OREGON HEALTH & SCIENCE UNIVERSITY

Medical Updates for the Psychiatrist: Health Maintenance and Cardiometabolic Considerations

Y Pritham Raj, MD, FACP

Associate Professor, Depts of Internal Medicine & Psychiatry

Chief Medical Officer, Active Path Mental Health

Date: September 19, 2026

Disclosure Statement:

OREGON HEALTH & SCIENCE UNIVERSITY

Outline

1. 1. Metabolism and the role of therapeutic lifestyle change (TLC)
2. 2. Cardiometabolic Updates and Monitoring Considerations
3. 3. Pharmacotherapy (esp GLP-1s) for the Psychiatrist
4. 4. Preventive Health Pearls

OREGON HEALTH & SCIENCE UNIVERSITY

Clinical Case

- Dee Prest is a 61 yo WF with a h/o stage I HTN, who presents complaining of increased “stress,” poor sleep, and worsening mood that started during the pandemic but has worsened even more over the past year. Her vital signs are normal but she has been gaining weight (7 lbs in the past 6 months taking her BMI up to 35 kg/m^2) and with limited motivation to engage in physical activity.

- Her PHQ9 score is 21 and rated “extremely difficult” in severity.

OREGON HEALTH & SCIENCE UNIVERSITY

Clinical Case cont.

- Dee's current medications: sertraline 200mg, bupropion XL 300mg, metoprolol XL 150mg, HCTZ 25mg, atorvastatin 10mg, and potassium supplement daily
- Past psychotropic medications: fluoxetine (stopped working), venlafaxine (worsened blood pressure), escitalopram (didn't work), selegiline patch (too expensive).

- What is your next move?

OREGON HEALTH & SCIENCE UNIVERSITY
OHSU

Options for Dee with TRD (in no particular order)

1. - Bump the dose of bupropion XL to 450mg (work with what you've got)?
2. - A newer medication trial – I hear that gepirone is available?
3. - A "prescription" for lifestyle modification (TLC) including weight loss meds
4. - A referral for cognitive behavioral therapy (CBT)
5. - Partial hospitalization/intensive outpt (PHP/IOP) program enrollment
6. - Transcranial magnetic stimulation (TMS)
7. - Electroconvulsive therapy (ECT)
8. - Seek genetic testing or use biomarkers for guidance
9. - Prescribe and have her download the Rejoyn app
10. - Lower the doses of some of her medications?
11. - Start lithium carbonate or a second-generation antipsychotic (SGA)?

OREGON HEALTH & SCIENCE UNIVERSITY
OHSU

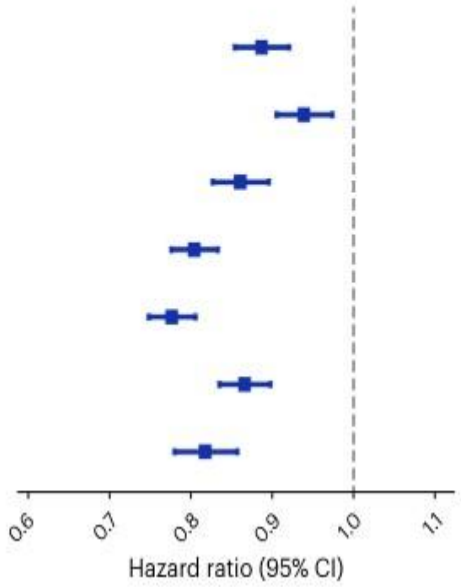
Options for Dee with TRD (in no particular order)

1. - Bump the dose of bupropion XL to 450mg (work with what you've got)?
2. - A newer medication trial – I hear that gepirone is available?
3. - A "prescription" for lifestyle modification (TLC) including weight loss meds
4. - A referral for cognitive behavioral therapy (CBT)
5. - Partial hospitalization/intensive outpt (PHP/IOP) program enrollment
6. - Transcranial magnetic stimulation (TMS)
7. - Electroconvulsive therapy (ECT)
8. - Seek genetic testing or use biomarkers for guidance
9. - Prescribe and have her download the Rejoyn app
10. - Lower the doses of some of her medications?
11. - Start lithium carbonate or a second-generation antipsychotic (SGA)?

OREGON HEALTH & SCIENCE UNIVERSITY

Which Lifestyle Predictors Have Greatest Impact on Depression?

Predictor	No. of cases/total no. of participants	Hazard ratio (95% CI)	*P* value
	Lifestyle factor		
Moderate alcohol consumption	8,678/210,387 (4.12%)	0.89 (0.85–0.92)	3.17×10^{-10}
Healthy diet	7,582/76,783 (4.29%)	0.94 (0.90–0.97)	6.41×10^{-4}
Regular physical activity	9,525/226,303 (4.21%)	0.86 (0.83–0.90)	1.93×10^{-13}
Never smoking	5,898/149,749 (3.94%)	0.80 (0.78–0.83)	1.01×10^{-33}
Healthy sleep	8,521/211,284 (4.03%)	0.78 (0.75–0.81)	2.45×10^{-41}
Low-to-moderate sedentary behavior	5,713/141,190 (4.05%)	0.87 (0.84–0.90)	4.26×10^{-15}
Frequent social connection	10,751/249,493 (4.31%)	0.82 (0.78–0.86)	4.16×10^{-17}



Zhao, Y., Yang, L., Sahakian, B.J. et al. The brain structure, immunometabolic and genetic mechanisms underlying the association between lifestyle and depression. *Nat. Mental Health* 1, 736–750 (2023).

OREGON HEALTH & SCIENCE UNIVERSITY

Updated TLC for the Psychiatric Patient

The 5Fs: Fall Asleep, Fingers, Friends, Feet, Food

Fall Asleep: Sleep hygiene and treatment discussion

Fingers: Smoking has a complicated relationship with weight but we know behavior modification reduces depression

Friends: Building social connection

Feet: Think physical activity (not exercise)

Food: Diet (500-1000 kcal/d energy deficit, ≈1–2 lbs/wk weight loss)

OREGON HEALTH & SCIENCE UNIVERSITY
OHSU

Fall Sleep

How Much Sleep Should We Recommend?

OREGON HEALTH & SCIENCE UNIVERSITY

Stanford Men's Basketball Sleep Study

10 hours/night for 5-7 weeks

- Ran faster 282-foot sprints (16.2 seconds versus 15.5 seconds)
- Free throw percentages increased by 9 percent and 3-point field goal percentage increased by 9.2 percent.
- Bottom Line: 1 point per game increase

Mah CH et al. *Sleep*. 2011 Jul 1;34(7):943–950.

