

Deprescribing Made Easy:

A Practical, Applicable, Evidence-based Approach to a Common but Complex Problem

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With Thanks to Drs Milta Litte and Dan Haimowitz

Speaker Disclosures

Dr Crecelius has no financial relationship(s) regarding the content of this presentation

Learning Objectives

By the end of the session, participants will be able to:

- Identify common chronic disease conditions associated with inappropriate prescribing and medication errors in older adults.
- Discuss strategies to reduce medication burden in complex patients with advanced age or limited life expectancy.
- Describe interprofessional strategies to reduce or prevent polypharmacy and inappropriate medication use.
- Utilize drug-specific tools and protocols to reduce polypharmacy and medication errors.

CONSEQUENCES OF POLYPHARMACY

- Hospitalizations
- Rehospitalizations
- Adverse drug events
- ED visits
- Drug-drug Interactions
- Drug-disease interactions
- Costs
- Unintentional overdoses
- Increased anticholinergic burden
- DEATH



CONSEQUENCES OF POLYPHARMACY

- Reduction in function
- Higher incidence of frailty
- Worsens quality of life
- Sedation
- Depression
- Delirium
- Weight loss
- Cognitive decline
- Orthostatic hypotension
- Increased fracture risk
- Falls



Systematic Review of Randomized Controlled Trials

- JAMDA 19 (2018) pgs 923-935
- Suggested may
 - require expensive intensive, ongoing interventions by clinical teams
 - not lead to expected outcomes (less falls, improved cognition and QOL or lower admission rate)
 - have unexpected adverse outcomes affecting patients' QOL
- Note: study reviewed 20 yrs of literature, across all settings including outpatient, all “non-terminally ill adults 18 yrs and older”

Caveats

- Research usually not in our patients
- Medication Nihilism
- Clinicians typically underestimate harms and overestimate benefits of treatments, screenings and tests (JAMA Int Med 2017;177(3):407-419)
- “Challenges and Opportunities” JAMDA 19 (2018) 919-922
- 7% Canadian community-dwelling older adults familiar with term “deprescribing” (JAGS 65:2691-2692, 2017)

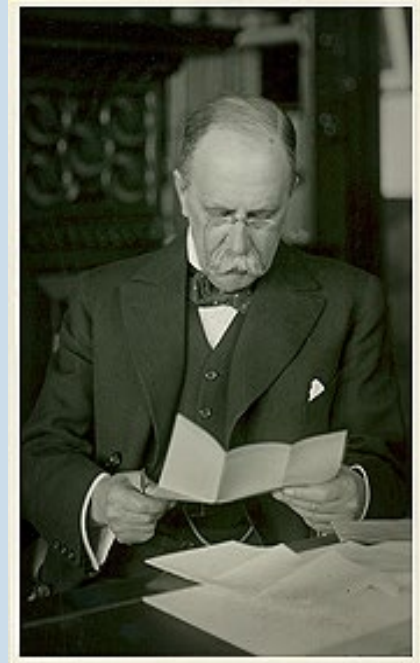
**WHEN YOUR PATIENT DENIES
ANY MEDICAL HISTORY**



**AND THEN SHOWS
YOU THEIR MEDS**

“The desire to take medicine is perhaps the greatest feature which distinguishes man from animals.”

