### Geriatric Medicine: 2018 Updates

#### Rocky Mountain Geriatrics Conference September 24, 2018

Jeffrey Wallace MD, MPH
Professor, Internal Medicine & Geriatrics
University of Colorado Hospital

#### **Disclosures**

> No financial relationships with commercial interests to disclose



#### The Agenda/Learning Objectives

- Nutrition related issues
  - > meds that impact nutrition
  - > iron replacement pearls
  - **CHF** management
- New agents/approaches to consider?
  - > DVT prophylaxis after THA/TKA
  - > For Bladder
- Reducing polypharmacy "deprescribing"

### Meds & Nutritional issues in older adults: Case Vignette

- A 78 yo F is seen in f/u for DM, HTN, GERD, OA & depression. She c/o knee pain & mood being down, o/w stable. Meds: metformin, lisinopril, omeprazole, sertraline, APAP
- You recognize that 2 of her meds ↑ her risk for a relevant micronutrient deficiency and order a -?
- A) Vitamin B12 level
- B) Vitamin D level
- C) Magnesium level
- D) Calcium level

### Nutritional issues in older adults: Case Vignette

- You recognize that 2 of her meds \( \bar{1}\) her risk for a relevant micronutrient deficiency and order a -?
- A) Vitamin B12 level d/t metformin and PPI
  - low B12 level 2x ↑ risk of depression
- B) Vitamin D level
- C) Magnesium level
- D) Calcium level

#### Metformin & B12 Deficiency

- B12 deficiency common in older adults: 5-15%
- Metformin may double prevalence low B12
  - > Impairs B12 absorption
  - > Risk 1 with duration use, likely also dose effect
- Diabetes prevention program met vs plb, at 5 yrs
  - > B12  $\leq$  200 pg/mL: Met 4.3% vs PLB 2.3%, P = .02
  - > B12  $\leq$  300 pg/mL: 19.1% vs 9.5%, P < .01

Stabler. N Engl J Med 2013;368:149-60 J Clin Endocrinol Metab 2016;101:1754-61

#### PPIs & B12 Deficiency

- MOA: achlorhydria  $\rightarrow \downarrow$  absorption food-cbl
- PPI > H2 block, w/dose & duration effect
  - > 2+ yr PPI ↑ risk: OR 1.65 (95% CI, 1.58-1.73)
  - > 1.5+ PPI pills/d ↑ risk: OR 1.95 (95%CI, 1.77-2.15)
  - > 2+ yr H2RAs ↑ risk: OR 1.25 (95%CI, 1.17-1.34)
- BTW, ideally avoid chronic PPI use
  - > \display absorption B12, iron, mg++, ca++, LT4
  - > \( \tau \) C Diff, fractures, CKD, dementia?
  - > PPI deprescribing more later

#### **B12 Deficiency Dx Pearls**

- Rec screen at least once age 65+
- Lab Dx B12 150-350pg/ml unreliable (as is ↑ MCV)
  - > B12 level 200 pg/ml → sens/spec 50%
  - Methylmalonic acid level best, renal cleared, \$50
  - Best to treat all low/borderline low levels < 350 ?</p>

#### **B12 Deficiency Tx Pearls**

- Tx 1000μg oral daily works as well as IM/mo
- Oral repletion
  - > B12 diffusion  $\rightarrow$  1% intake absorbed
  - > Physiologic requirements 1-2 μg/d
  - > 1000µg/d → clinical, heme, serum response
- Caveats compliance, initial tx, clinical dz

### Nutrition & Prescribing Practices: The issue of iron supplementation

- A 75-year-old woman falls and suffers a hip fracture. S/P hip repair her Hgb drops from 12 pre-op to 8. PHM: HTN & DM w/o known cardiovascular dz. She feels fine save for mild fatigue. What do you recommend for her anemia?
- **A) Fe So4 325 mg QD**
- B) Fe So4 325 mg BID
- C) Fe Gluconate 325 mg QD
- D) Transfuse 1 U PRBC

### Excessive iron supplementation: one of my pet peeves

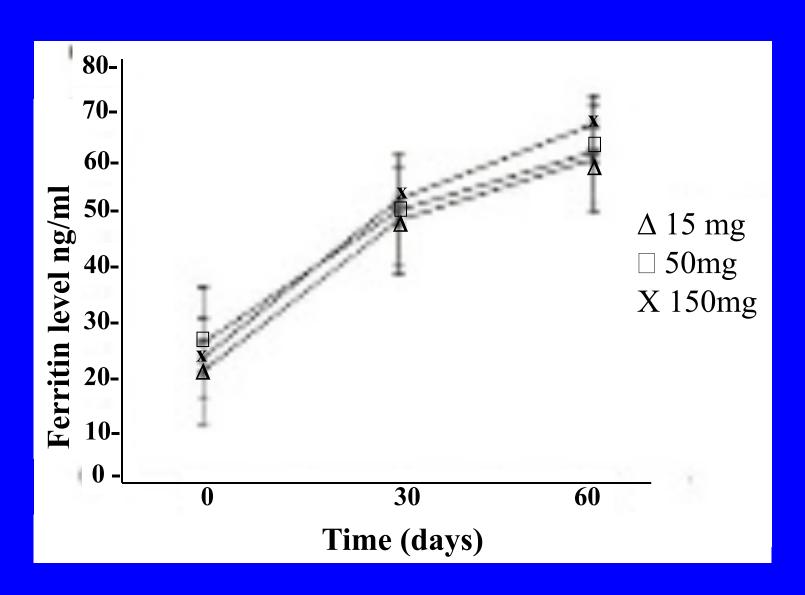
- What do you recommend for her anemia?
- A) Fe So4 325 mg QD 65mg elemental iron (EI)
- B) Fe So4 325 mg BID marginal benefit BID dose
- C) Fe Gluconate 325 mg QD 37.5mg EI
- D) Transfuse 1 U PRBC no s/s to warrant txn 2016 US guideline: txn threshold Hgb 8g/dL for pts having orthopedic or cardiac surgery or preexisting cardiovascular dz (o/w 7g/dL)

