Update of the Beers Criteria and its Application in Practice

Catherine E. DuBeau, MD
Professor of Medicine
General Internal Medicine - Geriatrics
Dartmouth-Hitchcock Medical Center
Geisel School of Medicine at Dartmouth
Lebanon, NH

Dartmouth-Hitchcock

Dartmouth
GEISEL SCHOOL OF MEDICINE

Disclosure of Financial Relationships

Catherine DuBeau, MD

Has disclosed relationships with an entity producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients.

Honoraria

American Geriatrics Society, Beers Criteria Revision Panel


BREW
NEW HAMPSHIRE

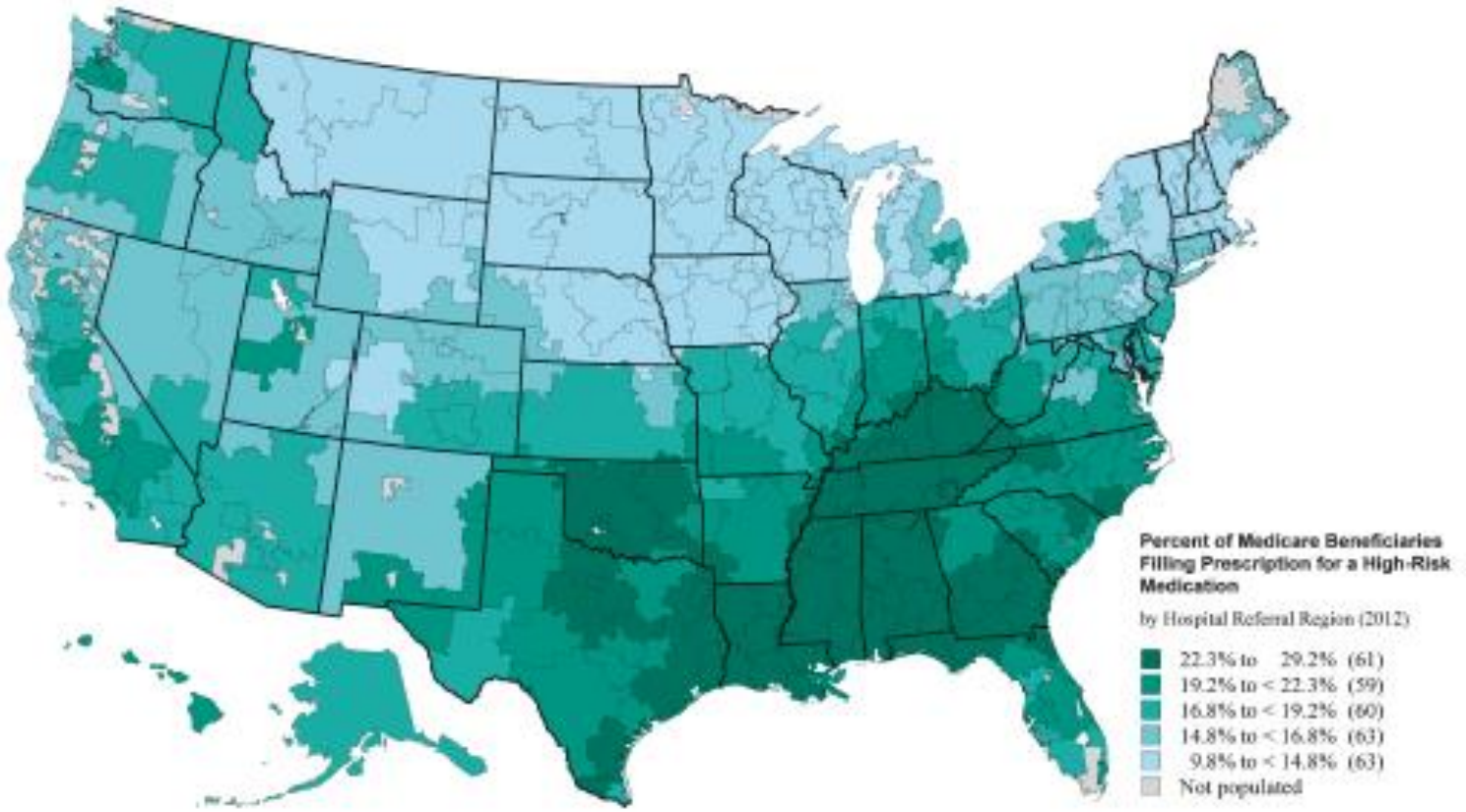

LIVE FREE. DRINK 603
LIVE FREE. DRINK 603
603
TOASTED PUMPKIN Ale
603

- Goal and intent of the AGS Beers Criteria
- 2019 Revision
- What about those PAs?!?
- Bringing the Criteria to the clinic

Why the Concern About Drugs and Older Persons?

- They take more medications than any other group of patients, yet:
  - **Unclear efficacy**: many drugs not tested *specifically* in older pts, especially those with complex comorbidity
  - **Higher risk** for adverse drug effects (ADEs) due to age-related physiological changes and comorbidity
- Avoiding potentially inappropriate medications (PIMs) = High value care

Regional variation in use of high risk medications (prevalence in darkest areas = 22-29%)