- Sir William Osler, In H. Cushing, Life of Sir William Osler

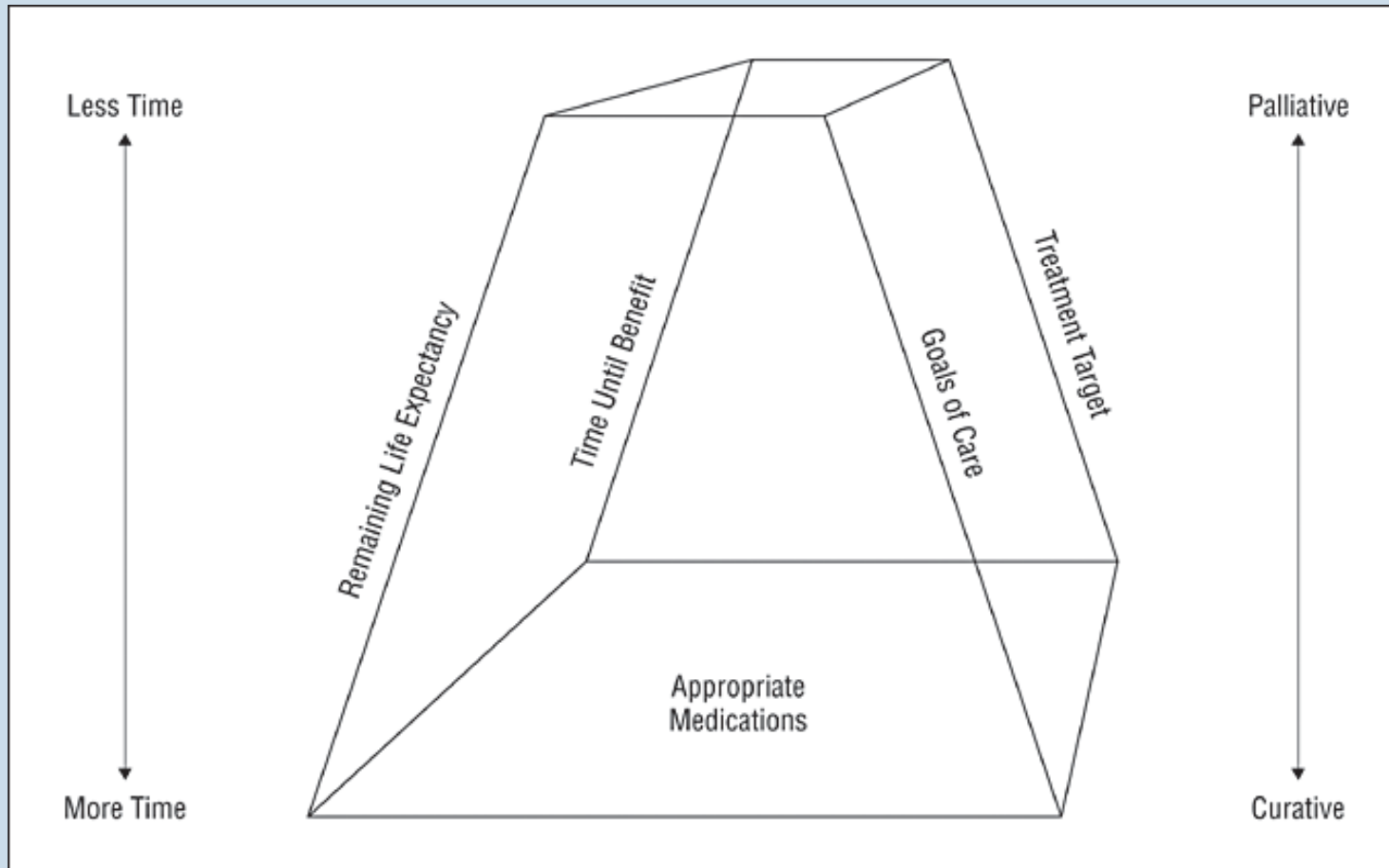




Prognostication

- Need to weigh benefits of benefits and burdens of tests and treatment
 - Doctor do no harm, value based medicine,
- Defining a reasonable prognosis assists family and physician in making intelligent Rx choices
- Quality / validation of prognostic indices for older adults limited, but may still be of use
- Physicians not very good at this

Appropriate Medications Decreases with Age



Having the Talk

- PCPs' Views on Incorporating Long-Term Prognosis in the Care of Older Adults:

“suboptimal,” “reluctant to discuss”

Barriers: uncertainty in prediction, difficulty in discussing, time constraints, lack of emphasis or value placed on prognosis in societal or health care culture, inappropriate incentives, litigation concern, inadequate training, concern about patient reaction

- Conversation Project, Vital Talk
- Porack, Flacker scales (eprognosis.org)

Estimating Life Expectancy

- Using the simple “surprise” question:
“Knowing all that I know about this patient, would I be surprised if he or she were to die in the next 12 months?”
- Reasonably predictive





Hypertension

Hypertension – Too many opinions, not enough discrimination

Most studies do not apply to our population

- HYVET – 4,071 ambulatory only, greater than 80 year old, but excluded nursing home patients
- SPRINT – 50+ year old, 5 out of 6 patients currently treated for HTN don't meet study criteria. Aggressive treatment had serious harm in 2.5 to 4.7%, absolute benefit 1.6%
- JNC 8 – lumps 60 years and older in one category, no nursing home patients
- Generally goal has been treat if BP \geq 150/90

What About Co-Morbid Conditions?