AABB RBC Txn Guidelines JAMA 2016;316:2025-35

# Is Low Dose Elemental Iron the Way to Go in Older Adults?

- RCT 90 inpts age 80+ w/iron deficiency anemia
- Elemental iron\*: 15 mg or 50 mg of liquid ferrous gluconate, or 150 mg ferrous calcium citrate daily
- 60 day f/u: Hgb  $\uparrow \bar{x}$  1.4 g/dL, Ferr  $\uparrow \bar{x}$  40
- No difference in rise in hemoglobin or ferritin levels between groups over 60 days
- \* Elemental iron (EI): FeSo4 325mg = 65mg EI, FeGluconate 325mg = 37.5mg EI, MVI = 0-18mg Am J Med 2005;118: 1142-47

#### Variable dose iron effect on ferritin



## Is Low Dose Iron The Way to Go in Older Adults?→ YES!

Significantly less adverse effects w/lower dose

•	Dose	15mg vs	50mg vs	<b>150mg</b>
	Abd discomfort	20%	60%	<b>70%</b>
	Nausea/vomiting	13%	36%	67%
	Constipation	0%	10%	23%
	Black Stool	0%	30%	67%
	Dropout	<b>7%</b>	17%	27%

Am J Med 2005;118: 1142-47

#### Iron Repletion in the Elderly

- Side effects of iron may lead to noncompliance
- QOD morning dosing nearly as effective as QD
- ↓ absorption if on PPI, take w/OJ or Vit C may ↑
- If can't take/tolerate oral iron → IV rx of choice may be ferric carboxymaltose (injectafer, ferinject)
  - > can dose 750mg single dose over 15 minutes
  - > may repeat in 7+ days if needed
  - > simpler than iron sucrose (venofer) 200mg qd x 5d

#### **CHF** Case

- 78 yo M w/2yr hx HFrEF (EF 25%), NYHA class III, inpt x1 past 6 mo is seen in f/u
- Meds: aspirin, carvedilol, furosemide, losartan, spironolactone, escitalopram, APAP
- Labs: Cr 1.4, K+ 4.6, Hgb 10.5, Ferr 150, iron sat 14%,
   25-Vit D level 24, TSH 6, B12 425

### Which of the following is most likely to improve clinical s/s of CHF in this pt?

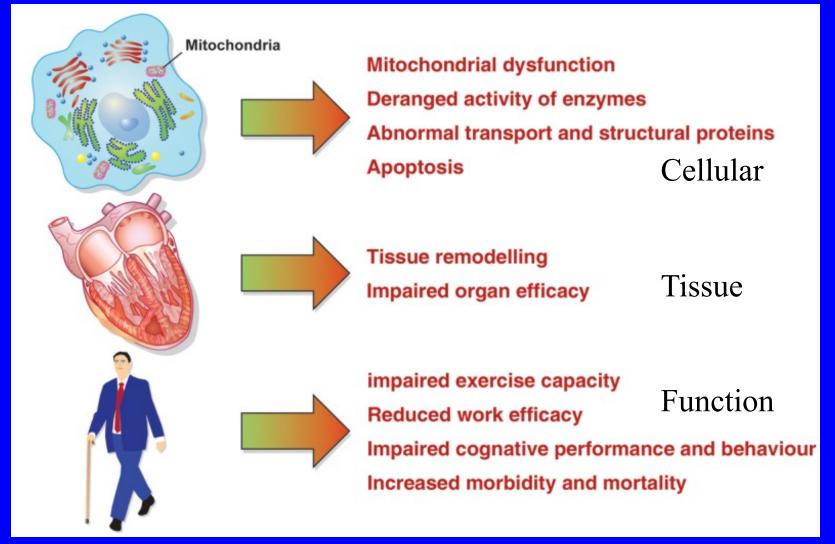
- A) Vitamin D supplementation
- B) Levothyroxine 25ug, titrate to TSH 2-4
- C) Iron supplementation
- D) Vitamin B12 supplementation

#### **CHF Case**

Which of the following is most likely to improve clinical s/s of CHF in this pt?

- A) Vitamin D supplementation
- B) Levothyroxine 25ug, titrate to TSH 2-4
- C) Iron supplementation
- D) Vitamin B12 supplementation

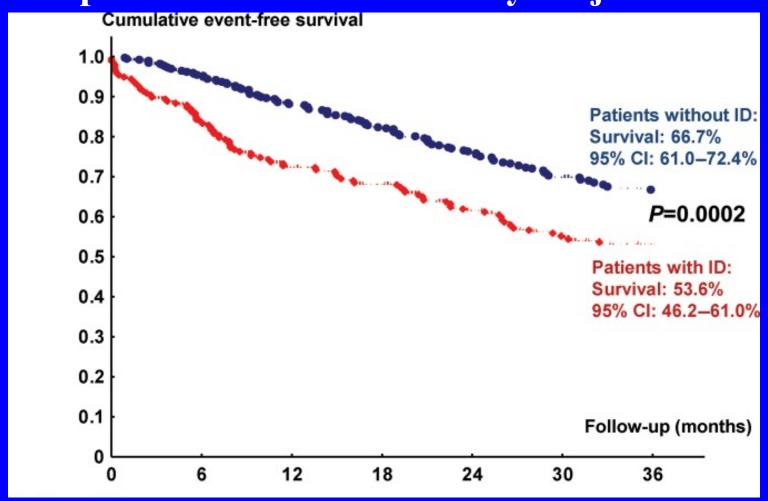
#### Heart Failure: Iron-Deficiency Adverse Effects



Eur Heart J. 2013;34:816-29

#### Mortality with Iron-Deficiency (ID) in HF

- Common comorbid condition 1/3 pts
- Independent assoc w/mortality: adj HR 1.58



Eur Heart J. 2013;34:816-29

#### Iron-Deficiency Anemia: Defn & Dx

- 2 types of iron deficiency
  - > Absolute depleted iron stores w/intact iron homeostasis
  - causes: low-diet intake, impaired GI absorp, blood loss
  - > Functional nl or 1 iron stores, but iron trapped inside cells of reticuloendothelial system, unavailable
- Serum ferritin
  - > Low <100 ng/mL = absolute iron deficiency
  - > Normal 100-300 ng/mL but could be functional defic
- Iron binding panel (iron/TIBC, Tsat < 20% low)</p>
  - > Functional iron deficiency Transferrin sat < 20% w/nl ferr