OREGON HEALTH & SCIENCE UNIVERSITY

How Much Sleep is "Just Right"

Average Sleep Needs based on Age

AGE GROUP	RECOMMENDED HOURS OF SLEEP
0 - 3 months	14 - 17 hours
4 - 11 months	12 - 15 hours
3 - 5 years	10 - 13 hours
6 - 13 years	9 - 11 hours
14 - 18 years	8 - 10 hours
25 - 45 years	7 - 9 hours
45 -65 years	7 - 9 hours
70 - 90 years	7 - 9 hours

https://www.sleepassociation.org/

- For those who struggle with insomnia, suggest limiting their time in bed to 5.5 hours (and work up from there to a target of 7+ hours).

OREGON HEALTH & SCIENCE UNIVERSITY

Reminder: Sleep Deprivation

- One night of sleep deprivation is the equivalent to a blood alcohol level of 0.10%.

- 0.08% = definite impairment of muscle coordination and driving skills (the legal intoxication level in most states). Generally, takes about three drinks in an hour for women or four for men to get to this level.

OREGON HEALTH & SCIENCE UNIVERSITY

Insomnia Question

Since Dee is also struggling with insomnia, you consider CBT-I but are having a hard time finding a therapist. According to the most recent recommendations of the American Academy of Sleep Medicine, which medication would be the best long-term option for sleep maintenance insomnia?

A.Suvorexant

B.Diphenhydramine

C.Trazodone

D.Melatonin

E.Valerian

OREGON HEALTH & SCIENCE UNIVERSITY
OHSU

Insomnia Question

Since Dee is also struggling with insomnia, you consider CBT-I but are having a hard time finding a therapist. According to the most recent recommendations of the American Academy of Sleep Medicine, which medication would be the best long-term option for sleep maintenance insomnia?

A. Suvorexant (a dual orexin receptor antagonist)

B. Diphenhydramine

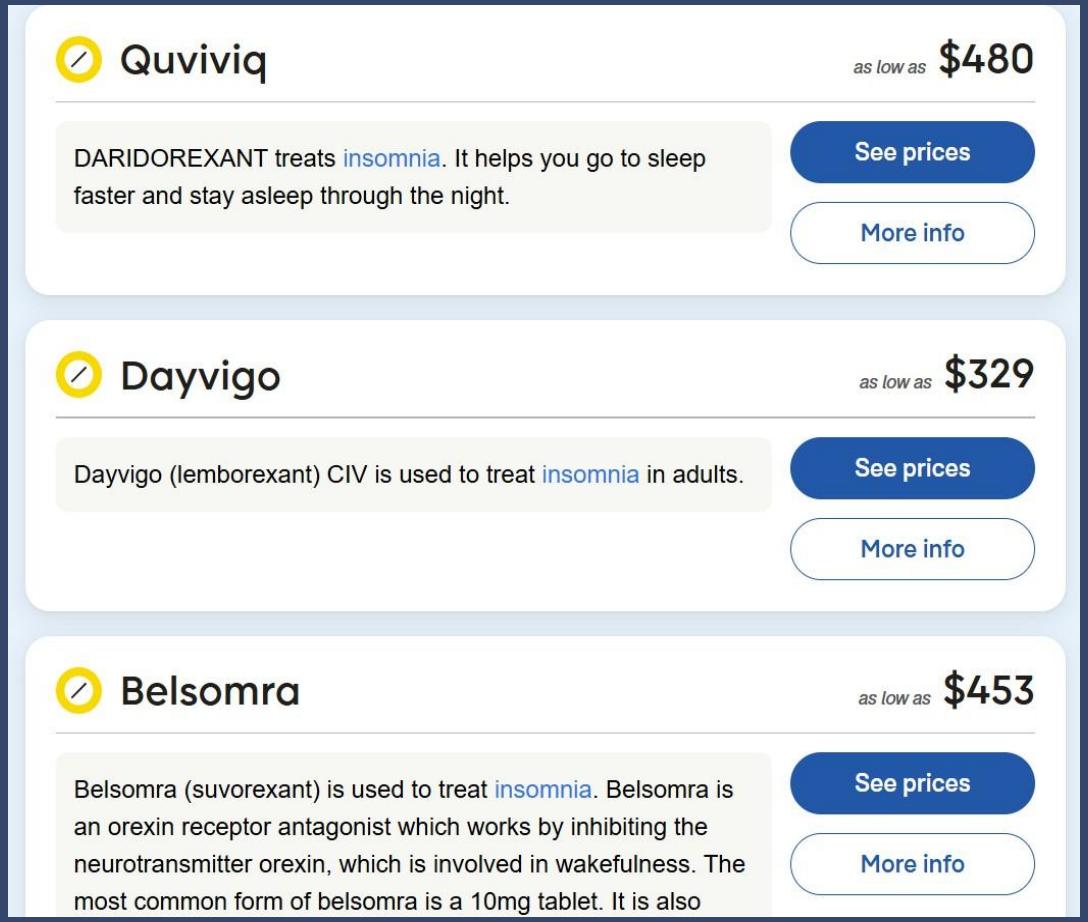
C. Trazodone

D. Melatonin

E. Valerian

OREGON HEALTH & SCIENCE UNIVERSITY
OHSU

The Down Side
(per Good Rx in January, 2025)



Quviviq — as low as $480

DARIDOREXANT treats insomnia. It helps you go to sleep faster and stay asleep through the night.

See prices

More info

Dayvigo — as low as $329

Dayvigo (lemborexant) CIV is used to treat insomnia in adults.