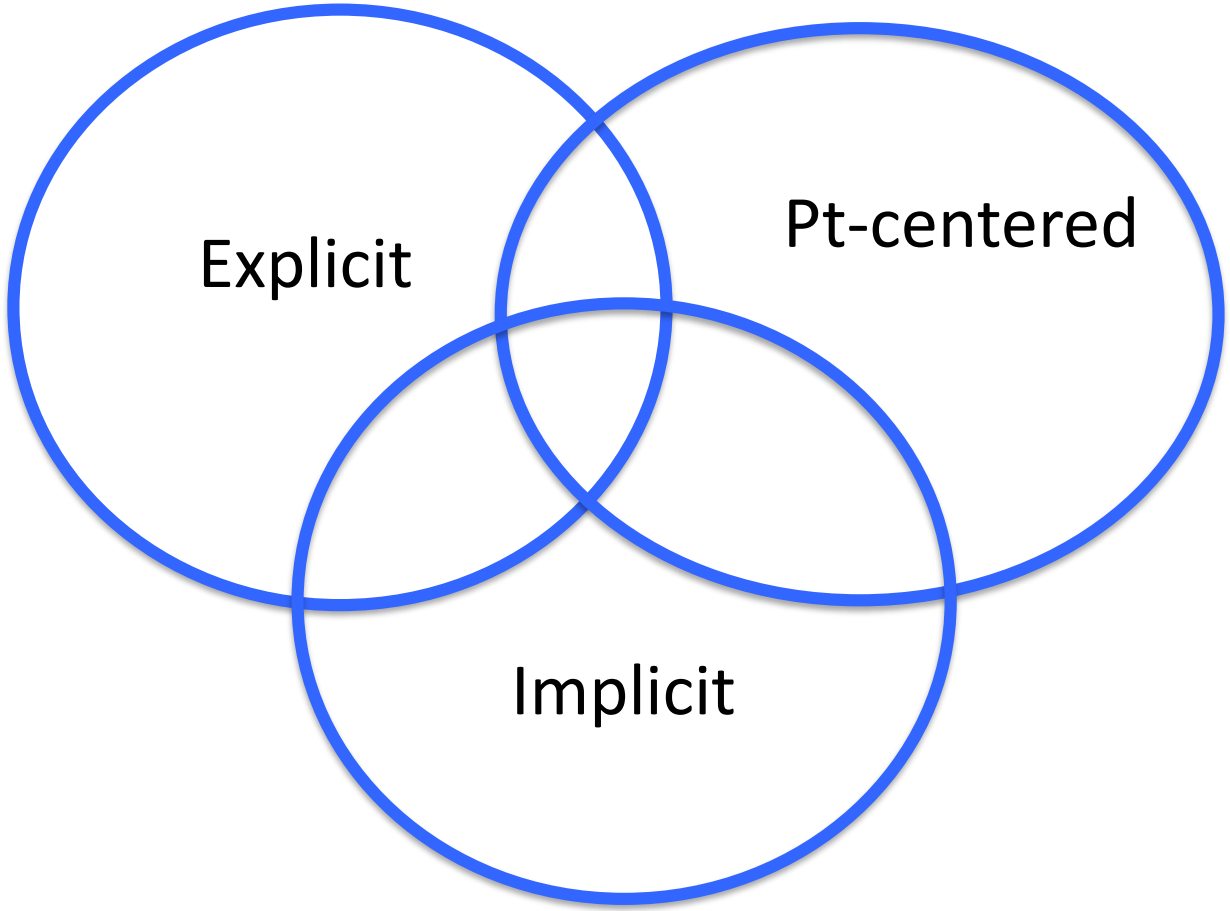


Dartmouth Atlas on Aging, 2016

Mark H Beers, MD 1954-2009

Reducing PIMs

- Explicit criteria:
  - CMS/HEDIS High Risk Medication list
- Patient- centered explicit criteria
  - Beers
  - STOPP-START (UK)
- Implicit criteria: provider judgment
  - Is this drug (still) needed (at this dose)?
  - Match drug to diagnosis
  - High risk Adverse Drug Reaction


Explicit
Pt-centered
Implicit

- Potentially inappropriate
- Potentially inappropriate for older adults with certain common health problems
- Use with caution in older adults
- Drug-drug interactions of special relevance to older adults
- Avoid or reduce dose in older persons with CKD

New in 2019

- Removal
  - ADEs not unique to older patients
  - Obsolete
  - New data – eg, dabigatran
  - Mitigate unintentional consequences – eg, H2 blockers
- Addition
  - New data
  - Drug-drug interactions

PIMs to Avoid

Organ System or TC or Drug	Rationale	Recommend	Quality of Evidence	Strength of Recommend.
Nitrofurantoin	Potential for pulmonary and hepatic toxicity, peripheral neuropathy esp with long term use	Avoid if CrCl <30 or for long term suppression	Low	Strong
Amiodarone	Effective but greater toxicity than others used in Afib; may be reasonable in pts with CHF of LVH if rhythm control goal	Avoid as first line therapy for Afib unless CHF present or significant LVH	High	Strong

PIMs with Drug-disease Interactions

Disease or Syndrome	Drug	Rationale	Recomm.	Quality of Evidence	Strength of Recomm.
Syncope	AChEIs Peripheral α-blockers Tertiary TCAs Aps: Chlorpromazine Thioridazine Olanzapine	Orthostatic hypotension or bradycardia	Avoid	High	AChEIs, TCAs: Strong α- blockers, antipsych.: Weak
UI	Estrogen (oral) Periph alpha blkrs	Lack of efficacy; worsening UI	Avoid in women	High/Moderate	Strong

Other conditions: CHF, syncope, epilepsy, delirium, dementia, prior falls and/or fractures, Parkinson's, peptic ulcers, CKD, BPH

Drugs to Use with Caution

Drug	Rationale	Recommend	Quality of Evidence	Strength of Recommend
Dabigatran, Rivaroxaban	Incr bleeding risk when used for VTE or Afib in pts > 75	Use with caution for VTE and AFib if age ≥ 75 or	Moderate	Strong
TMP-SMX	Increased risk of hyperkalemia when used with ACEI or ARB AND CrCl is decreased	Use with caution with ACEI or ARB AND CrCl is decreased	Low	Strong

Drug-Drug Interactions to Avoid

Drugs	Rationale	Recommend.	Quality of Evidence	Strength of Recommend.
Phenytoin and TMP-SMX	Increased risk of phenytoin toxicity	Avoid	Moderate	Strong
Warfarin and amiodarone	Increased risk of bleeding	Avoid as possible	Moderate	Strong
≥ Two anticholinergic agents	Increased risk of cognitive decline	Avoid, minimize	Moderate	Strong

PIMs to Avoid in CKD

Organ System or TC or Drug	Rationale	Recommend.	Quality of Evidence	Strength of Recommend.
Spironolactone	Increased potassium	Avoid	Moderate	Strong
Duloxetine GABAnergics Tramadol	CNS effects	Avoid / Reduce dose	Moderate - low	Strong - weak
H2 blockers	CNS effects	Reduce dose	Moderate	Strong

Drugs with Anticholinergic Properties

- Promethazine
- TCAs
- Paroxetine
- Antimuscarinics for UI

Medications in the AGS Beers Criteria are potentially inappropriate, not *definitely* inappropriate

The caveats and guidance are important

Access to medications included in the Beers Criteria should not be excessively restricted by prior authorization and/or health plan coverage policies

04-30 '13 14:55 FROM-

T-362 P0001/0001 F-159

Date: [redacted]

Patient: [redacted]

Date of Birth [redacted]

Prescriber: Dubeau

Rx Requested:

SHATTUCK PHARMACY
77 WEST MAIN STREET
NORTHBOROUGH, MA 01532
TEL. (508) 393-2670
Fax: (508)-393-2616

CONFIDENTIAL

Patient requires a "Prior Authorization" for insurance coverage on:

Nitrofurantoin

Ins: Part D [redacted] RX

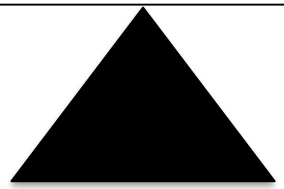
MD Call# 1-855-344-0930

Do you want PA?

yes

NCQA
Measuring quality.
Improving health care.