Clinic	al studies of Iron Rx for CHF	
TRIAL	INCLUSION CRITERIA	

NYHA II-III, HFrEF with LVEF≤40-45%

**EFFECT-HF** Ferr <100 ng/mL or 100-300ng/mL w/TSat <20%; Hb <15

NYHA II-III, LVEF ≤40%

N Engl J Med 2009; 361:2436

JAMA 2017;317:1958

Ferr <100 ng/mL or 100-300ng/mL w/ TSat <20%; Hb <15

Ferritin <100 ng/mL or 101-299ng/mL w/ TSat <20%;

Symptomatic HFrEF w/LVEF≤45%, NYHA II-III, & high BNP

NYHA II-III, HFrEF w/EF \( 45\%; \) VO<sub>2</sub> max 10-20 mL/kg/min

Eur Heart J 2015;36:657

**Circulation 2017;136:1374-1383** 

FAIR-HF

CONFIRM-

IRONOUT-

HF 2015

HF 2017

2017

2009

Ferr <100 ng/mL or 101-299ng/mL w/ TSat <20%; Hb 9.5-13.5

#### Clinical studies of Iron Rx for CHF

TRIAL	N	DRUG REGIMEN
FAIR-HF 2009	459	IV ferric carboxymaltose (FCM) 200mg weekly, then Qmo starting at wk 8 or 12; or placebo
CONFIRM- HF 2015	304	IV FCM 500-1000 mg based on weight/Hb at weeks 0, 6; 500mg at wks 12, 24, & 36 depending upon Tsat and ferritin; or placebo
<i>IRONOUT-HF</i> 2017	225	Oral iron polysaccharide 150mg BID or placebo
<i>EFFECT-HF 2017</i>	174	IV FCM 500-1000 mg based on weight/Hb at weeks 0, 6 and 12; or placebo $\pm$ oral iron

#### Clinical studies of Iron Rx for CHF

#### TRIAL

#### **OUTCOMES**

#### **FAIR-HF**

- 24 wk f/u
  - Median IV iron dose 2000 mg
- Sig 1 in pt global assessment (50% much or moderately improved vs 28%, OR 2.51)
- Significant ↑ in functional class (47% class I or II vs 30% at wk-24, OR 2.40), ↑ 6MW test and QOL
- Results similar in patients with anemia/no anemia
- No difference in death or adverse events

#### **CONFIRM-HF**

- 52 wk f/u
- Mean IV iron dose1500 mg
- Sig 1 in 6MW, NYHA class, QOL & fatigue starting at week 24 in all subgroups through wk52
- Significant ↓ in hospitalization for worsening HF (HR 0.39), trend ↓ hosp any CV reason (HR 0.63)
- No difference in deaths or adverse event

#### Clinical studies of Iron Rx for CHF

#### TRIAL

#### **OUTCOMES**

#### **IRONOUT-HF**

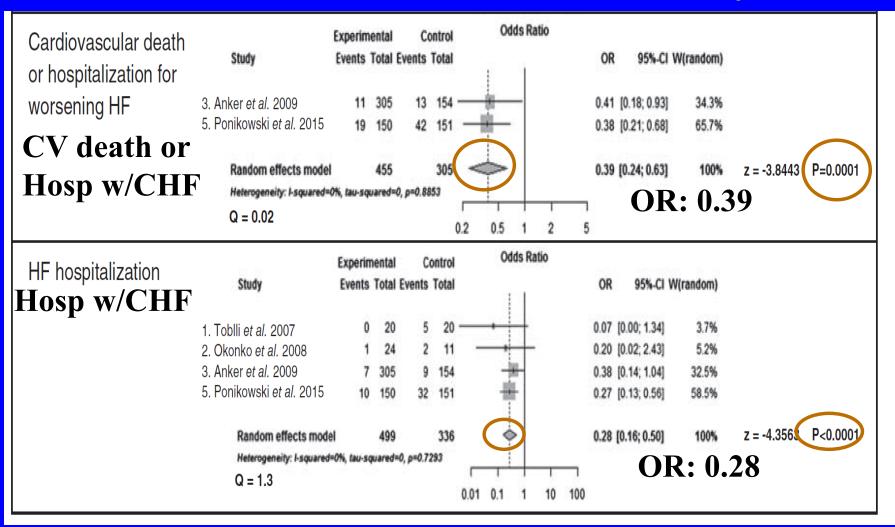
- 16 wk f/u
- Oral iron150mg BID
- Signif ↑ Tsat (2 pts); Nonsig ↑ ferritin (18 pts)
- No difference in change in VO<sub>2</sub> max
- No difference in 6MW distance, NT-proBNP levels or KCCQ QOL score

#### **EFFECT-HF**

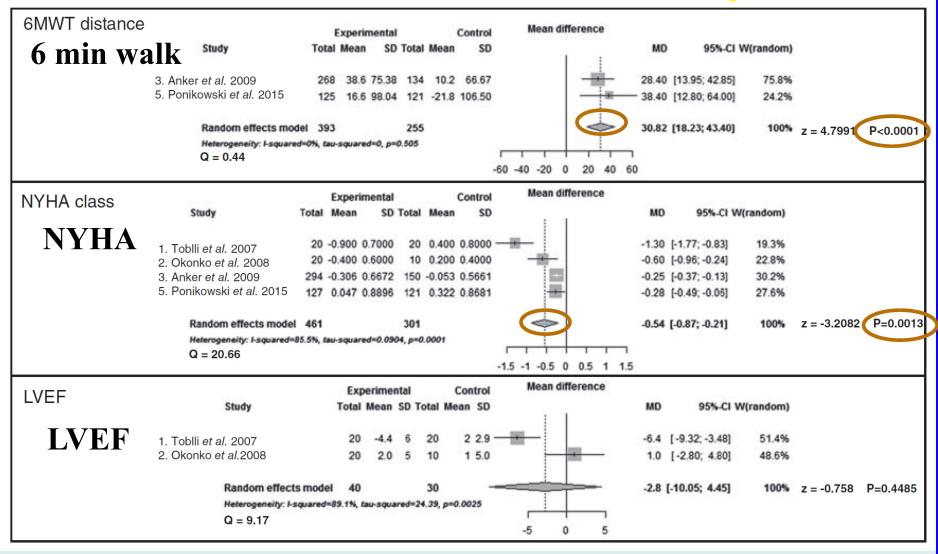
- 24 wk f/u
- Mean IV iron dose1204 mg
- ↑ Hb (by 0.74), ↑ ferritin (by 189), ↑ Tsat (by 5)
- Significant ↑ VO<sub>2</sub>max with or without anemia
- Significantly improved functional class & patient global assessment