See prices

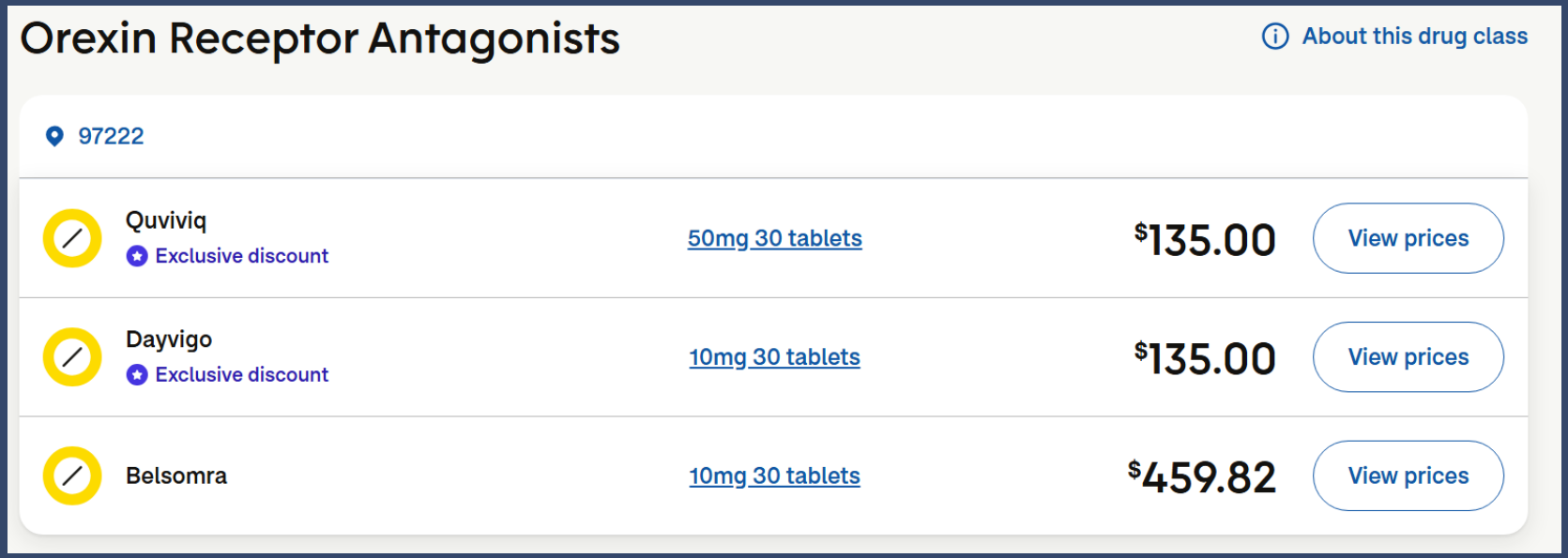
More info

Belsomra — as low as $453

Belsomra (suvorexant) is used to treat insomnia. Belsomra is an orexin receptor antagonist which works by inhibiting the neurotransmitter orexin, which is involved in wakefulness. The most common form of belsomra is a 10mg tablet. It is also

OREGON HEALTH & SCIENCE UNIVERSITY

The Better Side
(per Good Rx as of June 01, 2026)



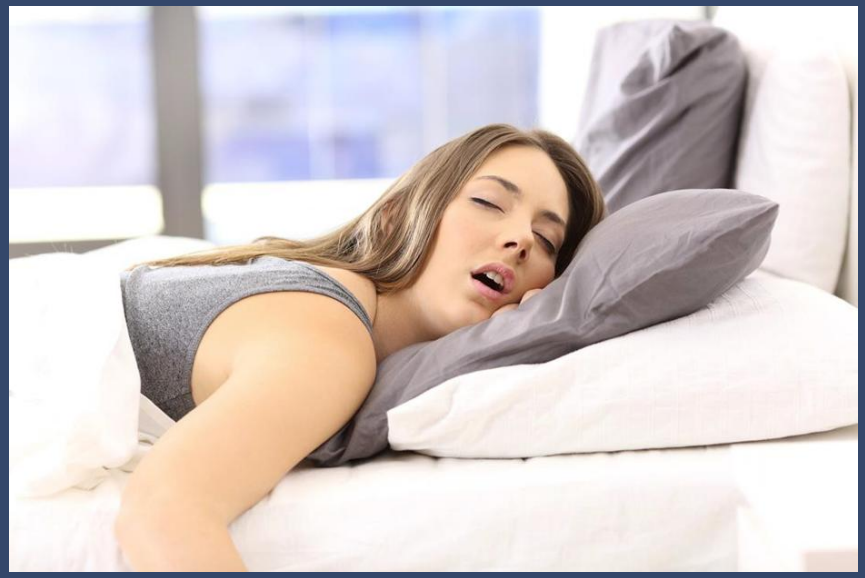
OREGON HEALTH & SCIENCE UNIVERSITY
OHSU

Pearl: Proper Sleep is Key to Better Metabolism and Mood

Falling Asleep **vs.** **"Forty Winks"**

From Kitchiner's 1821

The Art of Invigorating and Prolonging Life



Is it not better *Economy of Time*, to go to sleep for half an hour,—than to go on noodling all day in a nerveless and semi-superannuated state—if not asleep, certainly not effectively Awake—for any purpose requiring the Energy of either the Body, or the Mind.

"*A Forty Winks Nap*," in an horizontal posture, is the best preparative for any extraordinary exertion of either.

OREGON HEALTH & SCIENCE UNIVERSITY

. 2022 Oct 6;15:868032

Fingers: Smoking Cessation Strategy

Motivational Interviewing

- **D**evelop **D**iscrepancy
- **A**void **A**rguments
- **R**oll with **R**esistance
- **E**xpress **E**mpathy
- **S**upport **S**elf-efficacy

Miller & Rollnick
Motivational Interviewing 2002

CBT

Prochaska & DiClemente, 1982

OREGON HEALTH & SCIENCE UNIVERSITY
OHSU

. 2022 Oct 6;15:868032

Fingers: Smoking Cessation Strategy

Motivational Interviewing

- **Ask permission:** *"I notice on your chart that you smoke. Would it be okay if we spend a few minutes talking about your smoking and how it relates to your health?"*
- **Open-ended exploration:** *"What are some of the things you enjoy about smoking, and what are some of the things you don't like as much?"*
  - https://www.camh.ca/en/professionals
- **Validate the function:** *"Many people with [Condition] find that smoking temporarily calms them down. It makes complete sense that you've used it to help manage your stress [or anxiety/depression].*

OREGON HEALTH & SCIENCE UNIVERSITY

Fingers: Smoking Cessation Strategy

Cognitive Behavioral Therapy

- **Reframe the narrative:** *"Did you know that quitting smoking actually has the same long-term benefits for your mental health as taking an antidepressant? Many patients find their anxiety decreases once the constant cycle of nicotine withdrawal is gone.“*
  - *Front Psychiatry.* 2022 Oct 6;13:868032
- **Introduce the 4 Ds for Urges:**

  Delay: Wait out the craving for 10 minutes.

  Distract: Do something else.

  Deep Breathing: Take slow, calming breaths.

  Drink Water: Sip water slowly.
  - https://www.mentalhealth.va.gov/quit-tobacco/docs/tobacco-cess-miniworkbk-eng-final-508.pdf

OREGON HEALTH & SCIENCE UNIVERSITY

Friends

Loneliness is a Pandemic

- 2023: U.S. surgeon general Vivek Murthy declared loneliness an epidemic, stating it is far more than "just a bad feeling" and represents a major public health risk for both individuals and society.

