When Less is More: Deprescribing Medications

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March 2, 2019

OBJECTIVES

- ✓ Describe polypharmacy, the individuals at risk, and the potential adverse drug events related to multiple medications
- ✓ Review deprescribing myths and pitfalls
- ✓ Recognize common medications that can be deprescribed
- ✓ Apply deprescribing algorithms for clinical use

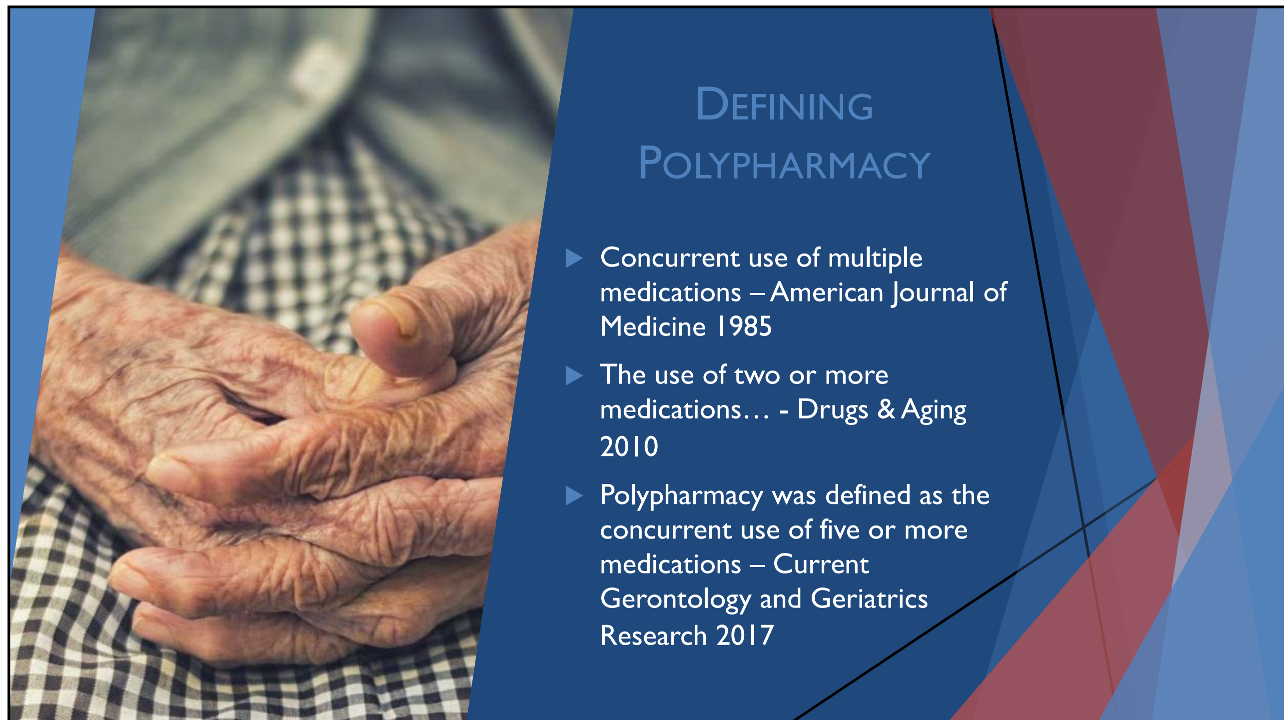
Polypharmacy

Defining Polypharmacy

Describe what water tastes like

Define sleep

Explain left vs right



POLYPHARMACY

Multiple medications for adults ≥ 65 years old

- 40% take 5 to 9 medications
- 18% take 10+

Adverse Drug Events (ADE) occur because of:

- Age-related physiological changes
- a greater degree of frailty
- Multimorbidity
- Polypharmacy

Emergency Hospitalizations for Adverse Drug Events in Older Americans NEMJ 2011

Adverse Drug Events

Adverse drug events are a direct consequence of clinical care

Older adults are 7 times more likely to have adverse drug event than younger patients

