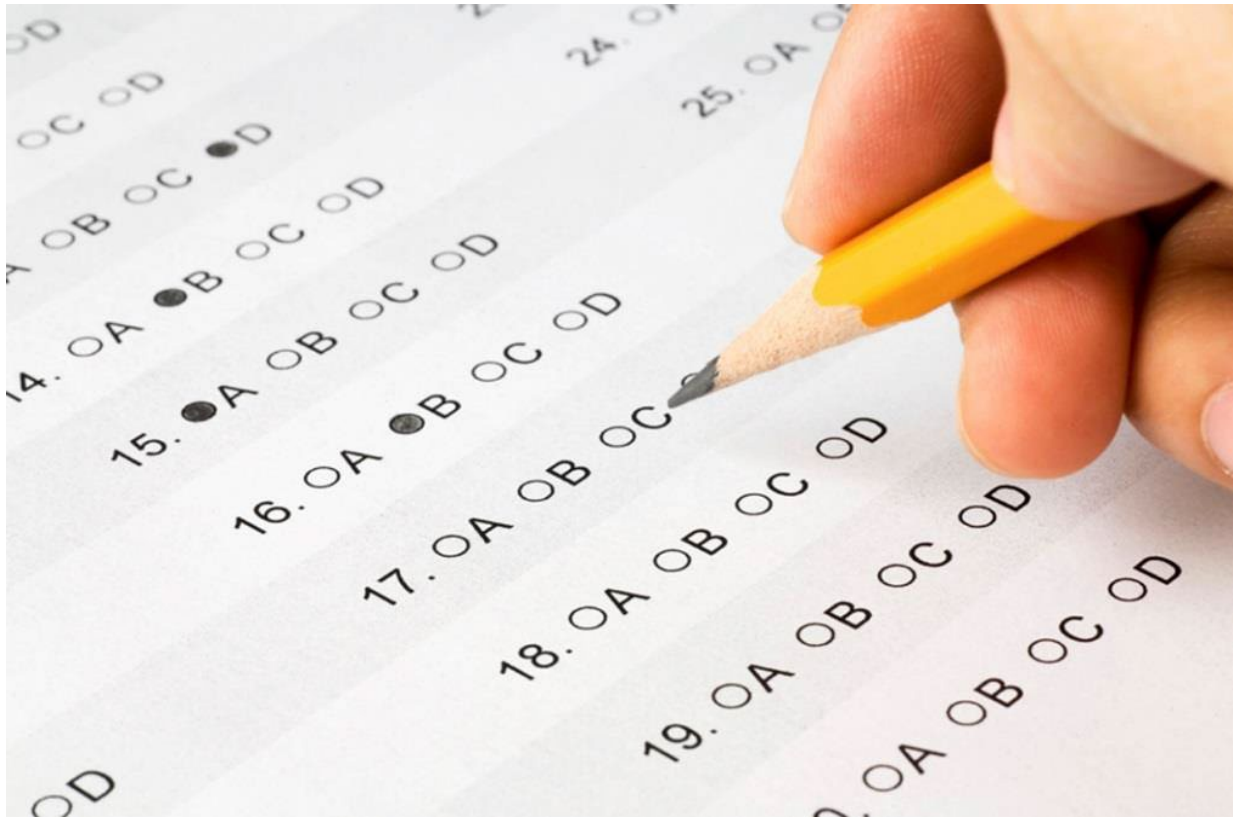
- Kidney and Liver Disease
  - Decreased drug clearance

- Neurological Diseases
  - Diminished neurotransmitter levels
  - Impaired cerebral bloodflow
  - Greater sensitivity to neurological effects

Poll Question?

The most common reason for de-prescribing is actual increased risk

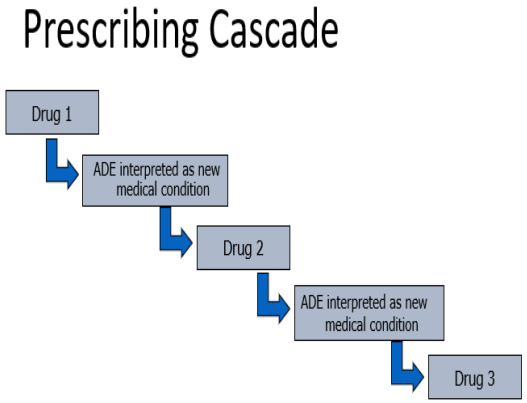
- A. True
- B. False



Triggers for Deprescribing

- Increased risk (actual)
  - Patient is experiencing or has experienced a problem (e.g., side effect)
    - For example
      - new presentation of symptom, possibly representing an ADE

- Increased risk (potential)
  - Patient is likely to experience a problem (e.g., adverse drug event)
    - For example
      - high risk medication (HRM) use in the elderly (e.g., fall)
    - Geriatric Syndrome
      - Falls
      - Functional impairment
      - Cognitive impairment
      - Urinary incontinence
      - Impaired nutrition
      - Dehydration
      - Constipation



Triggers for Deprescribing

- No or limited benefit
  - Medication was never or only slightly effective in the first place
  - Time needed for medication benefit is shorter than patient life expectancy
- Diminished benefit
  - Medication is not as effective as it was initially
  - Medication treatment target no longer meets goal of care for patient
- Poor medication adherence
  - Intended benefit not realized or potential harm

Triggers for Deprescribing

- Lack of indication
  - No clear, documented & current indication for medication use
    - For example, continued / long-term PPI use following initiation in the hospital
- Preventative benefit retained after stopping medication
  - For example, continued osteoporosis prevention with bisphosphonate

Scott IA, et al. JAMA Intern Med. 2015;175(5):827-34.