General population

- JNC8 - $<140/90$ if DM or CKD
- AHA/ACC/ASH: HTN + CAD BP $<140/90$, high-risk $<130/80$

BUT our patients are not the general population

- PARTAGE – 1,130 frail NH residents >80 year old
9% decrease mortality per 10 point increase in BP, lowest tertile had 30% increase in mortality (confounded by Rx).
SBP $<130 + \geq 2$ Rx = 80% higher mortality
- 3 separate 1980's studies showed no benefit treating 90 year olds, and increased mortality if diastolic lowered

More Quandaries in Elders.....

- Orthostasis >20 mm Hg = $\geq 30\%$ death 6 months
- Late onset HTN (>80 year old) is associated with a lower risk of dementia – more pronounced when >90
- Treatment HTN associated with fall risk in frail persons
- Speed walking associated with mortality from BP
 - Fast walkers: 3x mortality with high BP
 - Slow walkers: no correlation of BP with death
 - Those unable to complete walk: “elevated BP was strongly and independently associated with a lower risk of death”

So What To Do For My NF Patients??

- Check orthostatics and treat the lower number
- Consider NOT treating ≥ 90 year olds (?frailty)
- Avoid treating late onset hypertension
- Do not lower BP systolic to less 130 (?CHF exception)
- Consider ambulatory ability of patient – treat the mobile
- Try to treat with one medication (?CAD/CHF exception)
- Goal of 140-160, perhaps 140-150 with DM/CAD

Nutritional Deficiencies



ARE WE JUST STUFFING A TURKEY??

Magnesium

- True deficiency rare - GI disease/PPI use, hyperaldo/T4, hypoPTH, RTA, post obstructive diuresis, excess laxative/diuretic/alcohol
- Depression / anxiety (poor evidence younger)
- Muscle relaxant / spasms (marginal evidence)
- Blood pressure lowering (only studied in prehypertension in younger adults)
- Good diet preferred to supplementation
- Supplementation potentially dangerous in kidney, heart, DM or GI disease – **check level!**

Fish oil



- FDA indication limited to hypertriglyceridemia
- Modest evidence for heart disease, HTN, RA
- Benefits limited to non-elder, non-frail persons
- Benefit very dependent on EPA/DHC ratio, and evidence often conflicting e.g. cancer
- Eating real food appears as good is not superior
- Can promote elevated blood sugar, bleeding, low BP, reflux, diarrhea, insomnia
- Best evidence suggests no improvement in memory in elders

Vitamin D

- Most evidence suggest level ≥ 30 ng/dl best
- Most studies have issues – used doses less than recommended 600-2,000 IU/d, have data analysis and noncompliance issues
- Endocrine Society – 1,500 – 2,000 IU/d
- Benefit for bone and fall risk fairly clear, but all others conflicting or marginal
- Test or just treat? D2 or D3?



vitamin E



Vitamin E

- Observations studies suggested, but treatment studies disproved any CV benefit
- No effect on cancer – may increase prostate CA
- Most evidence shows no effect on cognition
- Macular degeneration may be delayed when Vit E is coupled with other agents
- Increases risk of bleeding / brain hemorrhage
- Can interfere with statins, Fe, anticoagulants

Multivitamins

- Evidence in LTC exceeding poor
- Manufacturers, RD, lawyers often tout benefit
- Many supplements may act as a multivitamin
 - Usually contain $\frac{1}{4}$ RDA
- Candidates for vitamins might include
 - those with malnutrition on admission or acquired
 - Malabsorption states
 - wounds
 - diabetics



Diabetes Mellitus 2



ADA/AGS Glycemic Targets in Age ≥ 65

- **Healthy patient:** *Few coexisting chronic illnesses; cognitive, functional status intact*
 - Rationale for recommendations: longer life expectancy
 - A1C goal: $<7.5\%^*$
- **Complex/intermediate patient:** *Multiple coexisting chronic illnesses[†] or 2+ instrumental ADL impairments or mild-to-moderate cognitive impairment*
 - Rationale for recommendations: intermediate life expectancy; high treatment burden; vulnerable to hypoglycemia and falls
 - A1C goal: $<8.0\%^*$
- **Very complex/patient in poor health:** *LTC or end-stage chronic illnesses[‡] or moderate-to-severe cognitive impairment or 2+ ADL dependencies*
 - Rationale for recommendations: limited life expectancy; benefit uncertain
 - A1C goal: $<8.5\%^{\S}$

Life Expectancy

The relationship between A1C and eAG is described by the formula $28.7 \times \text{A1C} - 46.7 = \text{eAG}$.