- Among 30-44-year-olds: 29% said they were "frequently" or "always" lonely
- Among 18–29-year-olds: 24%
- For 45–64-year-olds: 20%
- Adults aged 65 and older: 10%

  - Harvard Graduate School of Education's Making Caring Common (MCC) project

OREGON HEALTH & SCIENCE UNIVERSITY

Impact of Friendships (or the Lack Thereof)

- People who have friends and close confidants are more satisfied with their lives and less likely to suffer from depression
  - Choi, K. W., et al., The American Journal of Psychiatry, Vol. 177, No. 10, 2020.
- They're less likely to die from all causes, including heart problems and a range of chronic diseases
- People with no friends or poor-quality friendships are twice as likely to die prematurely, according to a meta-analysis of more than 308,000 people—a risk factor even greater than the effects of smoking 20 cigarettes per day
  - Holt-Lunstad, J., et al., PLOS Medicine, Vol. 7, No. 7, 2010.

OREGON HEALTH & SCIENCE UNIVERSITY

TLC: Feet and Food (Cardiometabolic Counseling)

OREGON HEALTH & SCIENCE UNIVERSITY

Feet Pearls

- Adults should accumulate at least 30 minutes of moderate-intensity physical activity (not necessarily exercise) each day
- This is equivalent to walking about 1.5 miles at a pace of 3-4 mph
- Doing more exercise and perhaps more strenuous exercise may provide additional health benefits

Statement endorsed by American College of Sports Medicine/Centers for Disease Control and Prevention, American Heart Association, NIH, the Surgeon General, and US Dietary Guidelines since 2005.

OREGON HEALTH & SCIENCE UNIVERSITY
OHSU

Classic Data

TLC: Exercise Equivalent to Pharmacotherapy

- SMILE study: 16 weeks of aerobic exercise training was comparable to that of standard pharmacotherapy (sertraline) and combined exercise/meds
  - Blumenthal JA et al. *Arch Intern Med* 1999;159:2459-56.
- 10 Month Continuation study: Remitted subjects in the exercise group had significantly lower relapse rates than subjects in the medication group.
  - Babyak M, Blumenthal JA et al. *Psychosom Med* 2000;62:633-38.

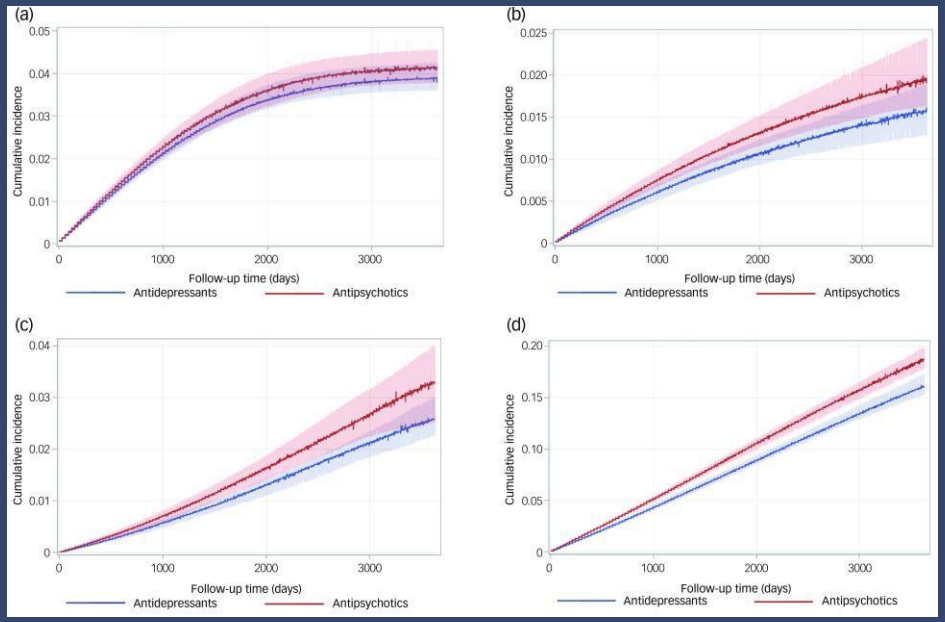
OREGON HEALTH & SCIENCE UNIVERSITY

SGAs FDA-approved for Augmentation in MDD

- Aripiprazole – 2007
- Olanzapine-Fluoxetine – 2009 (TRD)
- Quetiapine ER - 2009
- Brexpiprazole – 2022
- Cariprazine – 2022
- Lumateperone - 2025

Suicide attempt

Suicide death



Cardiovascular death

All-cause mortality

Tsai DH-T, Yang AS-H, Wong Z-X, et al. Antipsychotic therapy and suicide risk in patients with treatment-resistant depression: target trial emulation framework study. The British Journal of Psychiatry. Published online 2025:1-9

OREGON HEALTH & SCIENCE UNIVERSITY

Metabolic Syndrome E88.81

- Among psychiatrists, 76% have diagnosed it, but only 28% correctly identified the five NCEP diagnostic criteria.

  - *Psychopharmacology Bulletin*. 2007;40(2):22-37.

OREGON HEALTH & SCIENCE UNIVERSITY
OHSU

. 2009 May-Jun;2(5-6):231–237.

Metabolic Syndrome

Table 1: Criteria for diagnosis of metabolic syndrome by diagnostic guideline

Criterion *(11)*	NCEP-ATP III[a]	IDF[b]	AHA/NHLBI[a]	ATP III[a]
Waist circumference (cm)				
Males	≥ 102	≥ 94	≥ 94	≥ 102
Females	≥ 88	≥ 80	≥ 80	≥ 88
HDL cholesterol (mg/dL)				
Males	< 40	< 40	< 40	< 40
Females	< 50	< 50	< 50	< 50
Triglycerides (mg/dL)	≥ 150	≥ 150	≥ 150	≥ 150
Fasting glucose (mg/dL)	≥ 100	≥ 100	≥ 100	≥ 110
Blood pressure (mmHg)	≥ 130/85	≥ 130/85	≥ 130/85	≥ 130/85

NCEP-ATP = National Cholesterol Education Program-Adult Treatment Panel; IDF = International Diabetes Federation; AHA/NHLBI = American Heart Association and National Heart, Lung and Blood Institute; HDL = high-density lipoprotein.

[a]Three of five required.

[b]Central adiposity required; two of subsequent four required.

Dis Model Mech. 2009 May-Jun;2(5-6):231–237.