Barriers to Deprescribing

- Medical culture of prescribing
- Clinical inertia (despite awareness)
  - Provider/patient fear of adverse outcome
  - Pressure to prescribe
  - Multiple providers
- Low self-efficacy
  - Perceived lack of knowledge or skills
  - Perceived barriers to success
- Low feasibility
  - Time and workload constraints
  - Lack of longitudinal support

Take a Deep Breath

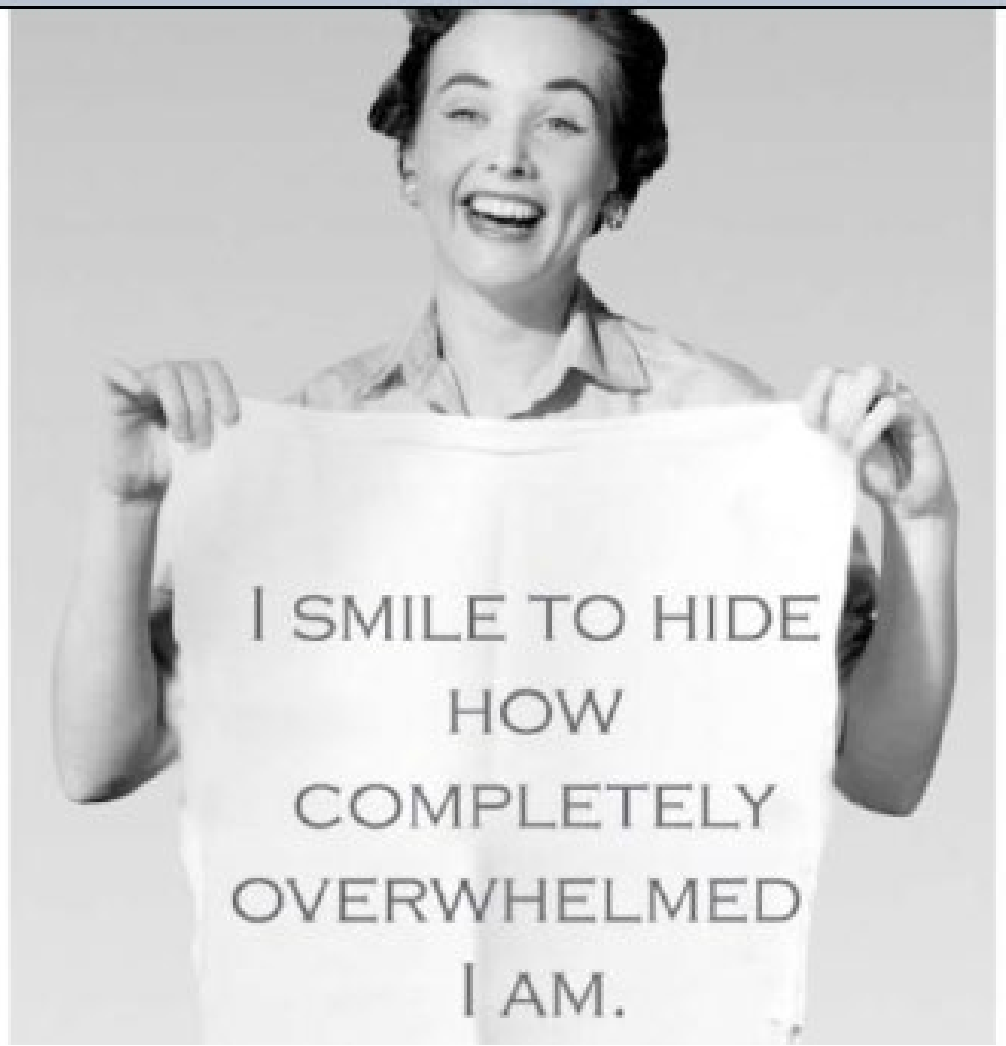
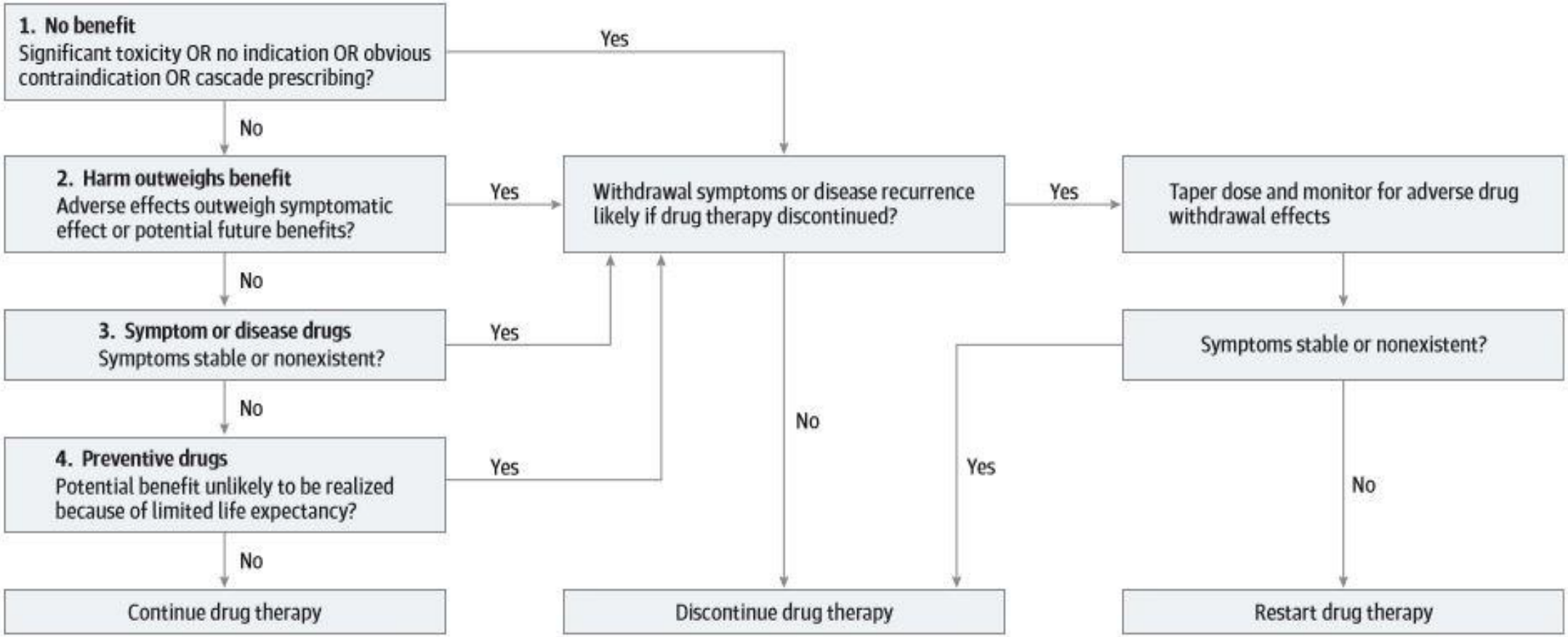