A1C	
%	mg/dl
6	126
6.5	140
7	154
7.5	169
8	183
8.5	197
9	212
9.5	226
10	240

Happy Medium

2018 American College of Physicians Clinical Guidelines Guidance Statement 2: *Clinicians should aim to achieve an HbA_{1c} level between 7% and 8% in most patients with type 2 diabetes.*

Guidance Statement 3: *Clinicians should consider deintensifying pharmacologic therapy in patients with type 2 diabetes who achieve HbA_{1c} levels less than 6.5%.*

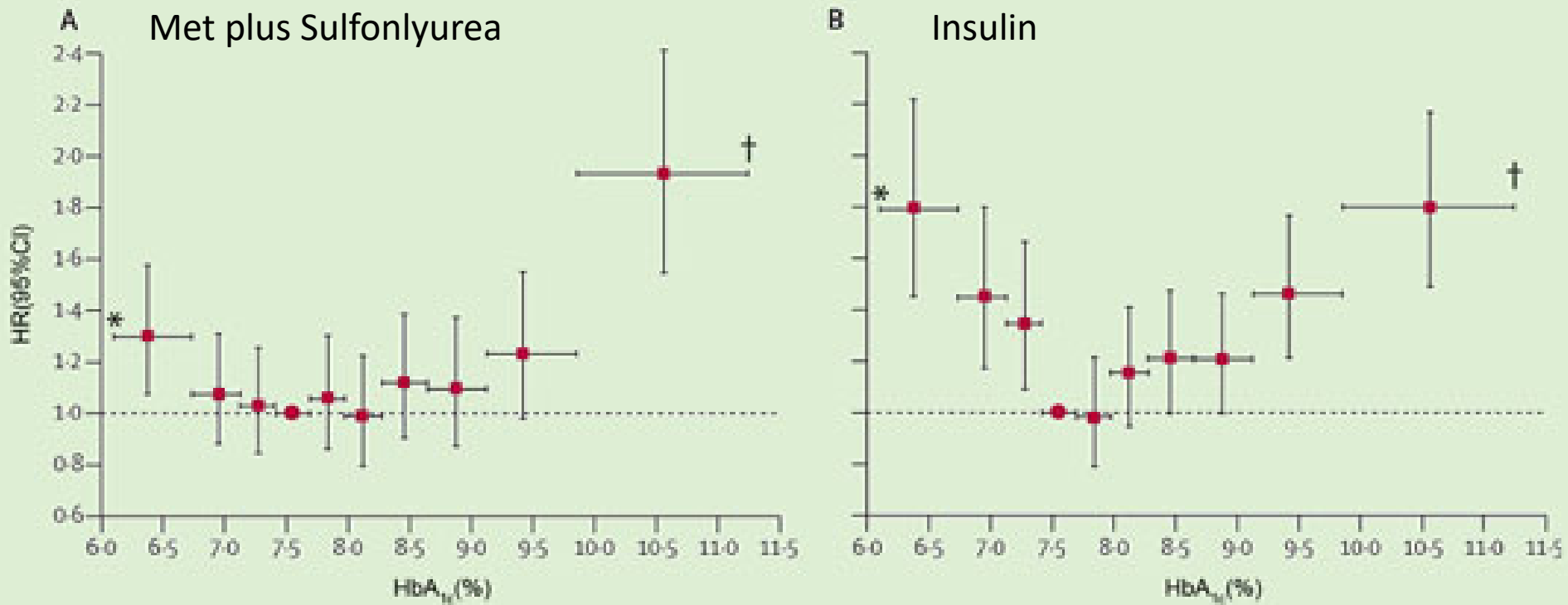
Mr. Sweets: 89 y/o male admitted from home for long term care, ambulates with a walker, A1C 6.6

- Aspirin 81 mg daily
- Clopidogrel 75 mg daily
- Simvastatin 80 mg daily
- Amlodipine 10 mg daily
- Carvedilol 6.25 mg BID
- Donepezil 10 mg HS
- Finasteride 5 mg daily
- Timolol ophth daily
- **Glyburide 10 mg daily**
- **Metformin 1000 mg BID**
- OTC:
 - Docusate 100 mg BID
 - Multivitamin 1 tab daily

AM BS 80s-120s

PM BS 200s-300s

Anti-diabetic Agents



Anti-diabetic Agents

- Evidence from RCTs shows that A1C <7
 - does not reduce major cardiovascular events in older adults
 - does not reduce microvascular outcomes important to patients
 - consistently increases the risk of hypoglycemia by 1.5- to 3-fold.
 - Net harm in majority of older adults
- Harms of HbA1c <7.5% likely outweigh the benefits.