JAMA 2017;317:1958 Circulation 2017;136:1374-1383

### Meta-Analysis: IV Iron for Pts with HFrEF and Iron Deficiency

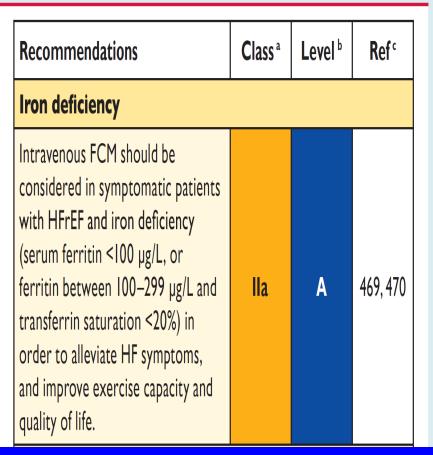


# Meta-Analysis: IV Iron for Pts with HFrEF and Iron Deficiency



#### 2016 Eur Soc of Cardiology Guidelines

Recommendations for the treatment of other co-morbidities in patients with heart failure



- Based upon FAIR-HF and CONFIRM-HF
- Intravenous ferrous carboxymaltose (FCM)
  - > Improve self-reported global assessment
  - > Improve QOL
  - > Improve NYHA class
  - > Improve exercise capacity
  - > Reduce HF hospitalizations

#### 2017 AHA/ACC Guideline Recs

Recommendations for Anemia				
COR	LOE Recommendations		Comment/Rationale	
IIb	B-R	In patients with NYHA class II and III HF and iron	NEW: New evidence	
		deficiency (ferritin <100 ng/mL or 100 to 300 ng/mL if	consistent with	
See Online Data Supplement D.		transferrin saturation is <20%), intravenous iron	therapeutic benefit.	
		replacement might be reasonable to improve		
		functional status and QoL(173, 174).		

- Routine eval of HF pts should include eval for anemia
- When iron deficiency is dx'ed and after full eval for cause, IV iron may ↑ exercise capacity and QoL
- "a strong rec for IV iron repletion must await the results of an appropriately powered trial on M&M"

#### The Agenda/Learning Objectives

- **✓** Nutrition related issues
  - > meds that impact nutrition
  - > iron replacement
  - > CHF management
- New agents/approaches to consider?
  - > DVT prophylaxis after THA/TKA
  - > For bladder
- Reducing polypharmacy "deprescribing"

# New info re: DVT prophylaxis s/p elective orthopedic surgery



- Your 74 yo pt with obesity (BMI 33), DM, HTN, CKD 3 (eGFR 40mL/min) and osteoarthritis undergoes elective total hip replacement surgery. Which of the following should you recommend for venous thromboembolism (VTE) prophylaxis?
- A) Low molecular weight heparin SQ x 35 days
- B) LMWH x 10 d then ASA 325mg qd x 25 d
- C) Rivaroxaban 10mg qd x 14 days
- D) Rivaroxaban 10mg x 5d then ASA 81mg x 30d

- Which of the following should you recommend for venous thromboembolism prophylaxis?
- A) Low molecular weight heparin SQ x 35 days
- LMWH no better than DOAC, \(\frac{1}{2}\) cost, injection
- B) LMWH x 10 d then ASA 325mg qd x 25 d
- studied, effective, but w/ASA 81mg (325mg ↑ risk)
- C) Rivaroxaban 10mg qd x 14 days
- 14d for TKA, standard for THA 35 days
- D) Rivaroxaban 10mg x 5d then ASA 81mg x 30d
- New study worth knowing about

#### VTE Prophylaxis s/p Hip or Knee Arthroplasty

- Premise
  - > DOAC safe and effective: 14d TKA, 35d THA
  - > ASA effective r/t placebo but ? vs DOAC
- RCT: ~ 3400 pts s/p elective TKA or THA
- Compare: rivaroxaban 10mg x 5d then ASA 81 vs rivaroxovan 10mg qd x 9 (TKA) or 25 (THA) days
- Outcome: symptomatic VTE & bleeding

Chest 2012:141(2);e278S

NEJM 2018;378:699

#### VTE Prophylaxis s/p Hip or Knee Arthroplasty

#### Similar low VTE and bleeding rates

Table 2. Primary Effectiveness and Safety Outcomes.					
Outcome	Rivaroxaban (N=1717)	Aspirin (N=1707)	P Value		
	no. of pati				
Venous thromboembolism	12 (0.70)	11 (0.64)	0.84*		
Pulmonary embolism	6 (0.35)	5 (0.29)			
Proximal deep-vein thrombosis	4 (0.23)	4 (0.23)			
Pulmonary embolism and proximal deep-vein thrombosis	2 (0.12)	2 (0.12)			
Major bleeding	5 (0.29)	8 (0.47)	0.42		
Any bleeding†	17 (0.99)	22 (1.29)	0.43		

<sup>\*</sup> P<0.001 for noninferiority, as defined by the upper boundary of the 95% confidence interval for the absolute betweengroup difference.

<sup>†</sup> This category includes major bleeding and clinically relevant nonmajor bleeding.