Figure. Algorithm for Deciding Order and Mode in Which Drug Use Could Be Discontinued



Ian A. Scott, MBBS, FRACP, MHA, MEd. Reducing Inappropriate Polypharmacy. The Process of Deprescribing. JAMA Intern Med. 2015; 175(5): 827-834.

The Deprescribing Protocol

- Ascertain all drugs the patient is taking and the reasons for each one.
- Consider the overall risk of drug-induced harm.
- Assess each drug for its eligibility to be discontinued.
- Prioritize drugs for discontinuation.
- Implement and monitor drug discontinuation regimen.
- Support the patient.
- Document the changes.

Ian A. Scott, MBBS, FRACP, MHA, MEd. Reducing Inappropriate Polypharmacy. The Process of Deprescribing. JAMA Intern Med. 2015; 175(5): 827-834

A practical guide to stopping medication

1. Recognize the Need to stop a medicine

with the person's consent

view the discontinuation process as a trial

2. Reduce or Stop one medicine at a time

at the first visit, halve the dose?

3. Taper Medicine when appropriate

at the next visit review progress, then either:

- Maintain at half dose
- Continue to taper e.g. quarter dose
- Stop

4. Check for Benefit or Harm after each medicine has been stopped

- Time taken to taper may vary from days to weeks to months
- If symptoms worsen, may need to reinstate the medication

Frank C, Weir E. CMAJ 2014;186(18):1369-1376

Frailty : Older people are vulnerable to medication-related problems associated with frailty.

- **Characteristics of frailty**
  - Unintended weight loss due to inadequate nutrition
  - Slow walking speed
  - Impaired grip strength
  - Exhaustion
  - Self reported decline in activity levels

Robust	Pre-frail	Frail
0	1-2	≥3

Not just number but also type and dose of medicines determines risk

A Drug Burden Index to Define the Functional Burden of Medications in Older People

Sarah N. Hilmer, MD, PhD; Donald E. Mager, PharmD, PhD; Eleanor M. Simonsick, PhD; Ying Cao, MB; Shari M. Ling, MD; B. Gwen Windham, MD; Tamara B. Harris, MD, MS; Joseph T. Hanlon, PharmD, MS; Susan M. Rubin, MPH; Ronald I. Shorr, MD, MS; Douglas C. Bauer, MD, MPH; Darrell R. Abernethy, MD, PhD

Arch Intern Med. 2007;167:781-787

$$\frac{E}{\alpha} = \sum \frac{D}{\delta + D}.$$

DBI associated with:

- Impaired physical function
- Falls
- Frailty
- Hospitalisation and GP visits
- Institutionalisation
- Mortality

Drug Burden Index (DBI) is a pharmacological measure of an older person's total exposure to medicines with anticholinergic and sedative effects that impair physical and cognitive function

- Main drug classes:
  - Antipsychotics
  - Benzodiazepines and Z drugs
  - Opioids and gabapentin/pregabalin
  - Antidepressants
  - Antimuscarinics used for urgency
  - Antihistamines

Medications with Most ADEs in Older Adults

- Cardiovascular medications
  - Antihypertensives
- Proton pump inhibitors
- Antihyperglycemic medications
- Psychotropic medications
- Antibiotics
- Anticoagulants
- Non-opioid analgesics (NSAIDS)
- Anti-seizure medications
- Statins
- Bisphosphonates

JAGS 2004;52:1349-1354 and *NEJM* 2003;348:1556-64
American Geriatrics Society 2015 Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults. *J Am Geriatr Soc.* 2015. 63:2227–2246.

Organizations with resources that can help you

- **Deprescribing Guidelines Research :** www.deprescribing.org
- **Canadian Deprescribing Network** : www.deprescribingnetwork.ca
- **Choosing Wisely Canada**: www.choosingwiselycanada.org
- **Institute of Safe Medication Practices Canada**: www.ismp-canada.org