Adverse Drug Events

Table 2. National Estimates of Emergency Hospitalizations for Adverse Drug Events in Older U.S. Adults, According to Therapeutic Category, 2007–2009.*

Therapeutic Category	Annual National Estimate of Hospitalizations (N=99,628)		Proportion of Emergency Department Visits Resulting in Hospitalization
	no.	*% (95% CI)*	*%*
Hematologic agents	42,104	42.3 (35.5–49.0)	44.6
Endocrine agents	22,726	22.8 (16.7–28.9)	42.1
Cardiovascular agents	9,800	9.8 (7.1–12.5)	42.3
Central nervous system agents	9,621	9.7 (7.6–11.8)	32.2
Antiinfective agents	3,759	3.8 (2.6–4.9)	17.4
Antineoplastic agents	2,882†	2.9 (0.9–4.9)†	51.0
Other agents	3,211	3.2 (2.6–3.8)	15.0
Medications not stated or not known	957	1.0 (0.5–1.5)	20.6
Medications in more than one therapeutic category	4,568†	4.6 (2.7–6.5)	41.2

Emergency Hospitalizations for Adverse Drug Events in Older Americans NEMJ 2011

Adverse Drug Events

Table 3. National Estimates of Emergency Hospitalizations for Common Manifestations of Adverse Drug Events in Older U.S. Adults, 2007–2009.*

Endocrine agents

Cardiovascular agents

Electrolyte or fluic

Antiinfective agents

Central nervous system agents		
Fall or other injury	14.9 (9.1–20.8)	36.4
Altered mental status	42.2 (37.7–46.7)	52.1
Neuropsychiatric or other neurologic effect	9.7 (5.2–14.2)	27.7
Dizziness, syncope, weakness, dyspnea, or respiratory distress	12.1 (7.8–16.4)	23.0
Gastrointestinal effect	9.9 (4.9–14.9)	23.9

'.5

20.0

32.5

22.7

12.0

Elevated INR, abnormal laboratory values, or drug toxicity not otherwise described	23.7 (16.8–30.6)	59.5

Emergency Hospitalizations for Adverse Drug Events in Older Americans NEMJ 2011

Adverse Drug Events

Most Commonly Implicated Medications Resulting in Hospitalizations:

- ✓ **Warfarin (33.3%)**
- ✓ **Insulins (14%)**
- ✓ **Oral Anti-platelet Agents (13%)**
- ✓ **Oral Hypoglycemics (11%)**
- ✓ **Opioid analgesics (4.8%)**
- ✓ **Antibiotics (4.2%)**
- ✓ **Digoxin (3.5%)**
- ✓ **Antineoplastic agents (3.3%)**

Emergency Hospitalizations for Adverse Drug Events in Older Americans NEMJ 2011

MYTHS

PROVIDER CENTERED

- "It can come off looking like you no longer care about the patient, you know, 'You're old enough to die now so it doesn't really matter'"
- We need more research, more collaborations
- "Education would be very helpful for us, in sort of just giving us more confidence"
- "The reason you don't stop things is you think they [specialists] know better than you"

PATIENT CENTERED

- There are people who see medication as the barrier between them and the grave
- "a pill for every ill"
- "You need some funded time with the patient so that you can bring the patient in and say "This is a special appointment that's not to talk about your current medical problems, it's specifically about managing your medicines better."