#### VTE Prophylaxis s/p Hip or Knee Arthroplasty

 Concomitant ASA < 100mg PTA if anything increased bleed risk w/o additional benefit

Table 4. Subgroup Analysis of Primary Outcomes, According to Use of Long-Term Aspirin Therapy.							
Outcome	Long-Term Aspirin Therapy			No Long-Term Aspirin Therapy			
	Rivaroxaban (N=429)	Aspirin (N=426)	P Value	Rivaroxaban (N=1288)	Aspirin (N=1281)	P Value	
	no. (%)			no. (%)			
Venous thromboembolism	3 (0.70)	3 (0.70)	1.00	9 (0.70)	8 (0.62)	1.00*	
Major bleeding	1 (0.23)	4 (0.94)	0.22	4 (0.31)	4 (0.31)	1.00	
All bleeding†	5 (1.17)	8 (1.88)	0.42	12 (0.93)	14 (1.09)	0.70	

<sup>\*</sup> P<0.001 for noninferiority.

<sup>†</sup> This category includes major and clinically relevant nonmajor bleeding.

#### VTE Prophylaxis s/p Hip or Knee Arthroplasty Conclude

- After 5 day DOAC subsequent VTE prophylaxis
   w/ASA vs DOAC had similar efficacy & safety
- Caveats: Elective surgery, most NOT high risk pts
  - > Study pt mean age 63, BMI 31
  - > cancer 2%, hx VTE 2%
  - > no recent fracture (may not apply to hip fx pts)
  - > RFs: age, BMI > 40, hypercoag state, CHF, COPD
- If \(\bar{\cappa}\) VTE risk extending DOAC likely appropriate

## Whats new for the bladder?

An 82 yo F c/o frequent (3-4x) night time voiding. She drinks 6 glasses H20 by day but limits intake after dinner, no coffee or soda. She has HTN, early Alzheimers dz, lumbar stenosis & mild depression. She takes her meds w/dinner: hctz, donepezil, APAP, citalopram. Exam & labs unremarkable save for Na+ 134

Which of the following is the next best step for reducing her nocturia?

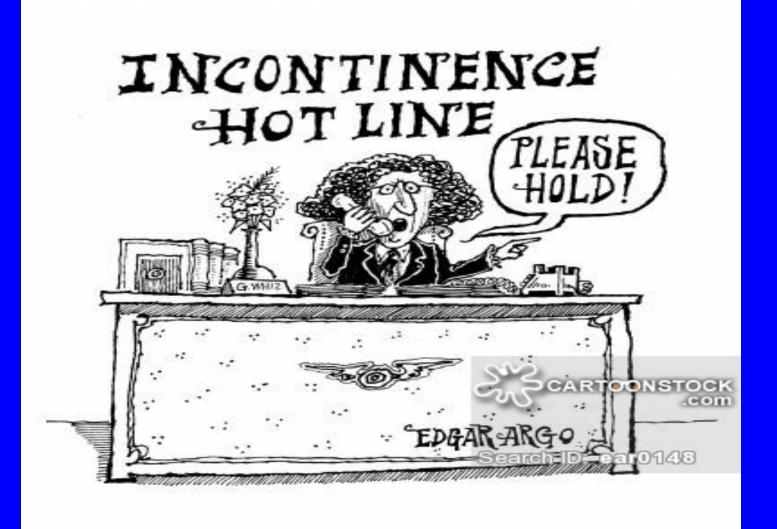
- A) Stop donepezil
- B) Stop hctz
- C) Start mirabegron
- D) Start desmopressin acetate nasal spray

## Whats new for the bladder?

Which of the following is the next best step for reducing her nocturia?

- A) Stop donepezil can T both bowel and bladder contractility. Common "prescribing cascade" problem: rx Chol-I for AD, then bladder antispasmodic for "overactive bladder"
- B) Stop hctz
- C) Start mirabegron reasonable if pt/family want to continue donepezil
- D) Start desmopressin acetate nasal spray → NEW and probably never a good idea for older adults!

# What's new for incontinence? Low dose nasal desmopressin (Noctiva)



## Low dose nasal desmopressin acetate

- Oral desmopression 0.1-0.2mg has been used off-label to reduce nocturnal polyuria
- Some efficacy: may  $\downarrow$  nocturnal voids by 0.5 to 1.5
- Sig risk: hyponatremia ~ 4% (Na+ < 130mmol/L)
- Hyponatremia RFs: age, other meds that ↑ risk low Na+ (SSRI, diuretics), ↓ renal funx
- FDA approved desmopression acetate nasal spray in 2017 for tx nocturia d/t nocturnal polyuria  $\geq 2x/night$

## Low dose nasal desmopressin acetate

 Two non-published RCTs: ~ 1000 pts age 50+, mean baseline 3.3 night time voids

#### Effects

- > # voids \[ \sqrt{night: -1.5 active tx vs -1.2 placebo} \]
- > # pts  $\downarrow$  voids by 50+%: 48% active tx vs 28% placebo

#### Adverse effects

- > Boxed warning for hyponatremia
- > Serum Na+: 14% < 135 mmol/L,  $1\% \le 125 \text{ mmol/L}$
- > ADEs: nasal discomfort, nasopharyngitis, epistaxis, other

Expert Rev Clin Pharmacol 2017;10(12):1281-1293

## Low dose nasal desmopressin acetate

#### Other considerations

- Studies excluded pts with
  - > eGFR < 50 mL/min
  - > CHF II-IV, on loop diuretics, systemic or inhaled steroids, hx low Na+ or SIADH, uncontrolled HTN
- No non-pharm tx, eg ↓ fluids after dinner, ↓ caffeine
- Conclusion: marginal efficacy, significant safety concern, just say no! (vs placebo nasal saline!)