OREGON HEALTH & SCIENCE UNIVERSITY

Current NIH/WHO Definitions:

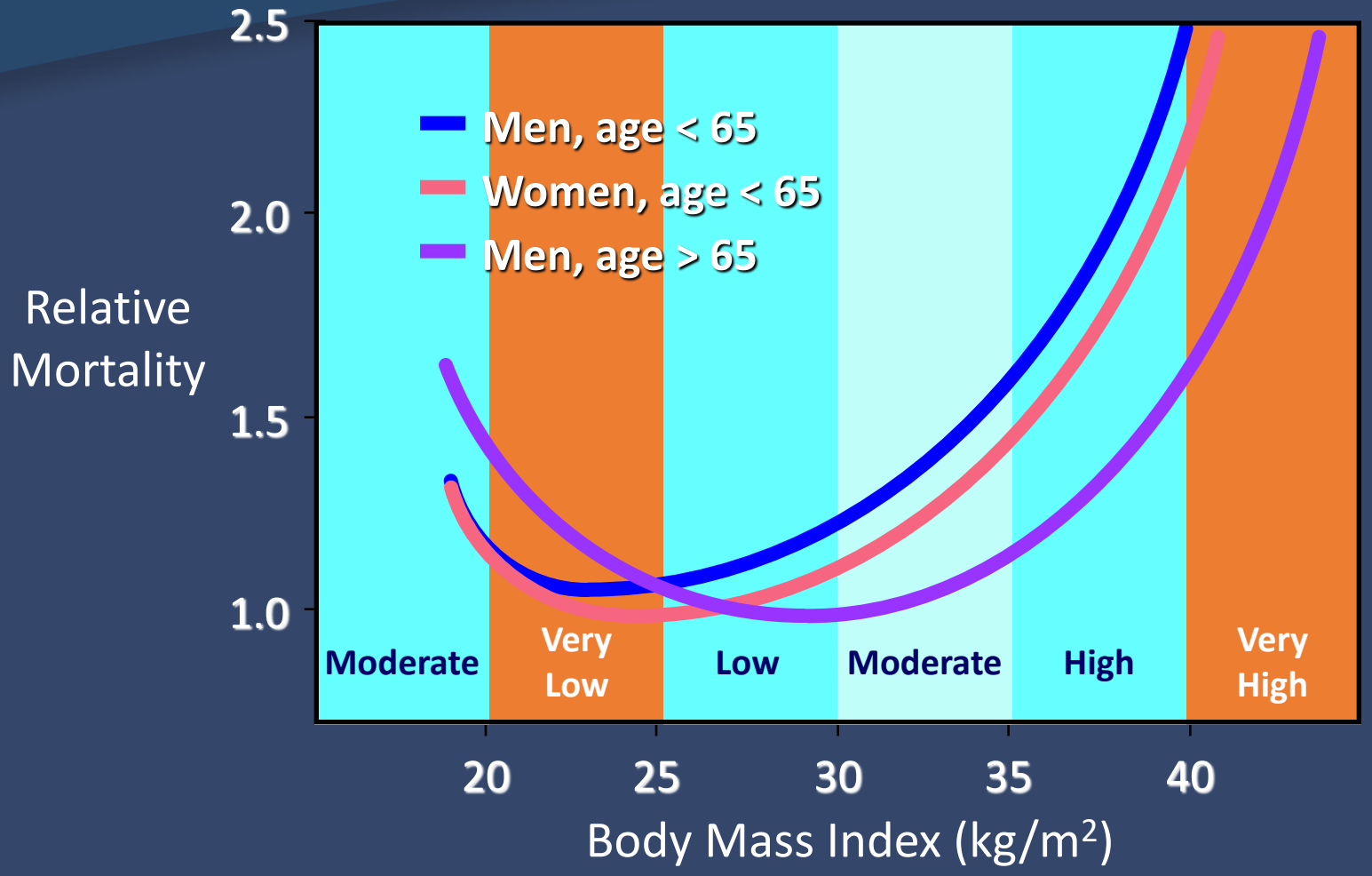
Classification	BMI (kilogram/m ^{2})
Underweight	<18.5
Normal weight	18.5-24.9
Overweight	25-29.9
Obesity Class 1	30-34.9
Obesity Class 2	35-39.9
Extreme Obesity Class 3	>40

BMI correlates with total adiposity, morbidity & mortality

Purnell J. https://www.endotext.org/sections/obesity/

OREGON HEALTH & SCIENCE UNIVERSITY OHSU

Weight-associated Mortality



Slide courtesy of Samer Mattar, MD

OREGON HEALTH & SCIENCE UNIVERSITY

Apples to Apples?
More Like Apples to Pears

OREGON HEALTH & SCIENCE UNIVERSITY

BMI is likely not the "gold standard" Think Waist-Hip Ratio

- NHANES III with 15,184 adults (52.3% women) aged 18 to 90 years.

- Results: Persons with normal-weight central obesity had the worst long-term survival. For example, a man with a normal BMI (22 kg/m^2) and central obesity had greater total mortality risk than one with similar BMI but no central obesity (hazard ratio [HR], 1.87 [95% CI, 1.53 to 2.29]), and this man had twice the mortality risk of participants who were overweight or obese according to BMI only (HR, 2.24 [CI, 1.52 to 3.32] and 2.42 [CI, 1.30 to 4.53], respectively). Women had similar findings.

- *Ann Intern Med.* 2015;163(11):827-835.

OREGON HEALTH & SCIENCE UNIVERSITY

Annals of Internal Medicine
Established in 1927 by the American College of Physicians