Swimming against the tide. Ann Fam Med 2017

Pitfalls

- Medication management and prescribing has been a cornerstone of medicine from it's inception
- Deprescribing is not commonly taught, it's time-consuming, and it can come with inherent risks for both providers and for their patients
- Physicians want to maintain a relationships with both their patients and colleagues
- In some cases, polypharmacy is not synonymous with inappropriate treatment. In several cases, a multi-drug regimen is necessary and appropriate

Deprescribing

Deprescribing

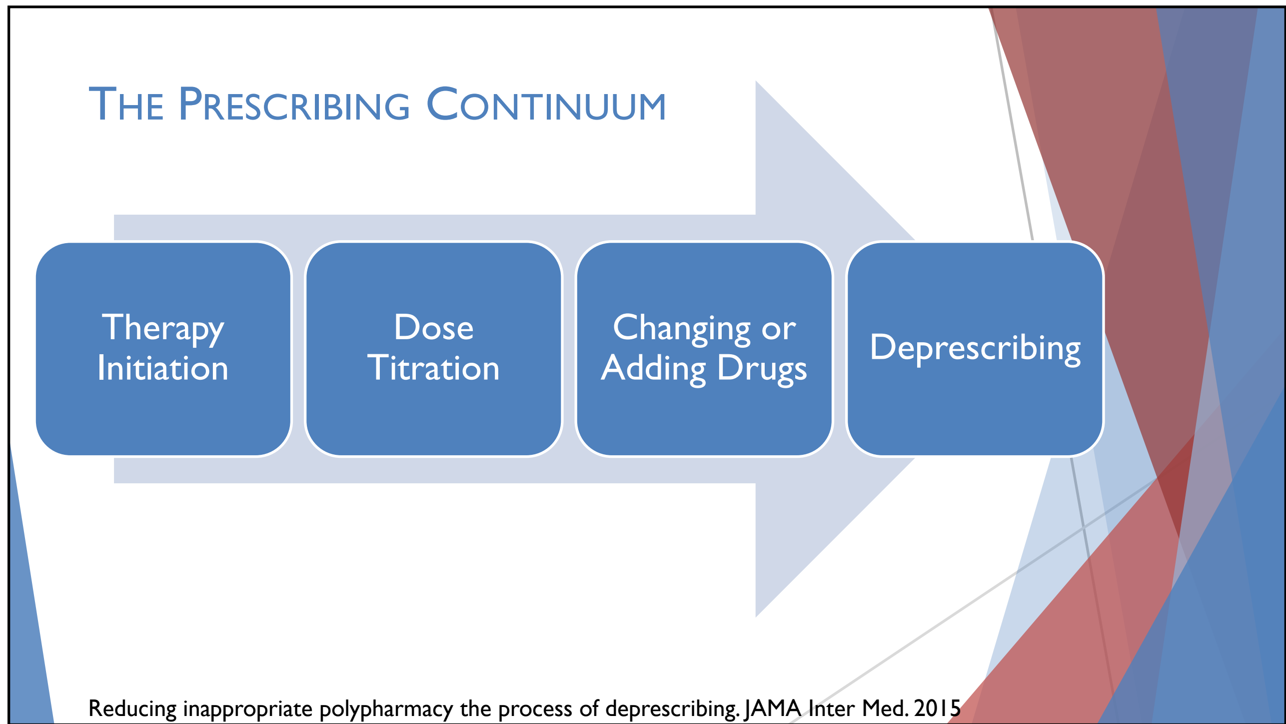
- 1/5 medications commonly taken by older adults may be inappropriate
- 1/3 prescriptions may be inappropriately used for those living in managed care facilities
- The *NUMBER* of drugs a patient takes is the single most important predictor of harm

What is DEPRESCRIBING

A systematic process of identifying and discontinuing drugs when existing or potential harms outweigh existing or potential benefits based on the patient's:

- Goals of Care
- Current Level of Functioning
- Life Expectancy,
- Values
- Preferences

Reducing inappropriate polypharmacy the process of deprescribing. JAMA Inter Med. 2015



DEPRESCRIBING

"Deprescribing is not about denying effective treatment to eligible patients. It is a positive, patient-centered intervention, with inherent uncertainties, and requires shared decision making, informed patient consent, and close monitoring of effects"

Reducing inappropriate polypharmacy the process of deprescribing. JAMA Inter Med. 2015

Deprescribing

The Process of deprescribing involves:

- Diagnosing a problem (use of a potentially inappropriate medication)
- Making a therapeutic decision (withdrawing medication with close follow-up)
- Altering the natural tendencies of providers in an attempt to reduce the incidence of drug-related adverse events
  - Falls
  - Relieving adverse effects
  - Improving function
  - Preventing premature death

The 5 Steps of Deprescribing

1. Reconcile all the medications and the reason for each medication
   - ✓ Prescription
   - ✓ OTC
   - ✓ Supplements
2. Determine the overall harm the medication list poses to the patient
   - ✓ Number of pills
   - ✓ Patient age
   - ✓ Life expectancy / comorbidities
   - ✓ Adherence / cognitive function

Reducing inappropriate polypharmacy the process of deprescribing. JAMA Inter Med. 2015

The 5 Steps of Deprescribing

3. Assess each drug for it's ability to be deprescribed

- ✓ No VALID indication
- ✓ Part of a deprescribing cascade / taper
- ✓ ADE > potential benefit - "Side effect effect"
- ✓ Further need / effectiveness
- ✓ Preventive effect unlikely to confer any patient-oriented benefit based on life expectancy
- ✓ Goals of care / patient preference
- ✓ Drugs are imposing unacceptable treatment burden

Reducing inappropriate polypharmacy the process of deprescribing. JAMA Inter Med. 2015

The 5 Steps of Deprescribing

4. Prioritize the deprescribing

- ✓ Drugs with greatest harm and least benefit
- ✓ Drugs easiest to discontinue
- ✓ Pills the patient is most willing to discontinue first

Reducing inappropriate polypharmacy the process of deprescribing. JAMA Inter Med. 2015

Examples of drugs to be deprescribed

Prescriber Ease of Removal

- Multi-vitamins
- Iron Supplements
- Vitamins
- Supplements
- Proton Pump Inhibitors
- Oral hypoglycemics
- Acetylcholinesterase Inhibitors
- Antihypertensive
- Opioids
- Benzodiazepines
- Antipsychotics