Prescribing Guidance vs. Quality Metric



Healthcare Effectiveness Data and Information Set (HEDIS)

- Used by >90% of American health plans to measure performance on important dimensions of care and service
- Makes it possible for stakeholders to compare performance across health plans for value-based purchasing; eg, ACOs
- 75 measures across 8 domains of care
- Updated yearly

Road from Quality Prescribing to PAs

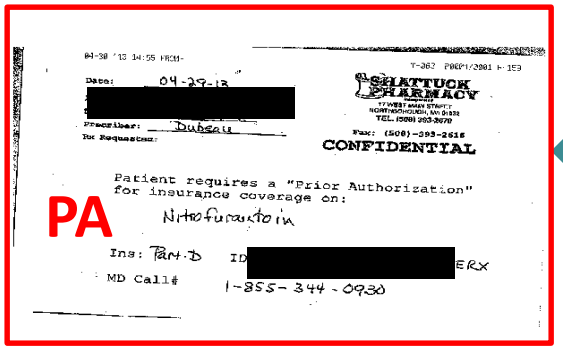
2019 AGS Beers Criteria Update

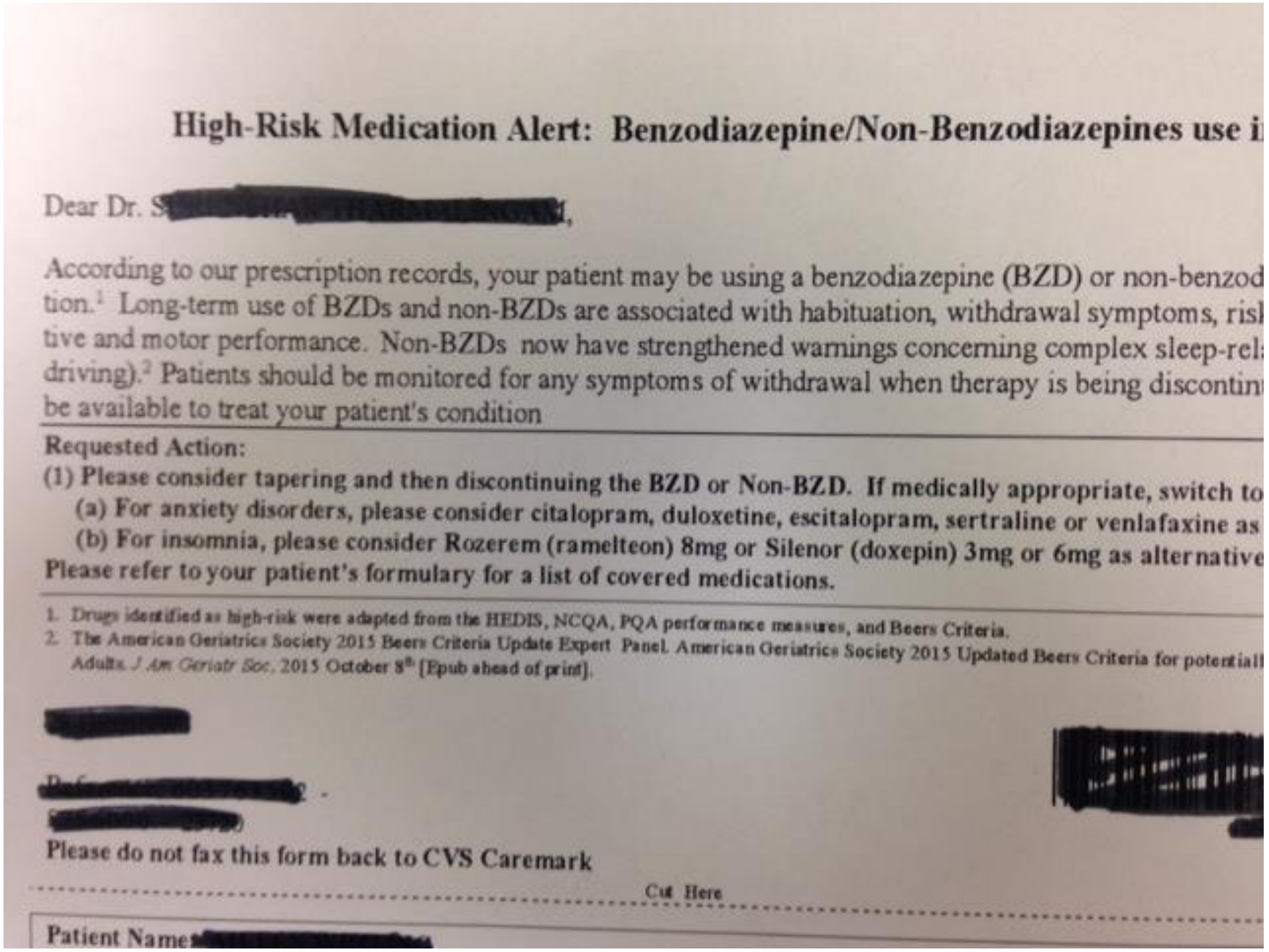
NCQA Medicare Advisory Panel

HEDIS High Risk Medications (HRMs)

Payer adoption of HRMs

Pharmacy Benefits Manager





High-Risk Medication Alert: Benzodiazepine/Non-Benzodiazepines use i

Dear Dr. S[redacted],

According to our prescription records, your patient may be using a benzodiazepine (BZD) or non-benzod
tion.[1] Long-term use of BZDs and non-BZDs are associated with habituation, withdrawal symptoms, risk
tive and motor performance. Non-BZDs now have strengthened warnings concerning complex sleep-rel
driving).[2] Patients should be monitored for any symptoms of withdrawal when therapy is being discontin
be available to treat your patient's condition

Requested Action:

(1) Please consider tapering and then discontinuing the BZD or Non-BZD. If medically appropriate, switch to
(a) For anxiety disorders, please consider citalopram, duloxetine, escitalopram, sertraline or venlafaxine as
(b) For insomnia, please consider Rozerem (ramelteon) 8mg or Silenor (doxepin) 3mg or 6mg as alternative

Please refer to your patient's formulary for a list of covered medications.

1. Drugs identified as high-risk were adapted from the HEDIS, NCQA, PQA performance measures, and Beers Criteria.
2. The American Geriatrics Society 2015 Beers Criteria Update Expert Panel. American Geriatrics Society 2015 Updated Beers Criteria for potentiall
Adults. *J Am Geriatr Soc*. 2015 October 8th [Epub ahead of print].