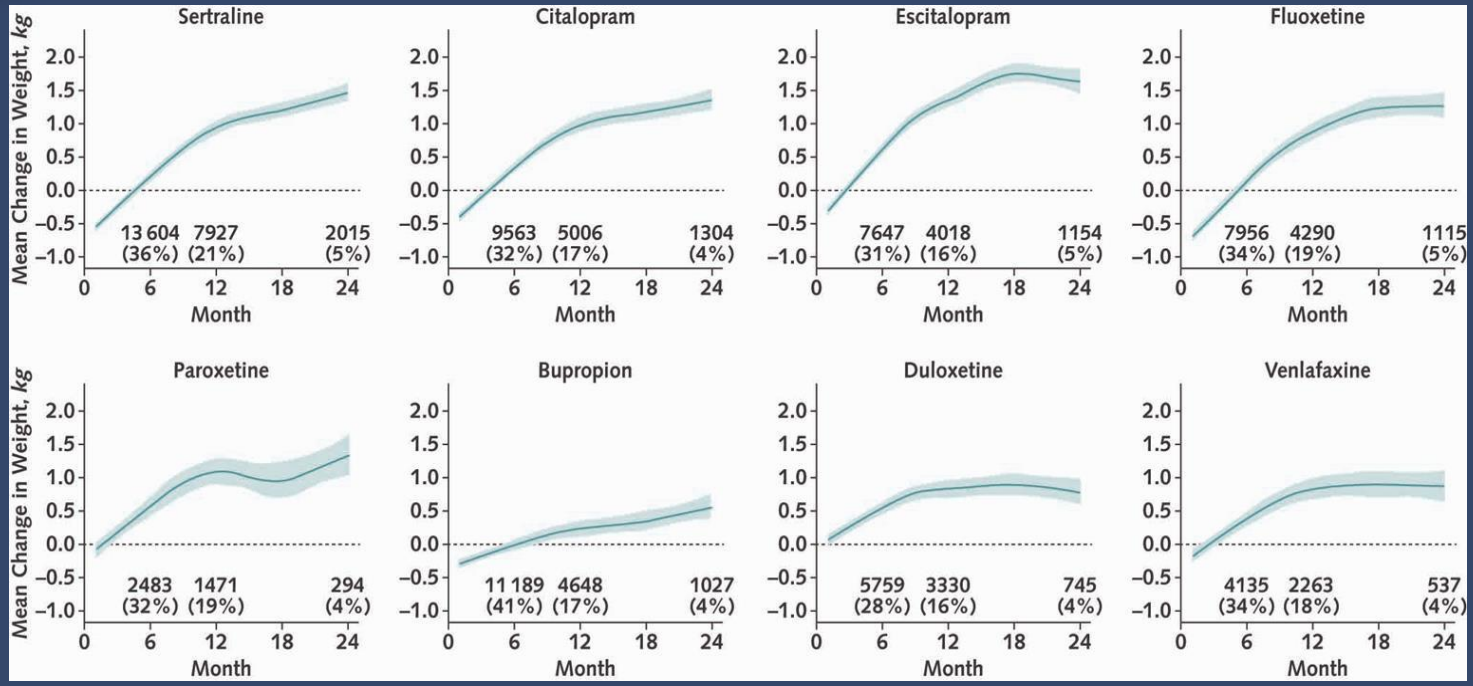
From: Normal-Weight Central Obesity: Implications for Total and Cardiovascular Mortality

1. BMI: 22 kg/m² WHR: 0.89	2 vs. 1 1.87 (1.53–2.29)	3 vs. 1 0.84 (0.64–1.09)	4 vs. 1 1.53 (1.27–1.86)	5 vs. 1 0.77 (0.46–1.30)	6 vs. 1 1.38 (1.07–178)
1 vs. 2 0.53 (0.44–0.65)	2. BMI: 22 kg/m² WHR: 1.0	3 vs. 2 0.45 (0.30–0.66)	4 vs. 2 0.82 (0.69–0.97)	5 vs. 2 0.41 (0.22–0.77)	
1 vs. 3 1.20 (0.91–1.57)	2 vs. 3 2.24 (1.52–3.32)	3. BMI: 27.5 kg/m² WHR: 0.89	4 vs. 3 1.84 (1.39–2.42)	5 vs. 3 0.93 (0.72–1.20)	6 vs. 3 1.65 (1.34–2.04)
1 vs. 4 0.65 (0.54–0.79)	2 vs. 4 1.22 (1.03–1.45)	3 vs. 4 0.54 (0.41–0.72)	4. BMI: 27.5 kg/m² WHR: 1.0	5 vs. 4 0.50 (0.30–0.84)	6 vs. 4 0.90 (0.79–1.03)
1 vs. 5 1.29 (0.77–2.18)	2 vs. 5 2.42 (1.30–4.53)	3 vs. 5 1.08 (0.84–1.40)	4 vs. 5 1.98 (1.20–3.29)	5. BMI: 33 kg/m² WHR: 0.89	6 vs. 5 1.79 (1.18–2.70)
1 vs. 6 0.72 (0.56–0.94)	2 vs. 6 1.36 (1.01–1.82)	3 vs. 6 0.60 (0.49–0.75)	4 vs. 6 1.11 (0.97–1.26)	5 vs. 6 0.56 (0.37–0.85)	5. BMI: 33 kg/m² WHR: 1.0

Ann Intern Med. 2015;163(11):827-835. doi:10.7326/M14-2525
Copyright © American College of Physicians. All rights reserved.

OREGON HEALTH & SCIENCE UNIVERSITY OHSU

Associations of Antidepressant Treatment and Weight Change over 24 Months



- Observational cohort study including >180,000 patients aged 20-80 years, which examined the association between first-line antidepressant treatments and weight changes over time
- Funded by National Institutes of Health and published in the Annals of Internal Medicine on July 2, 2024.

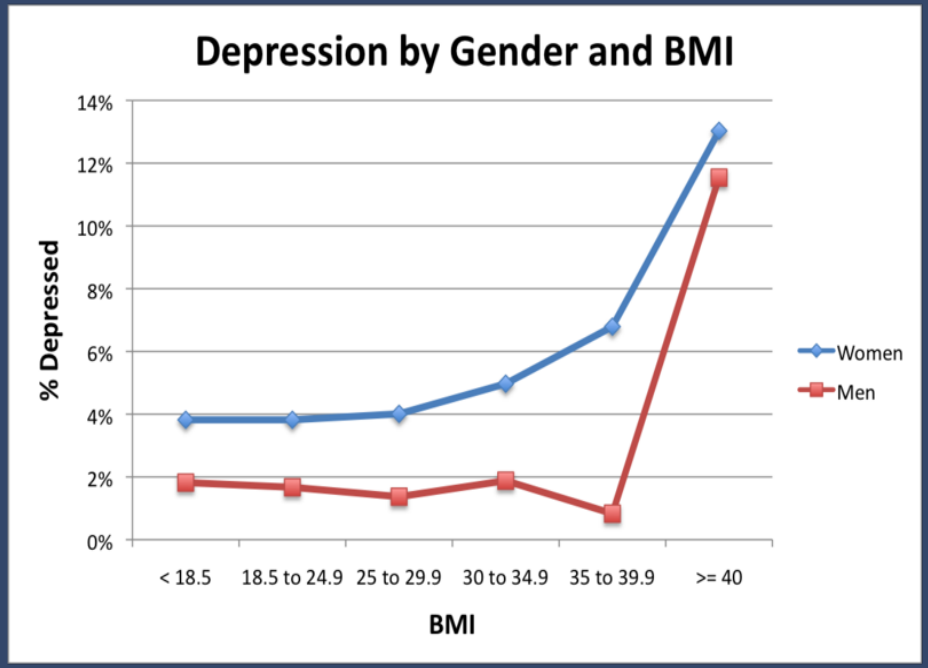
Petimar J, et al. *Ann Intern Med*. 2024;177(8):993-1003.