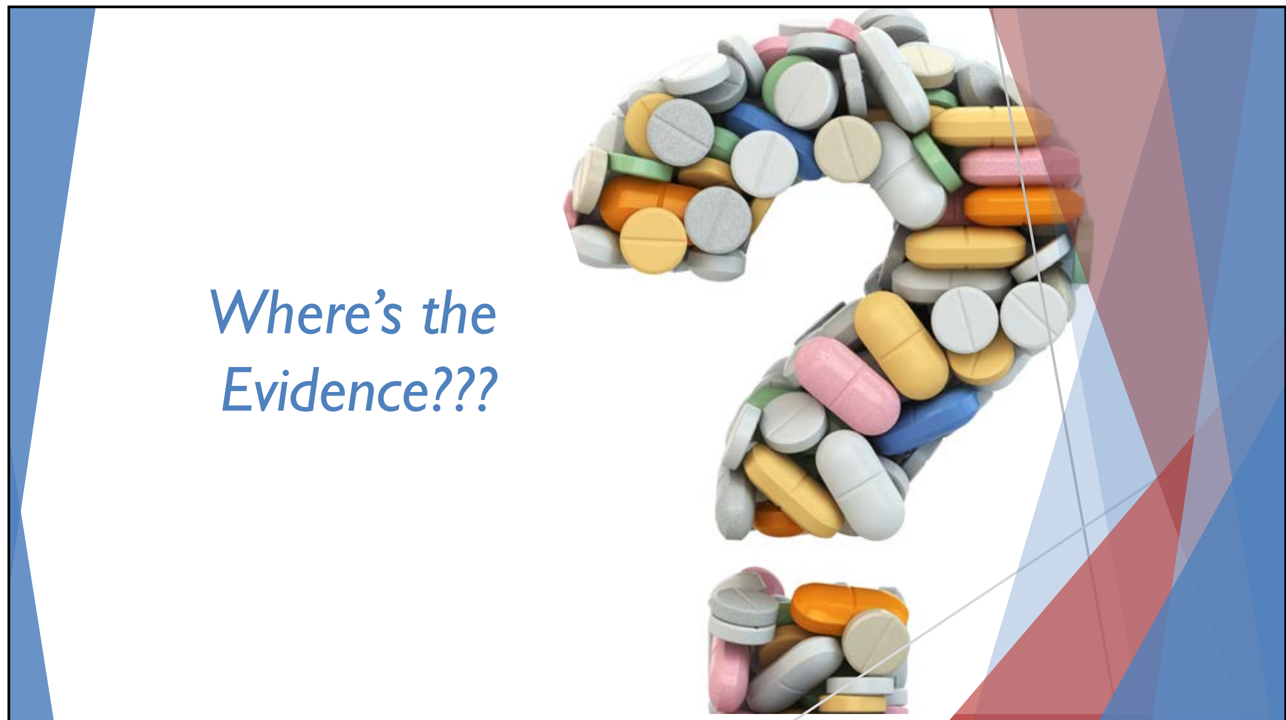
Patient Resistance of Removal

- Opioids
- Benzodiazepines
- Acetylcholinesterase Inhibitors
- Vitamins
- Supplements
- Antipsychotics
- Oral hypoglycemics
- Antihypertensive
- PPI
- Iron Supplements

The 5 Steps of Deprescribing

5. Implement and monitor deprescribing regimen
   - ✓ Develop a management regimen between prescriber and patient
   - ✓ Stop 1 mediation at a time
   - ✓ Ween medications likely to cause withdrawal effects
   - ✓ Document the reasons for and outcomes of deprescribing

Reducing inappropriate polypharmacy the process of deprescribing. JAMA Inter Med. 2015



Research

JAMA | Original Investigation

Effect of Opioid vs Nonopioid Medications on Pain-Related Func...

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CONCLUSIONS AND RELEVANCE Treatment with opioids was not superior to treatment with nonopioid medications for improving pain-related function over 12 months. Results do not support initiation of opioid therapy for moderate to severe chronic back pain or hip or knee osteoarthritis pain.

The SPACE randomized clinical trial. JAMA. 2018

Vitamin D Supplementation in Adults: Common Ques

Michael L. LeFevre, MD, MSP
Nicholas M. LeFevre, MD,

The USPSTF found adequate evidence that treating vitamin D deficiency does not reduce risk of cancer, type 2 diabetes mellitus, or death in community-dwelling adults, or fractures in persons not at high risk of fractures. Evidence is insufficient for other outcomes, including psychosocial and

Physicians should not measure 25-OH-D levels or prescribe vitamin D supplementation in the treatment of depression, fatigue, osteoarthritis, or chronic pain.

Vitamin D screening and supplementation in community-dwelling adults. Am Fam Physician. 2018

VIEWPOINT

Vitamin and Mineral Supplements
What Clinicians Need to Know

JoAnn E. Manson, MD, DrPH
Division of Preventive Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston,

- Most randomized clinical trials of vitamin and mineral supplements have not demonstrated clear benefits for primary or secondary prevention of chronic diseases not related to nutritional deficiency
- High doses of β-carotene, folic acid, vitamin E, or selenium—may have harmful effects, including increased mortality, cancer, and hemorrhagic stroke
- Multivitamin/multimineral supplementation is not recommended for generally healthy adults
- "Cocoa Supplement and Multivitamin Outcome Study" (COSMOS) to conclude October 2020

Vitamin and mineral supplements: what clinicians need to know. JAMA. 2018

Case 1

67yo male with h/o HTN, HLD, DMII, BPH, and GERD presents for CDM. He states he wants to get off of some of his medications because he just retired, went on Medicare insurance, and found out they don't cover some of his old medications.