[redacted]

Pr[redacted]

[redacted]

Please do not fax this form back to CVS Caremark

Cut Here

Patient Name[redacted]

Brought to You by Your Favorite PBM

High-Risk Medication Alert: Benzodiazepine/Non-Benzodiazepines use i

Dear Dr. S[redacted],

According to our prescription records, your patient may be using lorazepam non-benzod
tion.[1] Long-term use of BZDs and non-BZDs are associated with ha symptoms, risk
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Beers!

[redacted]

[redacted]

Please do not fax this form back to CVS Caremark

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Patient Name[redacted]

Brought to You by Your Favorite PBM

Correlation between Beers Criteria and Clinical Judgment of Appropriateness

		Clinical Judgment		
Beers		Problem	No Problem	
	Problem	97	39	136
	No Problem	69	51	120
		168	90	256 pts

Concordance = 58%

Steinman MA et al, Arch Int Med 2009

Alternative to PIMs

PIM	Alternative treatment strategies
Nitrofurantoin	Don't treat asymptomatic bacteriuria Other antibiotics, based on sensitivity patterns For long-term suppression: SMZ-TMP, cephalosporins
Insulin, sliding scale	Basal insulin dosing or avoid insulin
Chlorpropamide Glyburide	Metformin Glipizide
Megestrol	Mirtazepine
Metclopramide	Target underlying cause of nausea
Non-COX NSAIDs, oral	APAP; concomitant use of PPI, H2 blocker (if renal fxn allows), misoprostol

Alternatives to Antipsychotics

Courtesy Dodge Park Rest Home, Worcester, MA

- Needs bases approaches
- Music
- Treat for possible pain
- "Tolerate, Anticipate, Don't Agitate" (TADA)

Flaherty, JH. Med Clin N Amer, 2011

Prescribing problems in 460K Veterans Median number or prescriptions = 5	
Drug-drug interactions	30%
Beers PIM	26%
High risk (warfarin, insulin, and/or digoxin)	16%
Inappropriate high dose	12%
Drug-disease interactions	3%

Polypharmacy - strongest predictor of all prescribing problems

Multimorbidity - predictor of drug- disease interactions and high risk meds

Steinman MA et al JGIM 2014

Interventions to Decrease Use of PIMs

- Education
- Pharmacist interventions
- Computerized support systems
- Regulation
- Targeting

Kaur S et al, Drugs Aging 2009

Tools

Criteria

- Full Article
- Editorial
- Perspective

Public Education Resources

***Beers Criteria* App**

STOPP/START

NNT app

Medstopper app

Available at:
americangeriatrics.org

Today, with quetiapine, I made a bouquet…

… Yesterday, I was a neurosurgeon

Languages: English (EN)

MEDSTOPPER

FAQs RESOURCES CONTACT

Starting medications is like the bliss of marriage and stopping them is like the agony of divorce. - Doug Danforth

MedStopper is a deprescribing resource for healthcare professionals and their patients

BETA

Frail elderly?

Generic or Brand Name:

Select Condition Treated:

Generic Name	Brand Name	Condition Treated	Add to MedStopper

Previous Next

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

PRINT PLAN

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
	zolpidem (Ambien) / Non-benzodiazepine sedative / **insomnia**				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.	rebound insomnia, tremor, anxiety, as well as more serious, rare manifestations including hallucinations, seizures, and delirium	Details

PRINT PLAN

Choosing Wisely®

An initiative of the ABIM Foundation

ConsumerReports Health

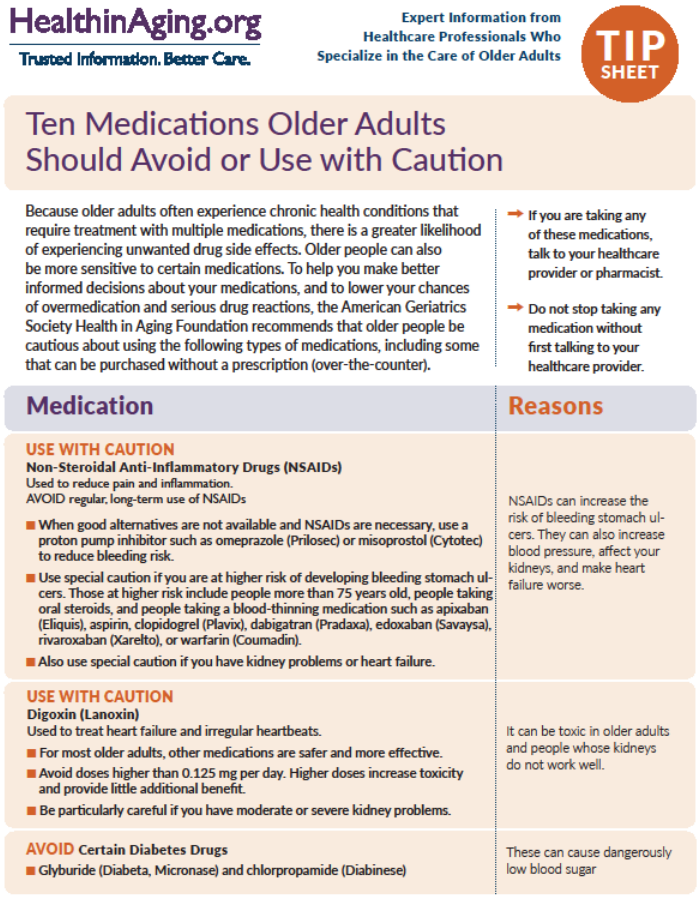
AGA

THE AGA INSTITUTE

ABIM FOUNDATION®

- Do I need a PPI?
- PPIs have risks
- PPIs can change the way other drugs work
- PPIs cost more
- When should I consider a PPI?
- **Ease heartburn without drugs**

Treating-Heartburn-And-GERD-AGA.pdf



HealthinAging.org
Trusted Information. Better Care.

Expert Information from Healthcare Professionals Who Specialize in the Care of Older Adults

TIP SHEET

Ten Medications Older Adults Should Avoid or Use with Caution

Because older adults often experience chronic health conditions that require treatment with multiple medications, there is a greater likelihood of experiencing unwanted drug side effects. Older people can also be more sensitive to certain medications. To help you make better informed decisions about your medications, and to lower your chances of overmedication and serious drug reactions, the American Geriatrics Society Health in Aging Foundation recommends that older people be cautious about using the following types of medications, including some that can be purchased without a prescription (over-the-counter).