## The Agenda/Learning Objectives

- **✓** Nutrition related issues
  - > meds that impact nutrition
  - > iron replacement
  - > CHF management
- **✓** New agents/approaches to consider?
  - > DVT prophylaxis after THA/TKA
  - > For bladder
- Reducing polypharmacy "deprescribing"

## Polypharmacy in Older Adults

"One of the first duties of the physician is to educate the masses not to take medicine"

- Sir William Osler



## Polypharmacy In Older Adults

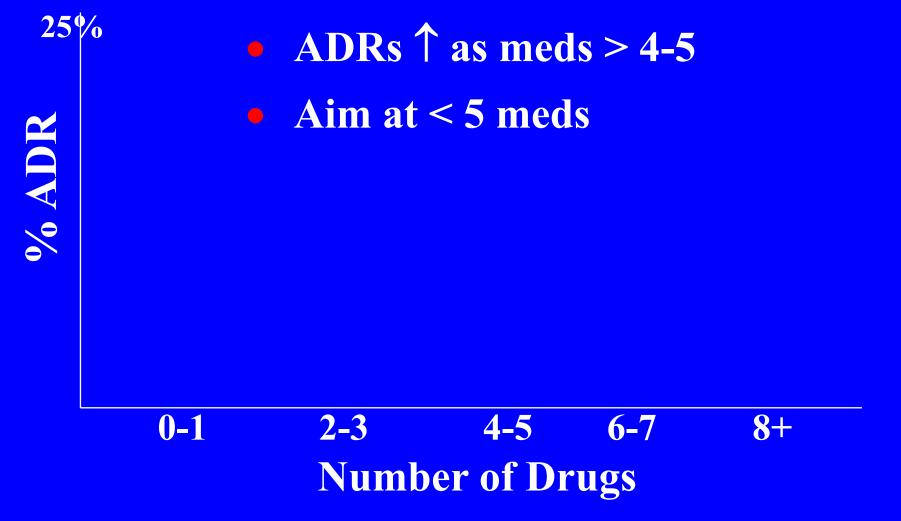
- Over 1/3 (39 %) pts age 65+ on  $\geq 5$  meds
- 12% Medicare beneficiaries on ≥ 10 meds
- Of 11,000 pts age 100 in UK
  - > 73% on 1+ med
  - $\rightarrow$  median # meds  $\rightarrow$  7!

### Polypharmacy in Older Adults

- Polypharmacy & inappropriate meds common
- Results in
  - > \( \frac{1}{2} \) Adverse Drug Events (ADEs)
  - > \tag{Drug-drug interactions}
  - > 1 Drug-disease interactions
  - > 1 risk med errors and 1 cost
  - > \preceq adherence

## Polypharmacy & Adverse Drug Reactions

"any noxious, unintended, & undesired effect of a drug"



Med Clin North Am 2015;99:295

# Reducing Inappropriate Polypharmacy The Process of *Deprescribing*

- Deprescribing: The systematic process of identifying & discontinuing drugs when existing or potential harms outweigh existing or potential benefits within the context of an individual's care goals, current level of functioning, life expectancy, values and preferences"
- Consider individual rx as well as cumulative rx risk
- How can this best be accomplished?

## Reducing Polypharmacy

Tools to identify potentially inappropriate meds

Beers Criteria

J Am Geriatr Soc 2015; 63:2227

STOPP/START

Int J Clin Pharmacol Ther 2008;46:72

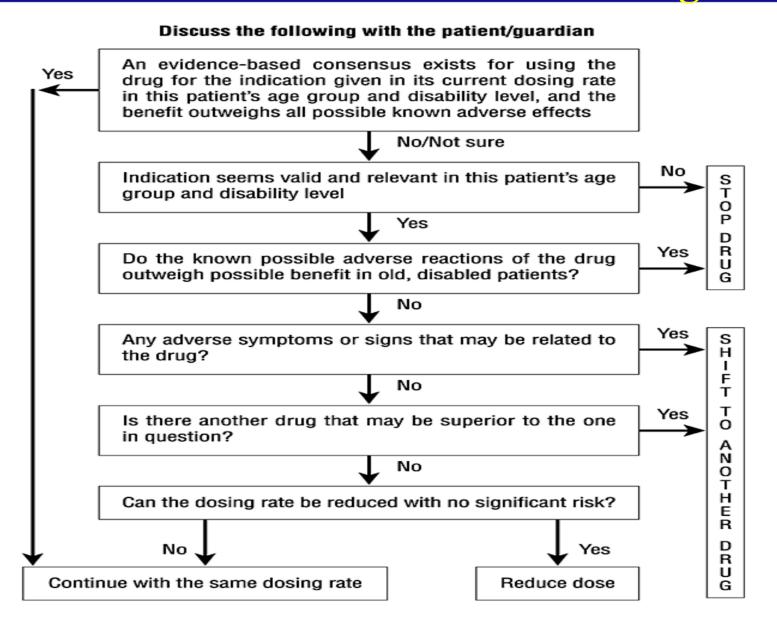
• "Good Palliative-Geriatric Practice Algorithm"
Arch Intern Med Oct 2010;170:1648

### Reducing Polypharmacy in the Elderly

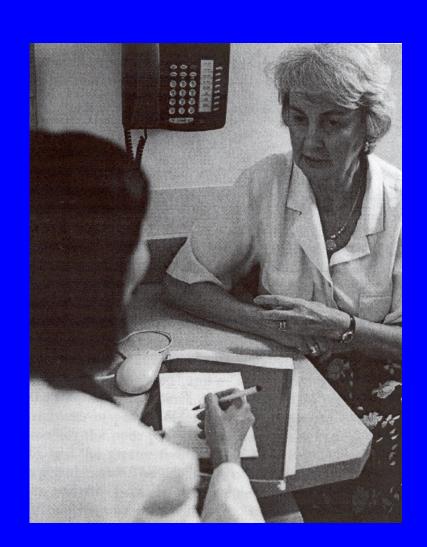
### "Good Palliative-Geriatric Practice algorithm"

- NH: n=119,  $\bar{x}$  age 83,  $\bar{x}$  7 meds  $\downarrow$  by 3
  - > 10% resumed stopped med
  - > hosp  $\downarrow$  (30 v 12%) vs matched controls
  - $\rightarrow$  mort  $\downarrow$  (45 v 21%)
- Outpt: n 70,  $\bar{x}$  age 83,  $\bar{x}$  8 meds  $\downarrow$  by 4, 19 mo f/u
  - > 2% failed rx d/c & resumed d/t sxms
  - > no 1 M&M