Medications

- Chlorthalidone 50mg daily
- Lisinopril 20mg daily
- Metformin 1000mg BID
- Atorvastatin 40mg daily
- Glyburide 10mg BID
- Detrol XL 4mg daily
- Nexium 40mg daily
- Aspirin 81mg daily
- Potassium Chloride 20meq BID
- Selenium daily
- Multivitamin daily

Case 1

He does report he has been trying to eat better, started walking with his wife at night, and has cut back on the alcohol since retiring. Unfortunately, he has been getting dizzy at night and finds that he is clammy when he wakes up to go to the bathroom. He has 3-4 episodes of nocturia / night. He also finds that he's constipated. Otherwise, he denies any fevers, chills, CP, SOB, nausea, abdominal pain, diarrhea, constipation, or daytime urinary frequency.

Exam

- Vitals: 112/72, HR 78, RR 12, 98.6
- General: WD, WN, NAD
- HEENT: NC/AT, EOMI, PERRLA, Oral pharynx appears dry
- Cardiac: RRR, no M/R/G
- Lungs: CTA bilat, no W/R/R
- Abdomen: BS x 4, soft, NT/ND. No R/G/R
- Ext: No clubbing, cyanosis, or edema
- DRE: Appropriate sphincter tone, symmetrically enlarged prostate without nodule

Case I

138	100	20	89
3.0	27	0.9	

A1c: 5.9

PSA: 1.20

Case I

How do we start with deprescribing?

1) Reconcile all the medications and the reason for each medication.
2) Determine the overall harm the medication list poses to the patient.
3) Assess each drug for it's ability to be deprescribed.
4) Prioritize the deprescribing.
5) Implement and monitor deprescribing regimen.

Case I

Medications		Indications
Chlorthalidone 50mg daily	→	Hypertension
Lisinopril 20mg daily	→	Hypertension
Metformin 1000mg BID	→	Diabetes
Glyburide 10mg BID	→	Diabetes
Atorvastatin 40mg daily	→	Hyperlipidemia
Tolterodine XL 4mg daily	→	Overactive Bladder?
Esomeprazole 40mg daily	→	GERD – no Barrett's or esophagitis
Aspirin 81mg daily	→	Primary ASCVD prevention
Potassium Chloride 20meq BID	→	hypokalemia 2° to Chlorthalidone?
Selenium daily	→	???
Multivitamin daily	→	???

Case I

Medications		Indications
✓ Chlorthalidone 50mg daily	→	Hypertension
Lisinopril 20mg daily	→	Hypertension
Metformin 1000mg BID	→	Diabetes
✓ Glyburide 10mg BID	→	Diabetes
Atorvastatin 40mg daily	→	Hyperlipidemia
✓ Tolterodine XL 4mg daily	→	Overactive Bladder?
✓ Esomeprazole 40mg daily	→	GERD – no Barrett's or esophagitis
Aspirin 81mg daily	→	Primary ASCVD prevention
✓ Potassium Chloride 20meq BID	→	hypokalemia 2° to Chlorthalidone?
✓ Selenium daily	→	???
✓ Multivitamin daily	→	???

Case I

Where do we start with deprescribing?

Case I

Assessment / Plan:

1. Diabetes Mellitus – well controlled. Likely getting hypoglycemic at night given tight glycemic control. Deprescribe Glyburide. Continue Metformin. Recheck A1c 3mos
2. Hypertension – continue lisinopril for primary and secondary prevention. Consider stopping chlorthalidone and potassium supplement given well controlled hypertension and hypokalemia on BMP. Repeat BMP 1wk
3. GERD – No history of Barrett's or esophagitis. Consider deprescribing esomeprazole
4. BPH – No indication for over-active bladder treatment. Pt also experiencing likely anticholinergic side effects from Detrol LA. Consider deprescribing tolterodine LA
5. Primary ASCVD prevention – Continue atorvastatin and ASA. No indication for supplement use. Deprescribe multivitamin and selenium

Othe

POCKET GUIDE: TAPERING OPIOIDS FOR CHRONIC PAIN*

Follow up regularly with patients to

riteria for potentially

CLINICAL INVESTIGATION

American Geriatrics Society 2019 Updated AGS Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults

*By the 2019 American Geriatrics Society Beers Criteria® Update Expert Panel**

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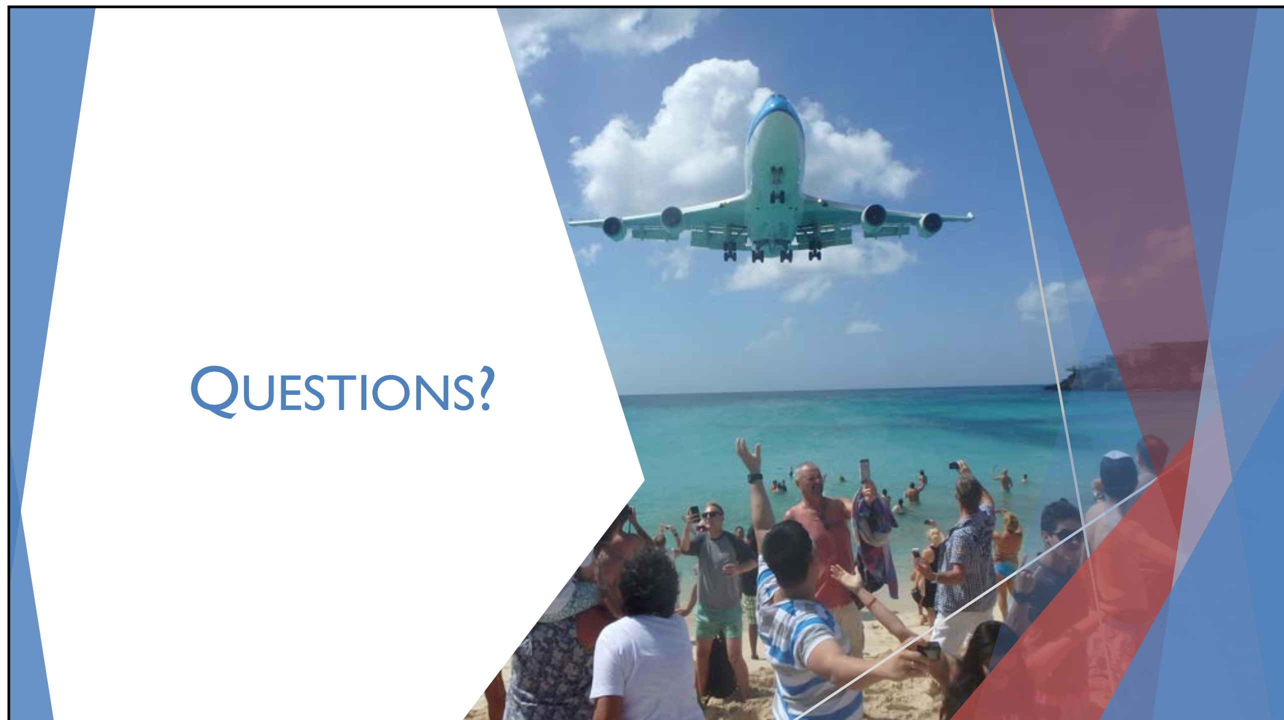
Potentially Inappropriate Medication Use in Older Adults

By the American Geriatrics Society 2015 Beers Criteria Update Expert Panel

GUIDELINE FOR PRESCRIBING OPIOIDS FOR CHRONIC PAIN

OBJECTIVES

- ✓ Describe polypharmacy, the individuals at risk, and the potential adverse drug events related to multiple medications
- ✓ Review deprescribing myths and pitfalls
- ✓ Recognize common medications that can be deprescribed
- ✓ Apply deprescribing methods clinically



RESOURCES

American Geriatrics Society 2015 Beers Criteria Update Expert Panel. American geriatrics society 2015 updated beers criteria for potentially inappropriate medication use in older adults. JAGS. 2015. 1-20

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