→ If you are taking any of these medications, talk to your healthcare provider or pharmacist.

→ Do not stop taking any medication without first talking to your healthcare provider.

Medication	Reasons
USE WITH CAUTION **Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)** Used to reduce pain and inflammation. AVOID regular, long-term use of NSAIDs ■ When good alternatives are not available and NSAIDs are necessary, use a proton pump inhibitor such as omeprazole (Prilosec) or misoprostol (Cytotec) to reduce bleeding risk. ■ Use special caution if you are at higher risk of developing bleeding stomach ulcers. Those at higher risk include people more than 75 years old, people taking oral steroids, and people taking a blood-thinning medication such as apixaban (Eliquis), aspirin, clopidogrel (Plavix), dabigatran (Pradaxa), edoxaban (Savaysa), rivaroxaban (Xarelto), or warfarin (Coumadin). ■ Also use special caution if you have kidney problems or heart failure.	NSAIDs can increase the risk of bleeding stomach ulcers. They can also increase blood pressure, affect your kidneys, and make heart failure worse.
USE WITH CAUTION **Digoxin (Lanoxin)** Used to treat heart failure and irregular heartbeats. ■ For most older adults, other medications are safer and more effective. ■ Avoid doses higher than 0.125 mg per day. Higher doses increase toxicity and provide little additional benefit. ■ Be particularly careful if you have moderate or severe kidney problems.	It can be toxic in older adults and people whose kidneys do not work well.
AVOID Certain Diabetes Drugs ■ Glyburide (Diabeta, Micronase) and chlorpropamide (Diabinese)	These can cause dangerously low blood sugar

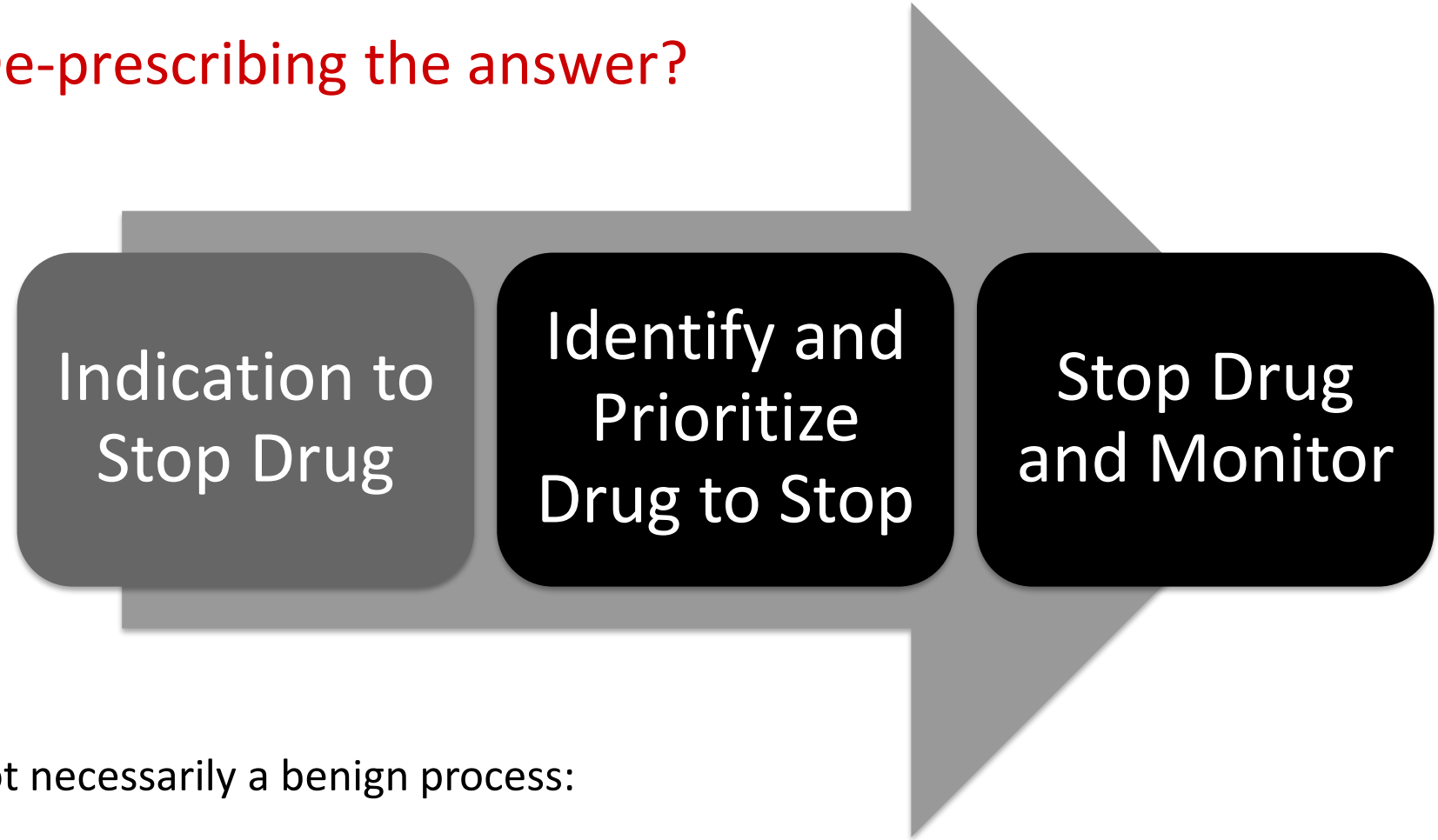
1. Caution - NSAIDs (long-term)
2. Caution – digoxin > 0.125 mg
3. Avoid glyburide, chlorpromamide
4. Avoid cyclobenzaprine, methocarbamol, carisprodol
5. Avoid benzodiazepeines and hypnotics
6. Avoid certain anticholinergic meds (amitryptiline, imipramine, Artane, Bentyl)
7. Avoid Demerol
8. Avoid certain OTCs (Benadryl, cholorphenarimine)
9. Caution - Antipsychotics if no dx of psychosis
10. Avoid estrogen (oral)

CaDeN
Canadian Deprescribing Network

ReCaD
Réseau canadien pour la déprescription

Let my people know!

Is De-prescribing the answer?