OREGON HEALTH & SCIENCE UNIVERSITY

Only Some Obesity Associated with Higher Rates of Depression?

- NHANES data ('88-'94) showed being overweight or even mildly obese is not associated with substantially increased rate of depression, it is the severely obese (BMI ≥ 40) who suffer markedly higher rates.

- One might argue that the data suggest that there is little need to worry about mild obesity and depression. I think this misses the dynamics of obesity. No one is born at BMI ≥ 40. You get there through a developmental process that includes a point when you have BMI ≤ 35.



OREGON HEALTH & SCIENCE UNIVERSITY

OREGON HEALTH & SCIENCE UNIVERSITY

Clinical Case 2

- Artie Sclerosis is a 41-year-old WM with a history of Major Depressive Disorder who just moved to Oregon to establish care with you. He has been on a combination of bupropion and aripiprazole to manage his mood symptoms. He tells you he thinks he was switched to bupropion initially because his blood pressure was going up on venlafaxine.

OREGON HEALTH & SCIENCE UNIVERSITY
OHSU

Clinical Case 2 – Artie cont.

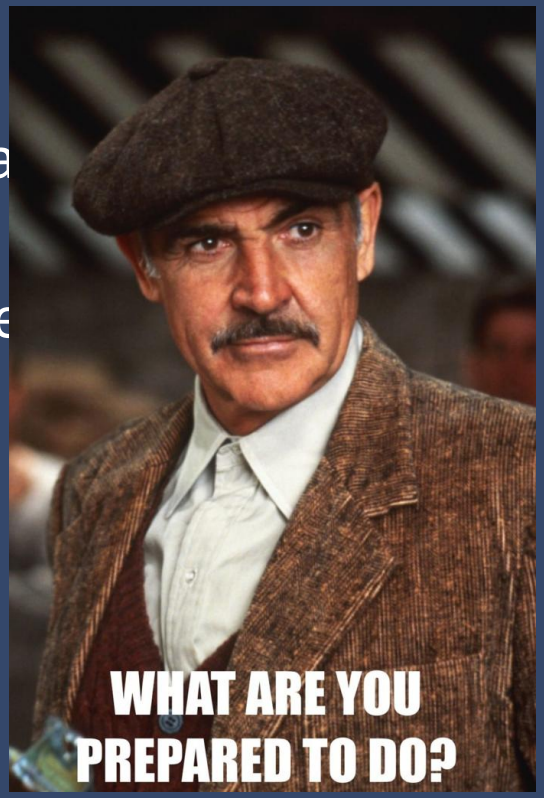
- You take a good history and order all of his screening labs as part of his annual metabolic testing because he doesn't have a PCP yet (and says he has had a wicked time trying to establish care). You measure his waist circumference which is larger than his hips (because you attended this talk) and even check his blood pressure which comes back at 142/85…

OREGON HEALTH & SCIENCE UNIVERSITY
OHSU

Clinical Case 2 – Artie cont.

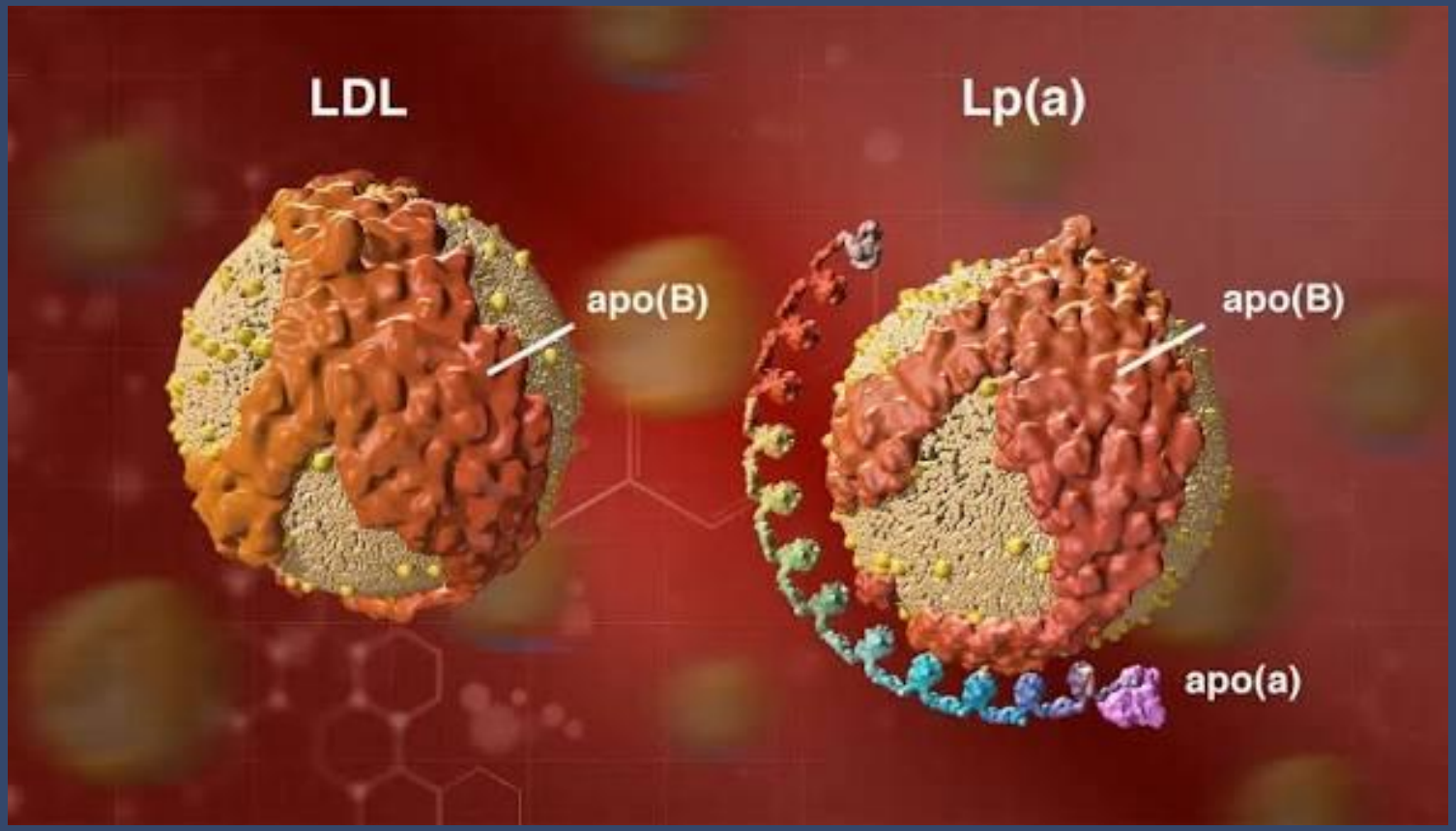
- Artie's labs come trickling in over the next few days. They are notable for the following (all other labs were within normal limits):