### "Good Palliative-Geriatric Practice Algorithm"



# Start with verifying what medications your pt is taking





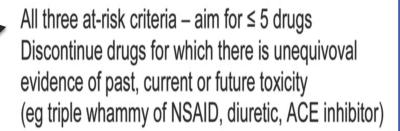
#### 1. Accurately ascertain all current drug use

'brown paper bag' medication reconciliation

#### TEN STEP APPROACH

2. Identify patients at risk of, or suffering, ADR

- at risk: ≥8 medications advanced age (>75 years) high-risk medications
- assess for current, past or highly likely future toxicity



#### 3. Estimate life expectancy

clinical prognostication tools or lifespan calculators

#### 4. Define overall care goals

- consider current functional status and quality of life with reference to estimated life expectancy
- 5. Verify current indications for ongoing treatments
- perform diagnosis-medication reconciliation
- confirm diagnostic labels against formal diagnostic criteria
- ascertain, for each confirmed diagnosis, drug appropriateness



If life expectancy less than 2 years, preservation of function and quality of life predominate over prolonging life and avoiding future complications as goals of care



Discontinue drugs for which the diagnosis is wrong or totally unsubstantiated or where, for a confirmed diagnosis, the drug is ineffective

Evid Based Med 2013;18(4):121

#### TEN STEP APPROACH

- 6. Determine need for disease-specific preventive medications
- estimate clinical impact and time to future treatment benefit
- compare this estimate with expected lifespan

- Discontinue preventive drugs whose time until benefit exceeds expected lifespan
- 7. Determine absolute benefit-harm thresholds of medications
- reconcile estimates of absolute benefit and harm using prediction tools (see http://www.mdcalc.com)
- 8. Review the relative utility of individual drugs
- rank drugs according to the relative utility from high to low based on predicted benefit, harm, administration and monitoring burden
- Discontinue drugs whose absolute level of harm exceeds absolute level of benefit; in 'line-ball' cases elicit patient preferences
- Discontinue drugs of low utility
- 9. Identify drugs to be discontinued and seek patient consent
- reconcile drugs for discontinuation with patient preferences

Discontinue drugs patients are not in favour of taking

10. Devise and implement drug discontinuation plan with close monitoring **Evid Based Med 2013;18(4):121** 

## **Deprescribing Barriers**

- 10 step EBM too long? → see 5 step version
- Both pts & providers fear adverse drug withdrawal effects even though these occur much less often than adverse drug effects
- We likely don't hesitate as much as we should when we initiate an rx and likely hesitate more than we should to stop an rx
- Dz-specific guidelines ↑ pressure to prescribe

### EBM to Optimize Care of the Elderly?

### Apply clinical practice guidelines with caution

- Almost all existing guidelines have single dz focus
- Application of CPGs to hypothetical 79yo pt w/COPD, DM, HTN, OP, OA
  - → 12 medications, complicated regimen
  - → \$406 monthly cost
- Studies rarely include frail elderly, mult comorbid dz
- Risks (drug-drug, drug-dz interactions) likely are ↑
- Do CPGs address short & long term goals?
- Pt preferences?

## EBM for the Frail Older Adult Does the Emperor have any clothes?

- Evidence for the best care of frail older pts w/multimorbidity is often lacking
- "Guidelines are meant to inform but not dictate, guide but not enforce, support but not restrict"



JAMA 2014;311(14):1403



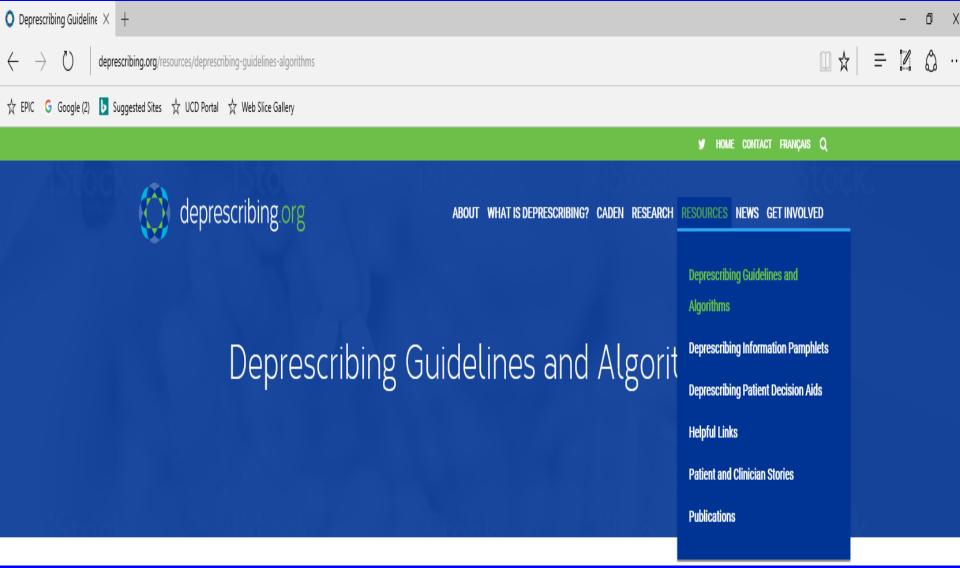
--- not just a guideline follower!

### **DEPREPRESCRIBING – JUST DO IT!**

### Recognize opportunities to stop meds

- Review existing meds before starting new rx
- Annual/semiannual medication review
- Care transitions are key opportunities
  - > Is pt managing current care plan?
  - > Is complexity impacting adherence & safety?
  - > Have pt preferences changed?
- Be aware of deprescribing tools

# Deprescribing Resources: http://deprescribing.org



## **Deprescribing Resources**



ABOUT WHAT IS DEPRESCRIBING? CADEN RESEARCH RESOURCES NEWS GET INVOLVED

**Deprescribing Guidelines and** 

**Algorithms** 

Deprescribing Guidelines and Algorit

**Deprescribing Information Pamphlets** 

Deprescribing Patient Decision Aids

Proton Pump Inhibitor (PPI)