Medication Appropriateness Tools for the Elderly

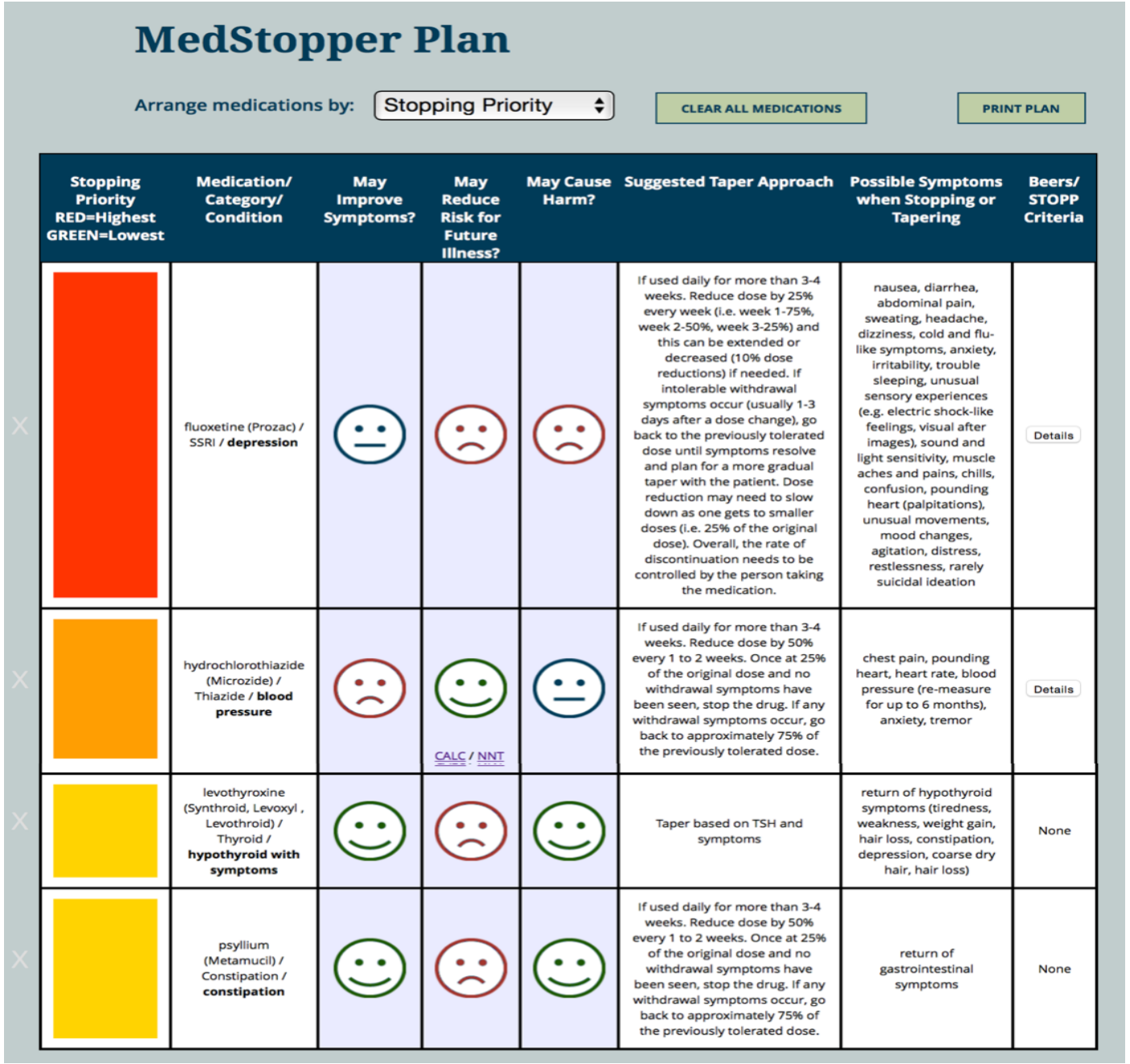
Beers Criteria

STOPP (Screening Tool of Older Persons' Prescriptions)

START (Screening Tool to Alert Doctors to Right Treatment)

MEDSTOPPER

medstopper.com



MedStopper Plan

Arrange medications by: Stopping Priority

CLEAR ALL MEDICATIONS

PRINT PLAN

Stopping Priority RED=Highest GREEN=Lowest	Medication/ Category/ Condition	May Improve Symptoms?	May Reduce Risk for Future Illness?	May Cause Harm?	Suggested Taper Approach	Possible Symptoms when Stopping or Tapering	Beers/ STOPP Criteria
	fluoxetine (Prozac) / SSRI / **depression**	😐	☹	☹	If used daily for more than 3-4 weeks. Reduce dose by 25% every week (i.e. week 1-75%, week 2-50%, week 3-25%) and this can be extended or decreased (10% dose reductions) if needed. If intolerable withdrawal symptoms occur (usually 1-3 days after a dose change), go back to the previously tolerated dose until symptoms resolve and plan for a more gradual taper with the patient. Dose reduction may need to slow down as one gets to smaller doses (i.e. 25% of the original dose). Overall, the rate of discontinuation needs to be controlled by the person taking the medication.	nausea, diarrhea, abdominal pain, sweating, headache, dizziness, cold and flu-like symptoms, anxiety, irritability, trouble sleeping, unusual sensory experiences (e.g. electric shock-like feelings, visual after images), sound and light sensitivity, muscle aches and pains, chills, confusion, pounding heart (palpitations), unusual movements, mood changes, agitation, distress, restlessness, rarely suicidal ideation	Details
	hydrochlorothiazide (Microzide) / Thiazide / **blood pressure**	☹	🙂 CALC / NNT	😐	If used daily for more than 3-4 weeks. Reduce dose by 50% every 1 to 2 weeks. Once at 25% of the original dose and no withdrawal symptoms have been seen, stop the drug. If any withdrawal symptoms occur, go back to approximately 75% of the previously tolerated dose.	chest pain, pounding heart, heart rate, blood pressure (re-measure for up to 6 months), anxiety, tremor	Details
	levothyroxine (Synthroid, Levoxyl , Levothroid) / Thyroid / **hypothyroid with symptoms**	🙂	☹	🙂	Taper based on TSH and symptoms	return of hypothyroid symptoms (tiredness, weakness, weight gain, hair loss, constipation, depression, coarse dry hair, hair loss)	None
	psyllium (Metamucil) / Constipation / **constipation**	🙂	☹	🙂	If used daily for more than 3-4 weeks. Reduce dose by 50% every 1 to 2 weeks. Once at 25% of the original dose and no withdrawal symptoms have been seen, stop the drug. If any withdrawal symptoms occur, go back to approximately 75% of the previously tolerated dose.	return of gastrointestinal symptoms	None

Medication Appropriate Index

QUESTIONS	SCORE
Is there an indication for the drug?	3
Is the medication effective for the condition?	3
Is the dosage correct?	2
Are the directions correct?	2
Are the directions practical?	2
Are there clinically significant drug-drug interactions?	2
Are there clinically significant drug-disease/condition interactions?	1
Is there unnecessary duplication with other drugs?	1
Is the duration of therapy acceptable?	1
Is this drug the least expensive alternative available compared with others of equal utility?	1
Max Score of Inappropriateness	18

– SOURCE: HANLON JT, SCHMADER KE, SAMSA GP, ET AL. A METHOD FOR ASSESSING DRUG THERAPY APPROPRIATENESS. *J CLIN EPIDEMIOL*. 1992;45(10):1045-1051.