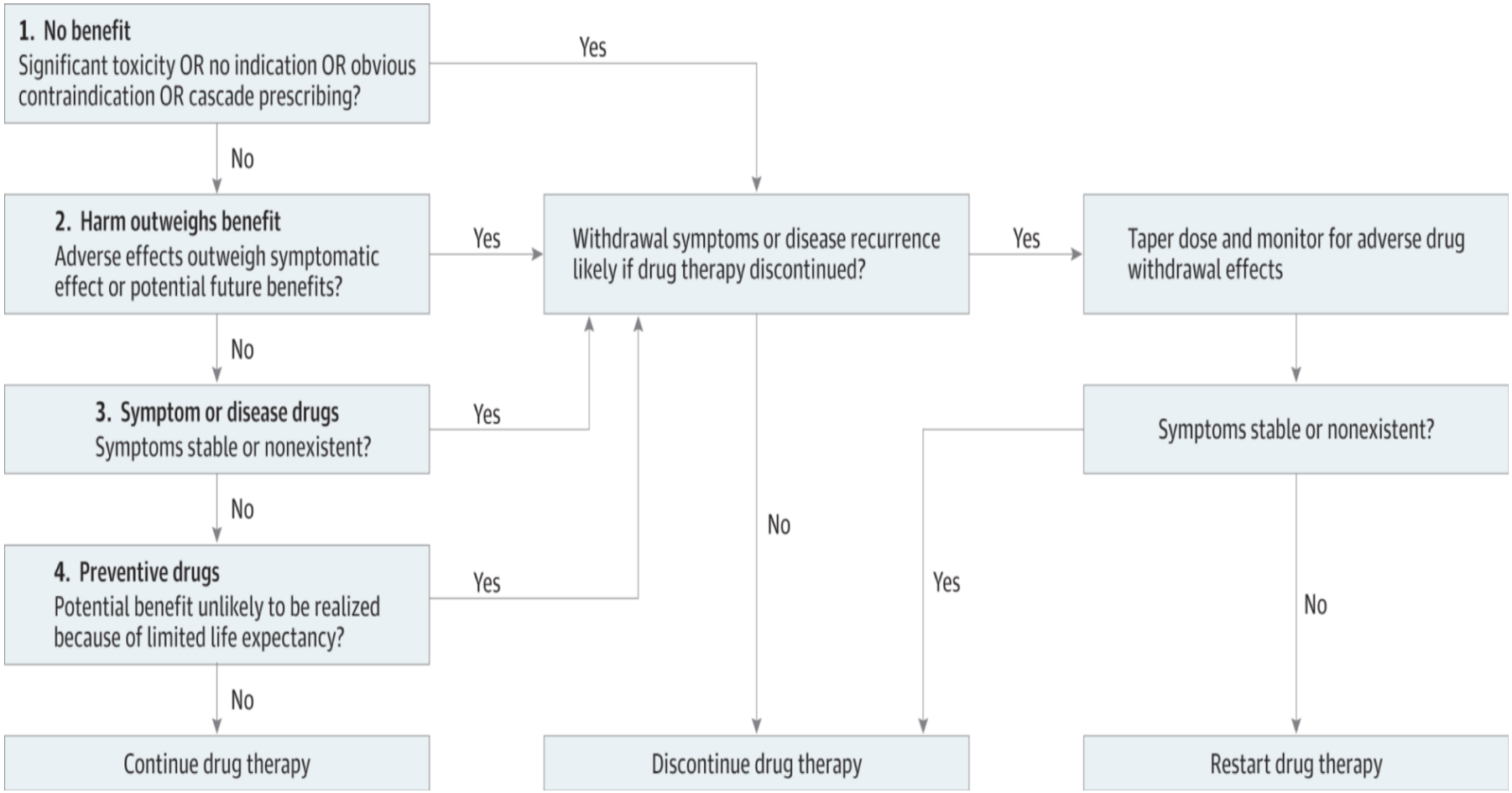


Not necessarily a benign process:

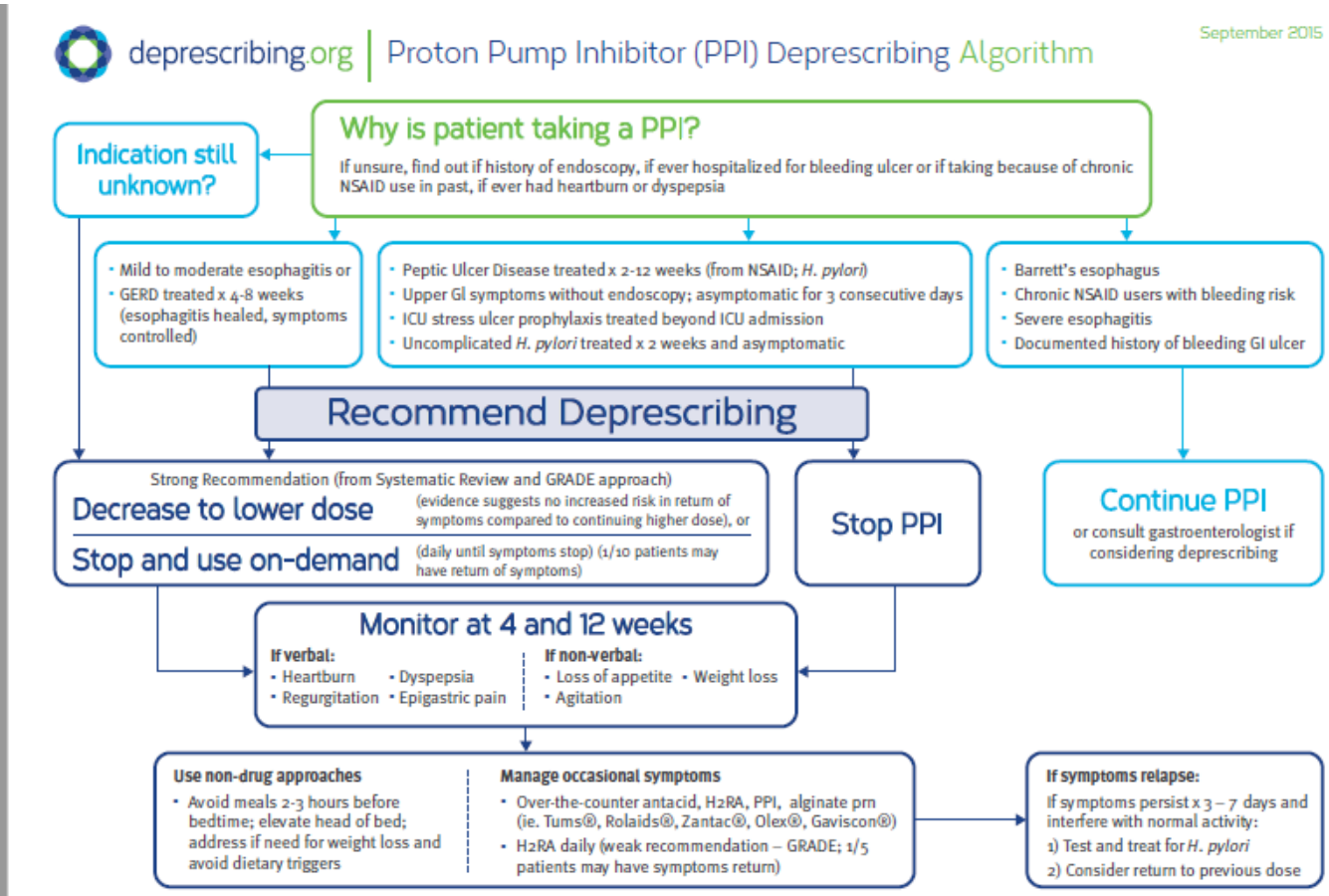
In VA study of decreasing meds in 124 pts on $\geq$ 5 meds, 26% of stopped meds led to drug withdrawal events, 36% of which were serious (led to ER visit, urgent care, or admission)