PPI evidence-based deprescribing guideline

PPI deprescribing algorithm

Antihyperglycemic

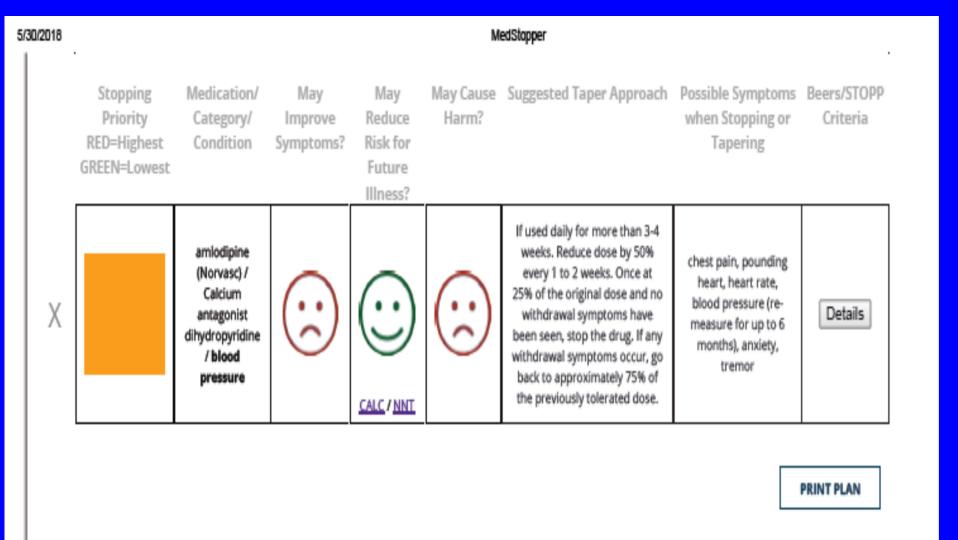
Antihyperglycemic deprescribing guideline & algorithm

Benzodiazepine receptor agonist deprescribing algorithm

Antipsychotic deprescribing guidelines & algorithm

Chol-I & memantine deprescribing guideline & algorithm





### Deprescribing Website: Be a deprescriber!

## MedStopper

A parody of the great Beatles song

Day Tripper



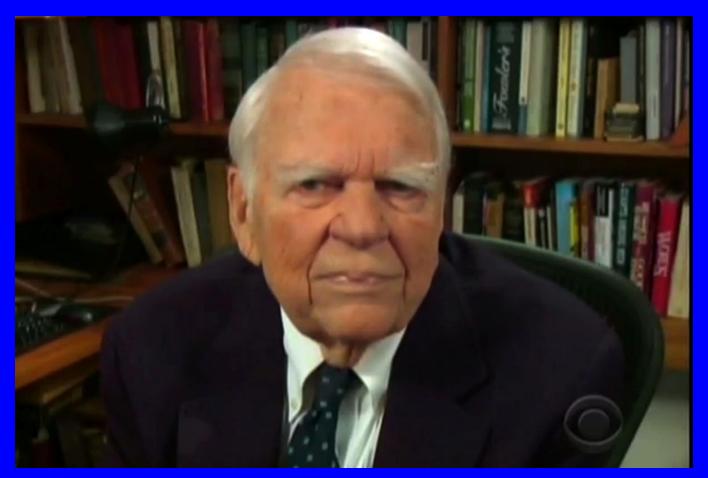
http://medstopper.com/about.php



## ANY

## Questions!

## ↓ meds w/high adverse drug effect (ADE) potential --- pause for brief speaker rant



Can I tell you about a few medication issues in older adults that really get under my skin?

## Things I hate to see in older pts

- Muscle relaxants
  - Sedating, anticholinergic, falls/fx ↑, ?'able efficacy
- Megestrol acetate (Megace)
  - minimal wt  $\uparrow$ , thrombotic event  $\uparrow$ , mortality  $\uparrow$
- ASA continued when warfarin or Xa-inhib started for new indication (AF, VTE) in stable CAD pts
  - Warf & Xa-inhib cardioprotective, ASA 2x ↑ bleed risk w/o conferring additional cardioprotection
- $\bigcirc$  Polypharmacy  $\ge$  5 prescriptions more later

Beers Criteria for Potentially Inappropriate Medication Use in Older Adults J Am Geriatr Soc 2015:63:2227

## Extra slides follow

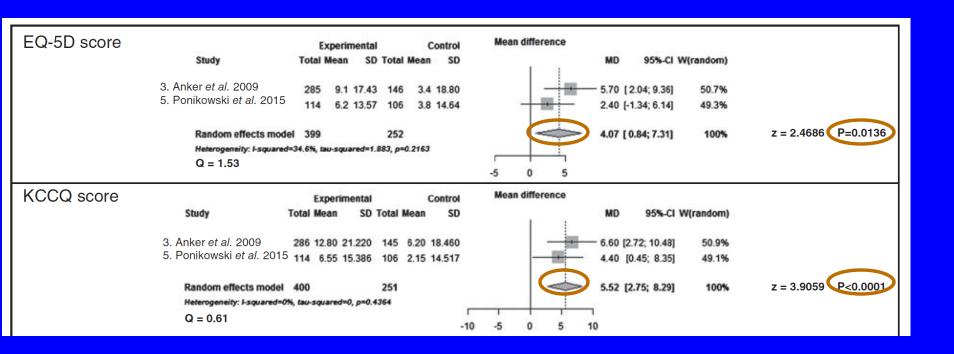
## EBM to Optimize Care of the Elderly? Apply clinical practice guidelines with caution

- CHF Guidelines: based on excellent RCT data
- Issue: Older Adults w/CHF often w/comorbid dz
- Characteristics 2.5 million Medicare Beneficiaries Hospitalized for Heart Failure, 2001-2005
  - mean age 80 years old, nearly 60% women
  - 2/3 of pts w/chronic atherosclerosis
  - 67% HTN
  - 42% COPD
  - 42% diabetes mellitus
  - 30% renal failure
  - 14% dementia

each of these w/CPGs

Arch Intern Med 2008;168(22):2481-8

## Meta-Analysis: IV Iron for Patients with HFrEF and Iron Deficiency



## Meta-Analysis: IV Iron for Patients with HFrEF and Iron Deficiency