A-TAPER framework

Assess medication use

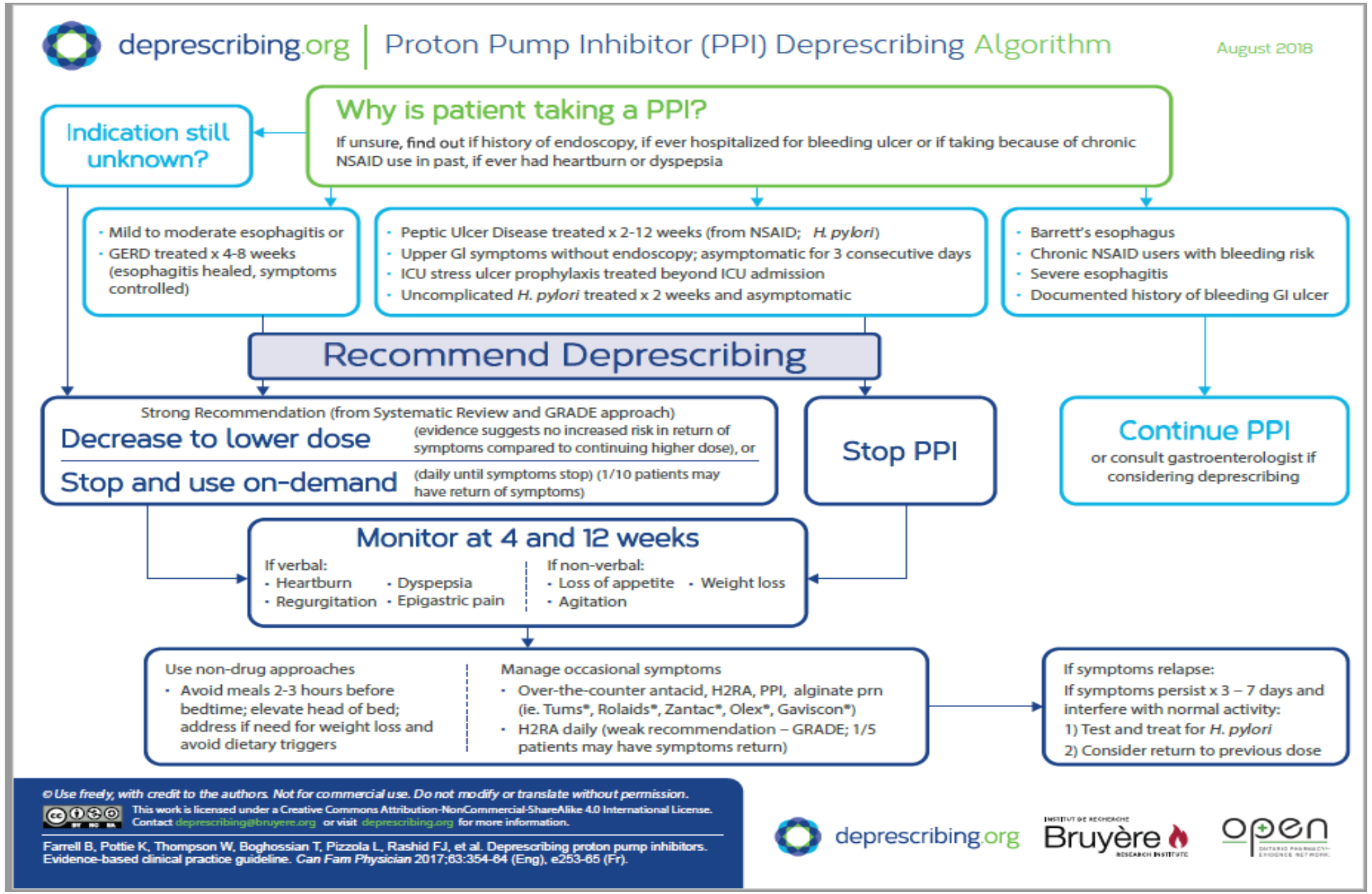
Talk about risks versus benefits

Alternatives

Plan next steps

Engage patient

Reduce dose


deprescribing.org | Proton Pump Inhibitor (PPI) Deprescribing Algorithm
August 2018
Why is patient taking a PPI?
If unsure, find out if history of endoscopy, if ever hospitalized for bleeding ulcer or if taking because of chronic NSAID use in past, if ever had heartburn or dyspepsia
Indication still unknown?
• Mild to moderate esophagitis or
• GERD treated x 4-8 weeks (esophagitis healed, symptoms controlled)
• Peptic Ulcer Disease treated x 2-12 weeks (from NSAID; H. pylori)
• Upper GI symptoms without endoscopy; asymptomatic for 3 consecutive days
• ICU stress ulcer prophylaxis treated beyond ICU admission
• Uncomplicated H. pylori treated x 2 weeks and asymptomatic
• Barrett's esophagus
• Chronic NSAID users with bleeding risk
• Severe esophagitis
• Documented history of bleeding GI ulcer
Recommend Deprescribing
Strong Recommendation (from Systematic Review and GRADE approach)
Decrease to lower dose (evidence suggests no increased risk in return of symptoms compared to continuing higher dose), or
Stop and use on-demand (daily until symptoms stop) (1/10 patients may have return of symptoms)
Stop PPI
Continue PPI
or consult gastroenterologist if considering deprescribing
Monitor at 4 and 12 weeks
If verbal:
• Heartburn • Dyspepsia
• Regurgitation • Epigastric pain
If non-verbal:
• Loss of appetite • Weight loss
• Agitation
Use non-drug approaches
• Avoid meals 2-3 hours before bedtime; elevate head of bed; address if need for weight loss and avoid dietary triggers
Manage occasional symptoms
• Over-the-counter antacid, H2RA, PPI, alginate prn (ie. Tums®, Rolaids®, Zantac®, Olex®, Gaviscon®)
• H2RA daily (weak recommendation – GRADE; 1/5 patients may have symptoms return)
If symptoms relapse:
If symptoms persist x 3 – 7 days and interfere with normal activity:
1) Test and treat for H. pylori
2) Consider return to previous dose
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This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
Contact deprescribing@bruyere.org or visit deprescribing.org for more information.
Farrell B, Pottie K, Thompson W, Boghossian T, Pizzola L, Rashid FJ, et al. Deprescribing proton pump inhibitors. Evidence-based clinical practice guideline. Can Fam Physician 2017;63:354-64 (Eng), e253-65 (Fr).
deprescribing.org
Bruyère Research Institute
open