Bain, et al. *J Amer Geriatr* Soc 2008.
Woodward MC. J Pharm Pract Res 2003;33:323-328
Graves, et al. *Arch Intern Med* 1997;157:2205-10.

De-prescribing



JAMA Intern Med. 2015;175(5):827-834.



Farrell B, Pottie K, Thompson W, Boghossian T, Pizzola L, Rashid J, Rojas-Fernandez C, Walsh K, Welch V, Moayyedi P. (2015). Evidence-based clinical practice guideline for deprescribing proton pump inhibitors. Unpublished manuscript.

deprescribing.org Bruyère open

Appropriate Prescribing > PIMs

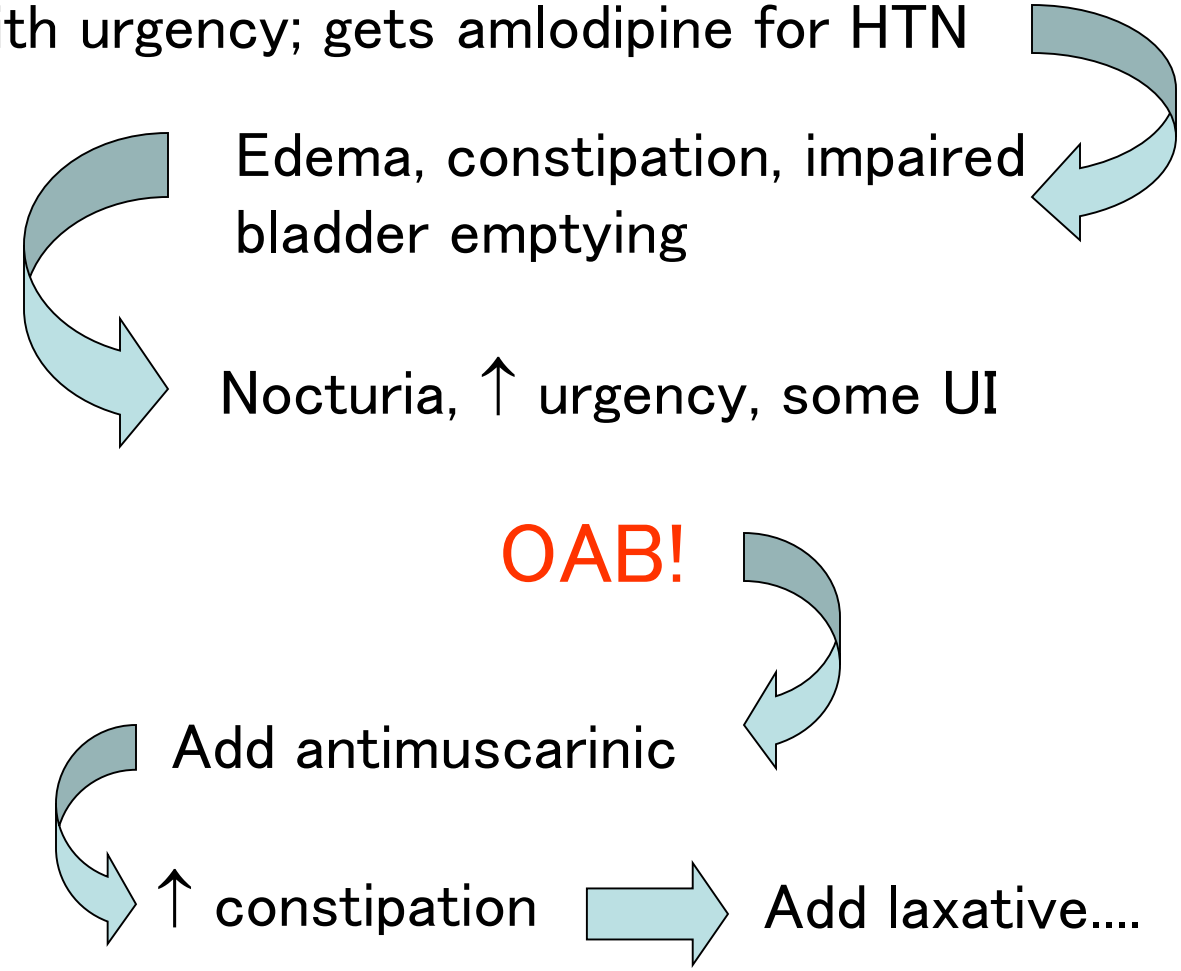
Drugs leading to ED visits for ADRs

- 9.7/1000 persons ≥ 65 have an ED visit for ADR, and rate is increasing
- 43% of these ED visits result in hospitalization
- Responsible drugs
  - **Anticoagulants 54%** (32% warfarin, 9% clopidogreal, 7% ASA, 4% DOACs)
  - **Insulin 13%**
  - **Oral hypoglycemics 6.3%**
  - **Sulfamethoxazole-trimethoprim: 1.4%** (more than APAP-hydrocodone)
  - Beers PIMs 1.8%