Table 3. Minimizing Polypharmacy in Older Adults With Type 2 Diabetes Mellitus

When to Consider Reducing or Stopping Medications	How to Modify Therapy
Lack of benefit	Reduce the dose or stop the medication with highest rates of adverse events, treatment burden, or patient costs Often, this will be the last medication started
HbA _{1c} < 6.5% or 7.5% in persons with limited life expectancy	As above
Adverse events	Reduce or stop medications most likely to have caused adverse event
Hypoglycemia	Insulin, sulfonylureas
Weight gain	Insulin, sulfonylureas, thiazolidinediones
Heart failure, edema	Thiazolidinediones
Gastrointestinal adverse effects	Metformin, GLP-1 agonists
Patient preference for decreased intensity of treatment	Elicit and explore the rationale behind patient preferences
Less frequent monitoring of blood glucose	Decrease or stop insulin
High cost of medications	Stop newer, high-cost agents
Limited capacity	Support patient to enhance capacity or choose to accept some hyperglycemia
Cognitive impairment	Explore whether caregivers can administer diabetes medications
Poor dexterity or vision	Decreasing or stopping medications may be best approach if caregivers cannot help

Drug-Disease Interactions

Lipska KJ, et al. JAMA. 2016;315(10):1034-1045

What I Do

AVOID AND STOP

- Sulfonylureas \$
- Long-term SSI \$\$

USE INSTEAD

- Metformin \$
- DPP-4 inhibitors \$\$
- GLP-1 inhibitors \$\$\$
- NPH or 70/30 insulin \$
- Low dose basal insulin \$\$



Proton Pump Inhibitors (PPI)

WHEN TO STOP? WHEN TO CONTINUE?



The Numbers

- PPI use increased from 3.9% to 7.8% from 1999-2000 to 2011 -2012
- ~25-70% of PPI Rx are for inappropriate indications
- Duration of use frequently extends beyond recommendations
- Overprescribed, Rarely deprescribed



Prescribing Recommendations

FIRST LINE TREATMENT

- Esophagitis (8 weeks, high dose, NNT = 7)
- Nonerosive reflux disease (4 weeks)
- Peptic Ulcer Disease (PUD)
- Prevention of NSAID associated ulcers
- Zollinger-Ellison syndrome (ZES)
- Functional Dyspepsia
- Helicobacter pylori eradication

OTHER RECOMMENDATIONS

- Gastroesophageal reflux disease (GERD)
 - Short-term healing, maintenance of healing, long-term symptom control
 - After initial trial, an attempt should be made to stop or reduce treatment
 - Refractory symptoms: consider esophageal pH/impedance monitoring before recommending long-term use
- Barrett's esophagus
 - Symptomatic GERD: long-term PPI should be recommended
 - Asymptomatic: *consider* long-term PPI

Always use lowest effective dose [and lowest cost]

Chronic PPI Use – Complications

Malabsorption of key minerals / vitamins

- Calcium
- Magnesium
- B12 and Iron → anemia

Osteoporosis and Fractures

Gray SL, et al. Arch Intern Med 2010; 170: 765-71.

Pneumonia

De Jager CP, et al. (2012) Aliment Pharmacol Ther. 2012;36:941-949.

C. diff

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+/- Dementia

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Mortality

Xie Y, et al. BMJ Open 2017;7:e015735.