Table 3 **Anticholinergic Burden Scoring**

SCORE 1		SCORE 2	SCORE 3	
Antianxiety medications		**Skeletal muscle relaxers**	**Skeletal muscle relaxers**	
Alprazolam (*Xanax*) Clorazepate (*Tranxene*)	Diazepam (*Valium*)	Cyclobenzaprine (*Flexeril*)	Methocarbamol (*Robaxin*)	Orphenadrine (*Norflex*)
Antipsychotic medications		**Antipsychotic medications**	**Antipsychotic medications**	
Aripiprazole (*Abilify*) Asenapine (*Saphris*) Haloperidol (*Haldol*)	Iloperidone (*Fanapt*) Paliperidone (*Invega*) Risperidone (*Risperdal*)	Loxapine (*Loxitane*) Pimozide (*Orap*) Molindone (*Moban*)	Clozapine (*Clozaril*) Olanzapine (*Zyprexa*) Perphenazine (*Trilafon*)	Quetiapine (*Seroquel*) Thioridazine (*Mellaril*)
Antidepressants		**Anticonvulsants**	**Antidepressants**	
Bupropion (*Wellbutrin*) Venlafaxine (*Effexor*)	Fluvoxamine (*Luvox*) Trazodone (*Desyrel*)	Carbamazepine (*Tegretol*) Oxcarbazepine (*Trileptal*)	Amitriptyline (*Elavil*) Clomipramine (*Anafranil*) Desipramine (*Norpramin*) Doxepin (*Sinequan*)	Imipramine (*Tofranil*) Nortriptyline (*Pamelor*) Paroxetine (*Paxil*)
Antihistamines (2nd Generation)		**Antihistamine (1st Generation)**	**Antihistamines (1st Generation)**	
Cetirizine (*Zyrtec*) Desloratadine (*Clarinex*)	Loratadine (*Claritin*) Levocetirizine (*Xyzal*)	Cyproheptadine (*Periactin*)	Brompheniramine Chlorpheniramine Clemastine (*Tavist*) Dimenhydrinate (*Dramamine, etc*)	Diphenhydramine Doxylamine (*Unisom, etc*) Hydroxyzine (*Atarax/Vistaril*) Meclizine (*Antivert*) Promethazine (*Phenergan*)
Gastrointestinal (GI) antispasmodic		**GI antispasmodic**	**GI antispasmodics**	
Clidinium (*Librax*)		Belladonna	Dicyclomine (*Bentyl*) Hyoscyamine (*Levsin*)	Scopolamine (*Transderm Scop*)
Opioid or opioidlike		**Opioid or opioidlike**	**Urinary Anticholinergics**	
Codeine (*various*) Fentanyl (*Duragesic, Actiq*) Morphine (*MS Contin, Avinza*)		Meperidine (*Demerol*)	Darifenacin (*Enablex*) Fesoterodine (*Toviaz*) Flavoxate (*Urispas*) Oxybutynin (*Ditropan*)	Solifenacin (*Vesicare*) Tolterodine (*Detrol*) Trospium (*Sanctura*)
Antidiarrheal (nonopioid)		**Parkinson's disease**	**Parkinson's disease**	
Loperamide (*Imodium, others*)		Amantadine (*Symmetrel*)	Benztropine (*Cogentin*)	Trihexyphenidyl (*Artane*)
Blood thinner			**Prototypical anticholinergic**	
Warfarin (*Coumadin*)			Atropine	
Blood pressure medications		**Example Scoring:**		
Captopril (*Capoten*) Atenolol (*Tenormin*) Metoprolol (*Lopressor, Toprol*) Chlorthalidone (*Diuril, Hygroton*) Furosemide (*Lasix*) Nifedipine (*Procardia, Adalat*) Hydralazine (*Apresoline*) Isosorbide (*Isordil, Ismo*)		Warfarin – Score 1 Fentanyl – Score 1 Carbamazepine – Score 2 Chlorpheniramine – Score 3 Paroxetine – Score 3 Oxybutynin – Score 3 Total Anticholinergic Burden Score = 13	**Possible Changes to Reduce Anticholinergic Burden:** • Discontinue medications where possible, reduce doses, or change to alternatives. • Discontinuation of chlorpheniramine would reduce score by 3. • Changing to loratadine (Score 1) and would reduce score by 2. • Changing paroxetine to escitalopram would reduce score by 3. • If changing these medications, score would decrease from 13 to 8	
Glucocorticosteroids				
Hydrocortisone	Prednisone			
Gout	**Asthma**			
Colchicine (*Colcrys*)	Theophylline			
Atrial Fibrillation/CHF	**Antiarrhythmic**			
Digoxin (*Lanoxin*)	Quinidine			

— ADAPTED FROM THE ANTICHOLINERGIC BURDEN SCALE (HTTP://INDYDISCOVERYNETWORK.ORG/RESOURCES/IDNS-DEVELOPED-CLINICAL-TOOLS/)

ASCP Drug Regimen Review Checklist

INDICATIONS	Does each prescribed medication have a current and valid indication?
	Does the patient have indications for which medication may be appropriate but is not being used?
EFFECTIVENESS	Is the medication appropriate for the indication being treated?
	Is the dose of medication adequate?
SAFETY	Is the dose of medication excessive?
	Is the patient experiencing signs or symptoms of adverse medication effects?
	Is the patient experiencing a problem resulting from drug-drug, drug-food, or drug-lab interactions?
MONITORING	Are monitoring parameters in place to evaluate medication effectiveness and safety?
	Do results of medication monitoring indicate a need for interventions?
ERRORS	Is there evidence of a medication error?
COST	Do any issues related to medication cost need to be addressed?