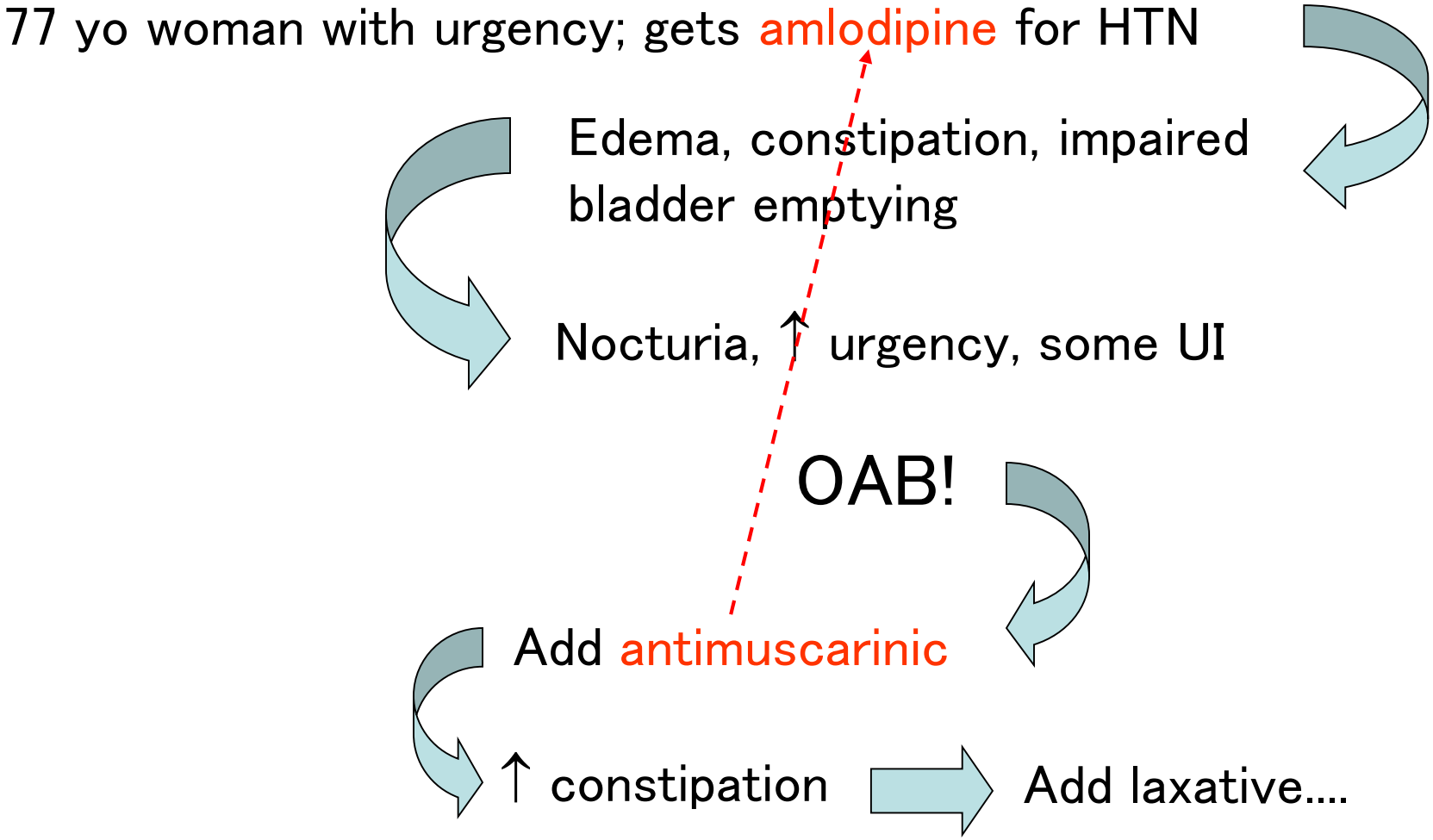
Shehab, JAMA 2106

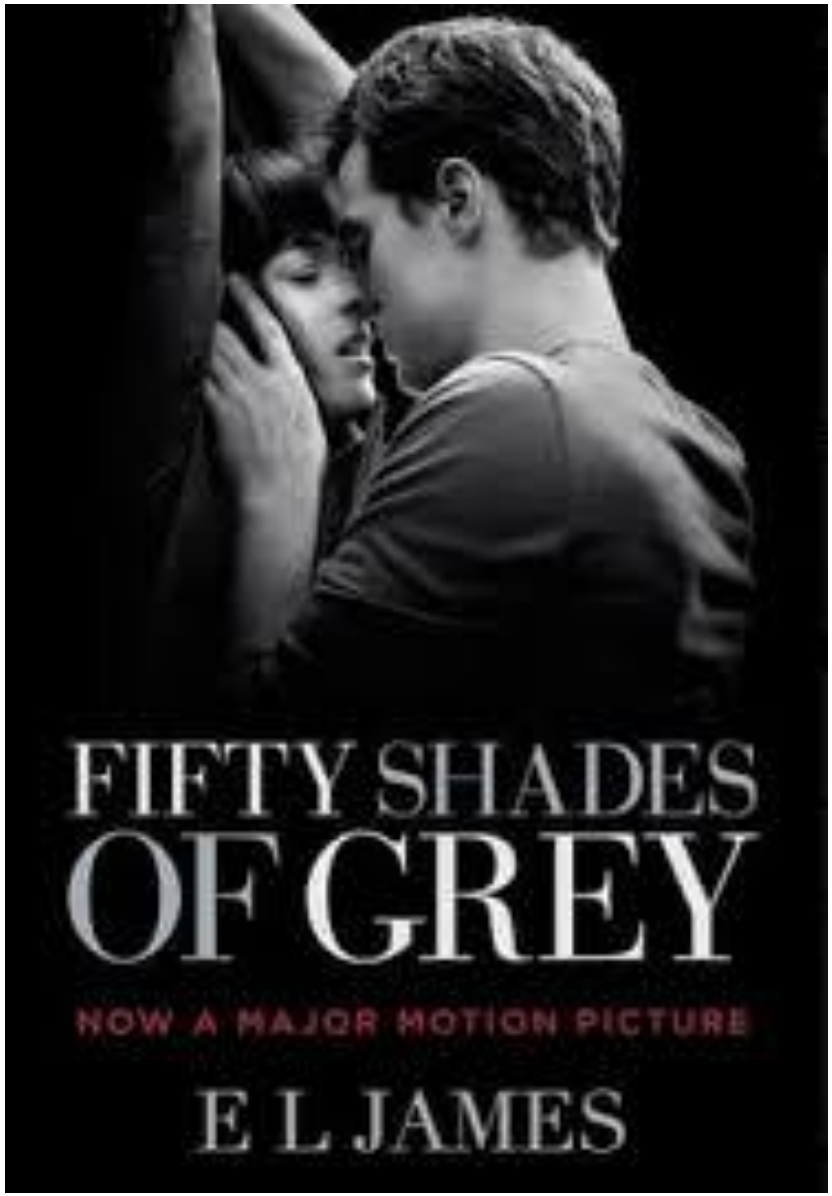
Prescribing Cascade

77 yo woman with urgency; gets amlodipine for HTN



Prescribing Cascade




FIFTY SHADES
OF GREY
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E L JAMES