Drug-Drug Interactions

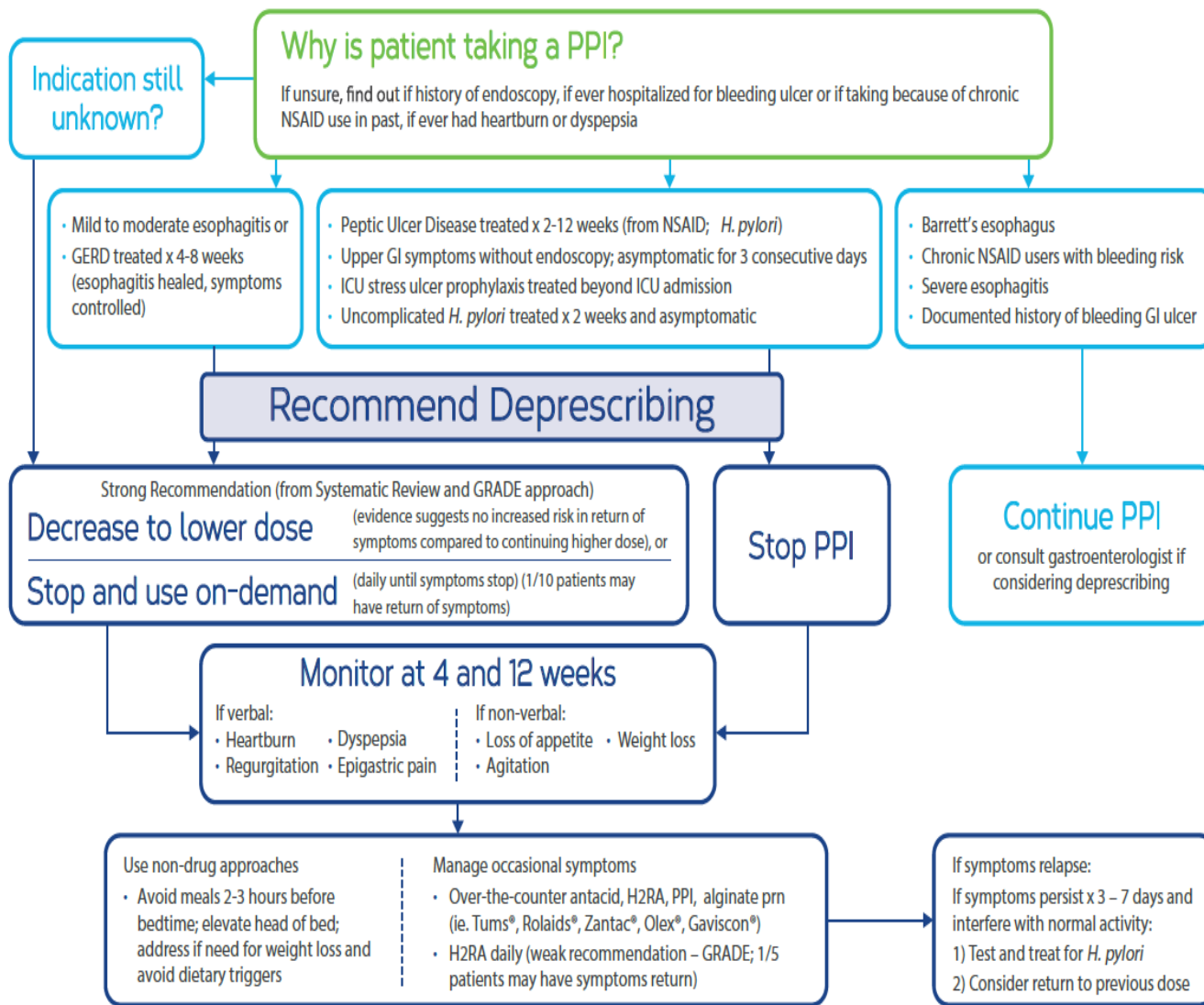


The Right Idea for the Wrong Patient: Results of a National Survey on Stopping PPIs

- (1) GERD, well controlled for years with normal EGD
Low Risk
32% stopped
- (2) Prevention of UGIB while on low dose ASA and warfarin, otherwise asymptomatic
Moderate Risk
47% stopped
- (3) Prevention of UGIB while on low dose ASA alone with a history of NSAID related PUD 10 years prior, otherwise asymptomatic
High Risk
62% stopped



Kurlander J et al, "The right idea in the wrong patient: a national survey of internists' attitudes towards stopping PPIs," DDW 2017; abstract Sa1016.



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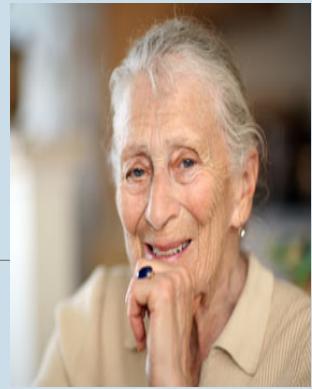