— SOURCE: AMERICAN SOCIETY OF CONSULTANT PHARMACISTS (ASCP). WWW.ASCP.COM/RESOURCES/DRR/UPLOAD/DRR%20CHECKLIST.PDF

DEBRIDE Tool

7-Step Review Process...

Dose and frequency

Effects

Benefit

Risk

Indication

Drug monitoring

Expectations

Other Medication Assessment Frameworks

- No TEARS
- ARMOR

Table. The CEASE Deprescribing Framework

C urrent medicines	Ascertain all medicines the patient is currently taking and the reasons for each one (also termed medication reconciliation)
E levated risk	Consider the potential for this patient to be harmed by the medicines being prescribed in determining required intensity of deprescribing intervention: - Consider risk factors such as total number of drugs, age, presence of drugs associated with high risk (eg, opiates, benzodiazepines, psychotropics, anticoagulants, hypoglycaemic drugs, cardiovascular drugs), past non-adherence, multiple prescribers, impaired cognition and poor social support, substance abuse, mental health problems
A ssess	Assess each medicine for its usefulness in relation to its risk of harm by considering: - Indications for the drug (is the continued prescribing of the drug justified on the basis of a verified diagnosis and robust evidence of effectiveness for this indication in this patient?) - Effects of the drug to date on the underlying disease process and/or its symptoms - Future benefit-harm trade-offs in the context of life expectancy, time until benefit (for preventive medications), goals of care (symptom relief vs disease modification vs cure), and patient values and preferences
S ort	Prioritize those medicines for discontinuation with lowest utility (or highest disutility) and greatest ease of discontinuation, while taking patient preferences into account
E liminate	Implement a discontinuation regimen and monitor patients closely for improvement in outcomes or onset of withdrawal or rebound syndromes

Categories of Drugs for Deprescribing

Antipsychotics for BPSD

- No clear evidence for benefit and increased risk of mortality, EPS, falls
- Unlikely to benefit "agitated" behaviors
- Taper: 25-50% every 1-2 weeks
- Behavioral and environmental interventions are first-line
- Alternatives

Cholinesterase inhibitors

- Only indicated for dementia
- Very modest benefit for cognition and functional status
- ADES: bradycardia, diarrhea, anorexia/weight loss, urinary incontinence, nightmares
- When to Deprescribe

NSAIDs

- Increased BP, peripheral edema, CHF exacerbation
- GI bleed in high-risk patients: >75y or concomitant use of steroids, antiplatelet agents, anticoagulants
- Risk of AKI or progression of CKD
- Alternatives

Opioids

- Little evidence to support use in OA or chronic low back pain
- Risk of constipation, delirium, sedation, falls, unintentional overdose
- Deprescribe if no improvement in pain or function, SUD, or ADEs
- Decrease by 10% per week
- Alternatives:

Categories of Drugs for Deprescribing

Benzodiazepines/BZRAs

- High risk of psychomotor impairment, falls, and cognitive impairment
- Not first line for anxiety or insomnia
- KEY is patient education and slow taper to avoid withdrawal: 25% every 2 weeks (~12.5% toward end)
- EMPOWER tool: http://www.criugm.qc.ca/fichier/pdf/BENZOeng.pdf
- Alternatives: SSRIs, SNRIs, CBT, sleep hygiene, melatonin

Antimuscarinics

- Highly anticholinergic
- Often continued despite limited or no benefit
- Non-pharmacologic interventions are first-line: behavioral tileting interventions

Statins for 1~ prevention

- Carryover from older treatment guidelines
- Older patients more likely to experience myopathy
- Unclear benefit of primary prevention in patients >75y, unless 1~ LDL $\geq$ 190
- Unclear benefit in patients 40-75y, unless diabetes or $\geq$7.5% 10y ASCVD risk
- Consider time to benefit and life expectancy

ASA for 1~ prevention

- Limited evidence for primary prevention of CVD (especially older adults)
- Increased risk of gastrointestinal bleeding
- Not recommended for patients with 5y CV risk <15%
- Not recommended for patients $\geq$70y

Things to Remember:

Four PRINCPLES

Less is More! keep the drug list short)

Think Drugs! before making a new diagnosis

Start Low and Go Slow

Assess Adherence

Clinical Case: Mr. Love Polypharmacy

Mr. LP is 85 years old.

Hx of benign prostatic hypertrophy (BPH) and hypertension.

After visiting his family at the cottage

- developed a viral upper respiratory infection
- took an OTC cold remedy containing a decongestant and diphenhydramine.

HPI

- unable to urinate
- His BP is 190/80.

Urinary Retention and Hypertension

- Parasympathetic Nervous System
  - Mediates detrusor muscle contraction
  - Blocked by anticholinergic medications like diphenhydramine

- Sympathetic Nervous System
  - α-adrenergic activity causes the urethral sphincter to contract (retaining urine)
  - α-adrenergic activity increases systemic vascular resistance (raises BP)
  - Decongestants are alpha-adrenergic agonists (ex. pseudoephedrine and phenylephrine)

Clinical Case: Mr. LP

Since LP has benign prostatic hypertrophy

- prescribed terazosin
  - a peripherally-acting α1-adrenergic antagonist
  - to help with his urinary retention and to help reduce his blood pressure.

Three days later, LP falls in the middle of the night, on the way to the bathroom. He fractures his hip.