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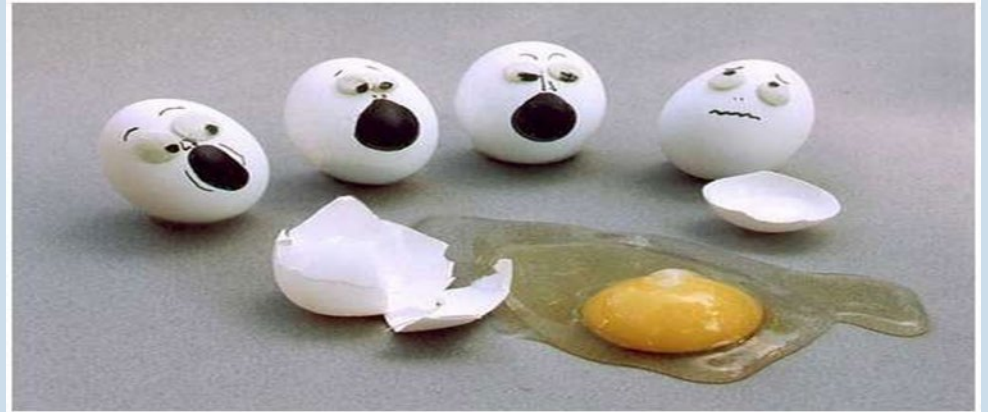
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What I Do



- Complete 6-8 week course of high-dose PPI for healing of esophagitis, PUD, H. Pylori
- Switch all patients on PPI for remote PUD and chronic NSAID use to lowest dose of cheapest med
- For patients with GERD or asx Barrett's
 - On high-dose PPI, change to lowest dose of cheapest med
 - On low-dose PPI, switch to H2 blocker
 - Re-assess after 2-4 wks and continue taper if no sx recurrence



Cholesterol



Cholesterol

- New guidelines: “may be reasonable to stop statins...(with) cognitive decline or reduced life expectancy that may limit benefits”
- Primary prevention ages 40-75
- Secondary prevention up to age 80
- Other classes—not enough evidence to recommend use in elderly population in either primary or secondary scenarios

Statins

- In > 75 yr olds statins did not reduce CVD risk or all-cause mortality in those without diabetes; effect decreased after 85 and disappeared after 90
- Stopping statins in patients with 1 year or less life expectancy caused no change in mortality, improved QOL, substantial cost saving
- ?Benefits may not outweigh harms in 70-75 yr old men until 10-yr CVD risk exceeds 21%



Cholesterol Articles

- “Statins for Primary Prevention—The Debate is Intense, but the Data Are Weak”
- “Statins for Primary Prevention in Older Adults: An Unresolved Conundrum”
- “Statins for Primary Prevention in Older Adults: Uncertainty and the Need for More Evidence”
- “Severely frail elderly patients do not need lipid-lowering drugs”
- Summary: “There is no clear evidence of benefit for treating hyperlipidemia in older patients, especially in those older than 75 years”

Osteoporosis



- 2017 ACP guidelines recommend drug Tx for 5 years (not estrogen, calcitonin)
- For women ≥ 65 at high fx risk, base on pt preference, fracture risk profile and benefit/harm/costs (weak recommendation)
- Drug holidays >2 yrs 40% increased risk of hip fx (EULAR 2018 Congress Abstract 0P0017)
- Long term Tx in high-risk women (10-13 yrs) assoc with higher fx rate than 2 yrs (JAGS 65:1924-1931)

Primary Prevention

- Vitamin D: does not reduce major CV events or development of invasive cancers (VITAL trial)
- Aspirin: in those without CV disease, associated with lower risk or no CV event benefit but higher major bleeding risk; not recommended over age 80 in Beer's criteria
- “Prescription of Preventive Cardiovascular Medicines in nursing homes at EOL (especially in end-stage dementia) often inappropriate due to changed balance between expected health gains during a life expectancy of 1 to 2 years vs risk of ADEs” (PCMs=oral anticoagulants, platelet inhibitors, antihypertensives, lipid modifying agents)

MEDICATION COMPLIANCE



2/3 of COPD patients not taking inhalers correctly
(CHEST 2018 doi:10.1016/j.chest.2018.08.705)

Potpourri



Potpourri 1



- Cranberry: no significant difference vs placebo in presence of bacteriuria plus pyuria over 1 yr
- Calcium: constipating, not associated with lower fracture risk (community elderly)
- Sedative/hypnotics: Cognitive behavioral therapy improves most outcomes compared to inactive controls. Pharmacotherapies may cause cognitive and behavioral changes and may be associated with infrequent but serious harms
- Melatonin: ?possible increased fracture risk

Potpourri 2

- Iron therapy: once daily for ≥ 80 yr olds; QOD dosing
- Constipation: Strong recommendation, high quality of evidence—bulk agents, MiraLax, secretory drugs; osmotic laxatives are likely most suitable laxative type for older patients (note: not Colace)
- OAB agents: challenging, particularly with impaired cognition
- MVI/mineral supplementation not recommended for generally healthy adults
- No evidence to recommend any OTC supplement for cognitive protection in adults with normal cognition or MCI



Potpourri 3

- Appetite stimulants: 1 in 12 taking megestrol gain weight while 1 in 23 die; mirtazapine follow up

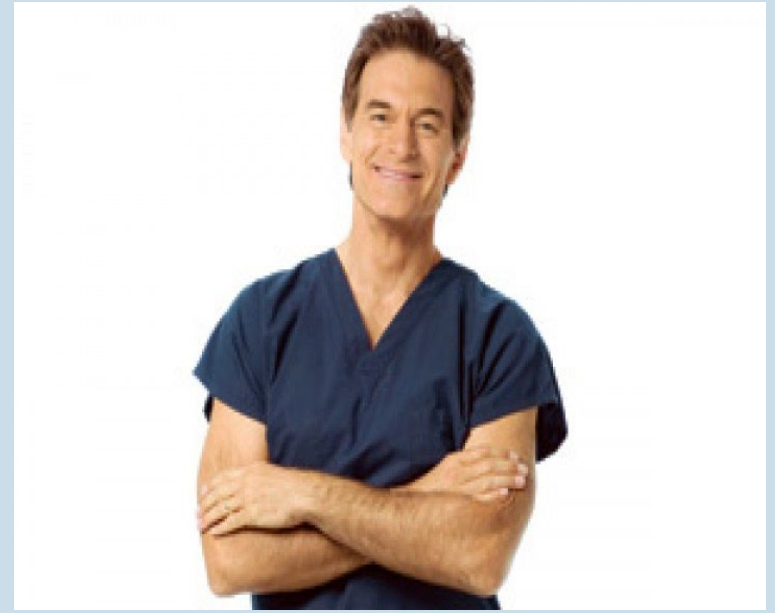


Supplements/OTC Medicines

- Less rigorously regulated
- Major cause of dangerous drug-drug interactions in the elderly
- 42% of adults didn't tell their PCPs about their most commonly used complementary/alternative meds, including a quarter of those who relied most on herbs and supplements



Who's Prescribing These Medicines?

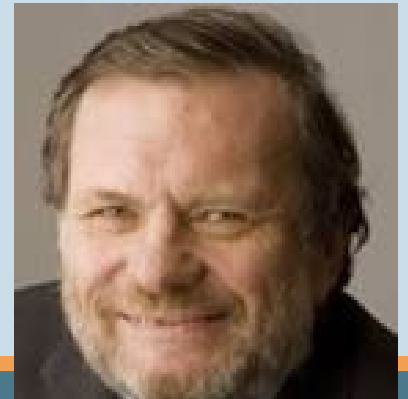


Consumer Reports!



Medications and the Hospital

- “This is spurred by the ridiculous medications that many patients are started on in the hospital by physicians who have no concept of how to manage the frail elderly”
- “True” medication reconciliation



When to Consider Deprescribing

- Medication reconciliation
- Initial patient contact
- Yearly review
- Change in condition
- Fall review
- Hospice enrollment
- When the pharmacist tells you to
- Anytime you feel like helping your patient

Key Communication Points

- Why taking the medicine
- Why are we considering this
- What does the literature suggest
- What are the goals of care
- What do we think prognosis is (dementia as “terminal illness”)
- Emphasize the positives
- Risks outweigh benefits (but still risk)



Consultant Pharmacist Role

- MUCH research supports value and impact of pharmacist involvement
- Drug Regimen Reviews
- Medication Therapy Management (MTM) services
- Telehealth
- Part of interdisciplinary team/culture



TOOLS

- Beers Criteria
- START/STOPP
- FORTA (Fit FOR The Aged)
- Anticholinergic Burden Scales
- Choosing Wisely
- Knowledge Translation strategy
- Deprescribing algorithms
- Collaborative Practice Agreements
- Formularies
- Multidisciplinary Multistep Medication Review (3MR)
- SNF Prognosis Score for ADEs
- Tool to Reduce Inappropriate Medications (TRIM)
- Systematic Tool to Reduce Inappropriate Prescribing (STRIP)
- Web-based: Deprescribing.org, Medstopper
- Prescribing Cascades resources
- Systematic Review—only 4 of 15 tested in clinical practice (and those were “low-quality studies”)

Thank You!



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