Orthostatic Hypotension and Hip Fracture

- Baroreceptor sensitivity decreases with age
- α-adrenergic blockade can worsen postural hypotension and increase the risk of falls
- Falls and Hip fractures are associated with significant morbidity and mortality in older adults

Prescribing Cascade: Prescribing a new drug to treat an ADE

- Establish the diagnosis
  - Diphenhydramine and decongestant precipitated urinary retention in older male with prostatic enlargement
  - *Urinary retention is an ADE*
- Stop (or reduce) the offending medications
  - OTC cold medicine
  - Need to ask about ALL medications
- Avoid prescribing new medications (terazosin)

Principle 2: Before making a new diagnosis: “Think Drugs”

- Consider ADE as etiology of new signs/symptoms
- Remember that OTC drugs, supplements, and herbals can cause ADEs
- Consider discontinuing or dose-reducing medications rather than treating an ADE with another medication

Clinical Case: Mr. LP

Mr. LP arrives in ED

- given meperidine (Demerol) for his pain.
- also, very anxious
  - receives diazepam (Valium).

A few hours later, Mr. LP becomes very confused and somnolent.

Drug-Induced Delirium

- Meperidine
  - Can cause confusion
  - Active metabolites
  - Slow renal clearance in older adults

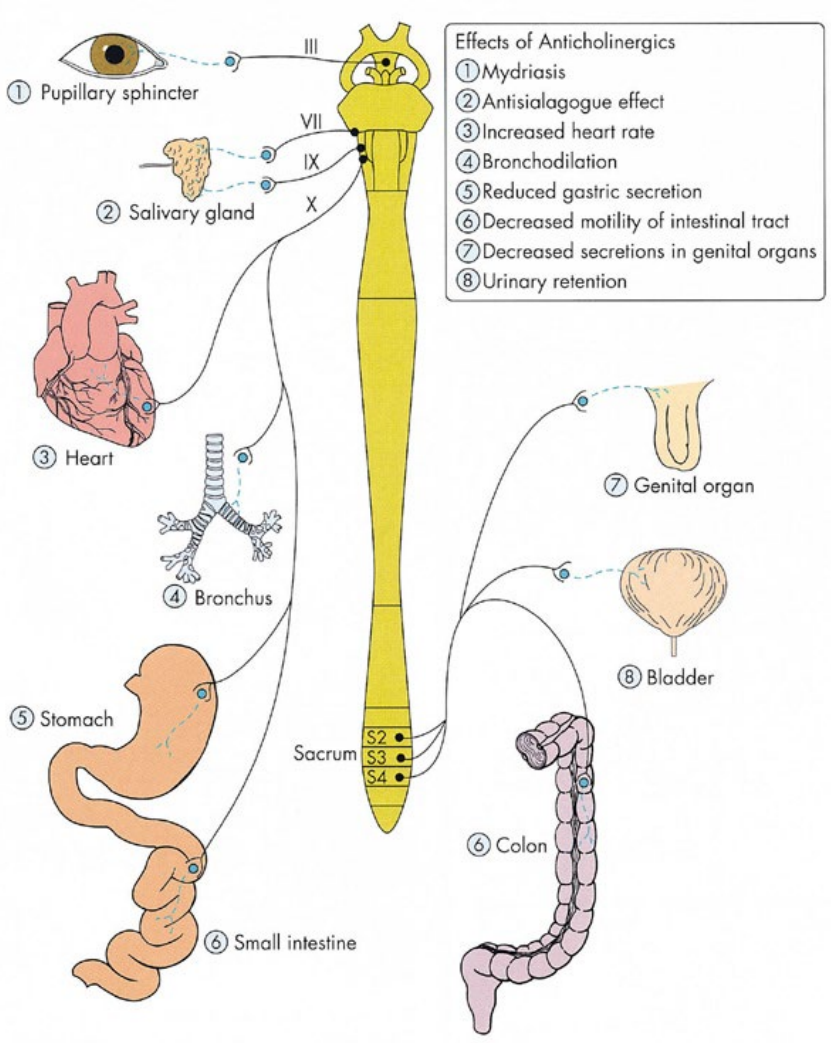
- Diazepam
  - Long-acting benzodiazepine
  - Lipophilic
  - Extended half-life in elderly
  - Increased sensitivity in the elderly
  - Increased risk of falls and fractures

Avoiding Potentially Dangerous Drugs: The Beers Criteria

- Consensus-based list of *potentially* inappropriate medications for older adults
- Published 1991, revised 1997, 2002
- Statistical association with ADEs has been documented
- Adopted for nursing-home regulation
- Does not account for the complexity of the entire medication regimen

Arch Intern Med 2003;163:2716-2724.
Pharmacotherapy 2005;25(6):831–838

Beers Criteria: Anticholinergic Medications



- Drug classes
  - Antihistamines
  - Tricyclic antidepressants
  - Antispasmodics and muscle relaxants

- Adverse Effects
  - Dry Mouth
  - Urinary retention
  - Constipation
  - Confusion, delirium

Avoiding Potentially Dangerous Drugs: The Beers Criteria

- Anticholinergic medications
- Decongestants
  - Hypertension
  - Bladder outflow obstruction
- Meperidine
- Benzodiazepines

Beers Criteria: *Arch Intern Med* 2003;163:2721.

Clinical Case: Mr. LP

- Mr. LP slowly recovers after his hip fracture.
- He continues to have some hip pain, so in addition to acetaminophen, he is prescribed low-dose opioid analgesics for break-through pain along with laxatives to avoid opioid-induced constipation.
- His delirium slowly clears, and he can participate in physical therapy and is able to return home after rehabilitation.
- Before he goes home, his medications are carefully reviewed, including OTC medications.

Principle 3: "If You Decide to Prescribe, Start Low and Go Slow…"

- Start one medication at a time
- Start with a low dose and increase gradually
- Monitor for response
- Monitor and anticipate adverse effects
- Assess adherence with regimen

Increasing Adherence

- Keep the medication list short
- Try to use once daily medications
- Encourage use of a pillbox
- Review bottles of medications
- Write indications for medications on prescriptions
- Medication Management programs

Discussion questions

- Which of the strategies to limit the potential harms due to polypharmacy are you already using in your practice?
- What are some of the barriers to implementing strategies to limit the potential harms due to polypharmacy?
- What is one strategy that you can implement moving forward?