  HgbA1c 6.4 (5.7-6.4 = predia
  T Chol 230 (nl < 200)
  LDL 160 (< 160 recommende
  HDL 30 (nl > 40 for male, 50
  TG 250 (nl < 150)
  Cr 1.2 (age-based still wnl)



OREGON HEALTH & SCIENCE UNIVERSITY

What About Lipoprotein (a)



OREGON HEALTH & SCIENCE UNIVERSITY

Checking Lipoprotein(a) - 1998

- OBJECTIVES: determine whether lipoprotein(a) [Lp(a)] is an independent risk factor for ischemic heart disease (IHD)
- METHODS: A 5-year prospective follow-up study was conducted in 2,156 French Canadian men 47 to 76 years old, without clinical evidence of IHD. Lipid measurements obtained at baseline included total cholesterol, low density lipoprotein (LDL) cholesterol, high density lipoprotein (HDL) cholesterol, apoprotein B and Lp(a).
- RESULTS: Lp(a) was not an independent risk factor for IHD but seemed to increase the deleterious effects of mildly elevated LDL cholesterol and elevated total cholesterol and apoprotein B levels and seemed to counteract the beneficial effects associated with elevated HDL cholesterol levels.

Is lipoprotein(a) an independent risk factor for ischemic heart disease in men? The Quebec Cardiovascular Study. AUCantin B; Gagnon F; Moorjani S; Despres JP; Lamarche B; Lupien PJ; Dagenais GR SOJ Am Coll Cardiol 1998 Mar 1;31(3):519-25.

OREGON HEALTH & SCIENCE UNIVERSITY
OHSU

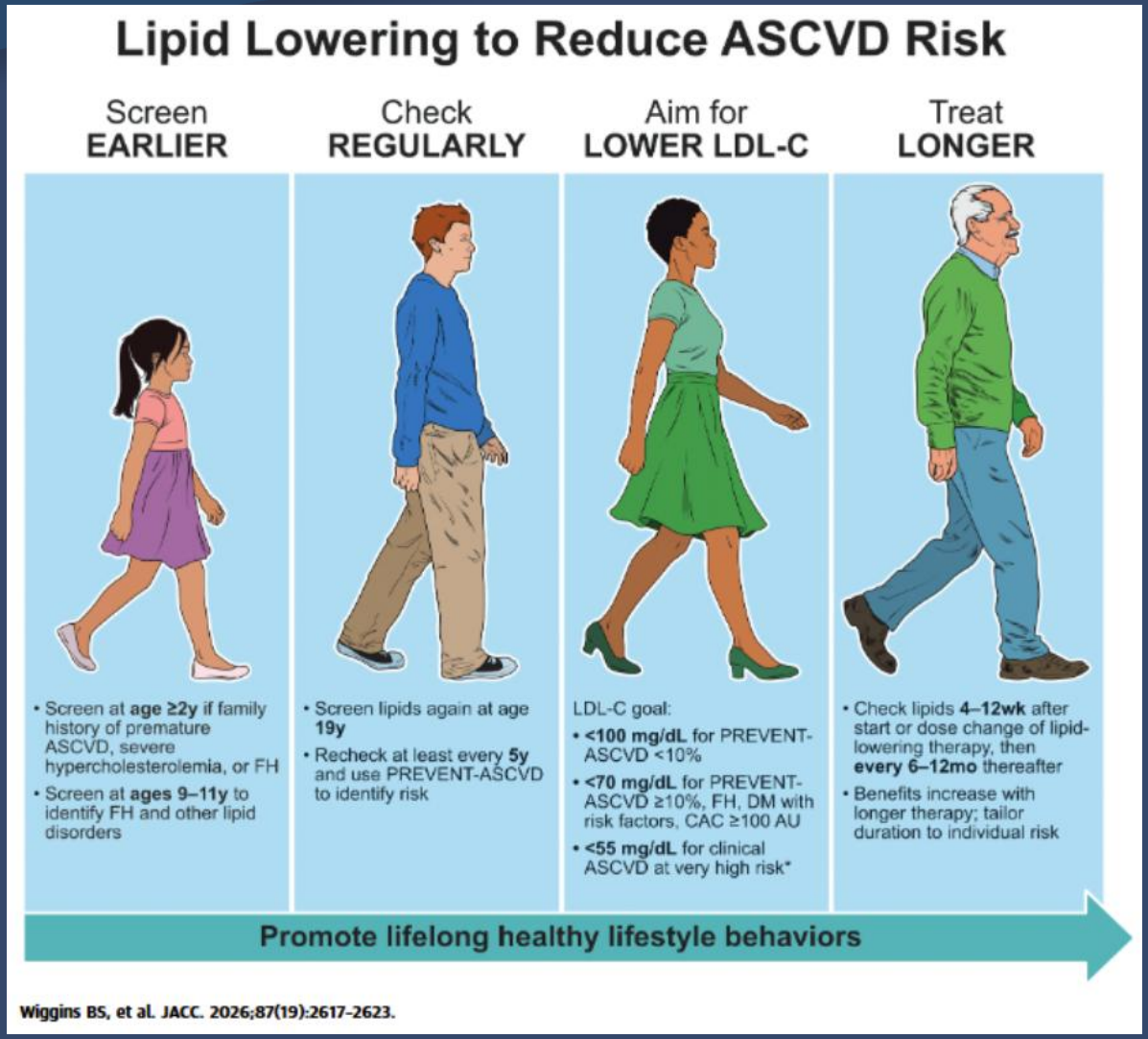
ACP Internal Medicine Meeting Hot Data

Checking Lipoprotein(a) - 2026

- Lipoprotein(a) [Lp(a)] should be measured at least once to identify those individuals at higher risk of ASCVD. It is considered as a risk-enhancing factor at levels ≥125 nmol/L (50 mg/dL), which is associated with about a 1.4-fold increased ASCVD risk, and values ≥250 nmol/L (100 mg/dL) are associated with ≥2-fold higher estimated risk. The presence of elevated Lp(a) should be an indication for more intensified LDL-C lowering and management of other risk factors.

OREGON HEALTH & SCIENCE UNIVERSITY OHSU

2026 ACC/AHA Guideline Updates



OREGON HEALTH & SCIENCE UNIVERSITY

Lipid Targets per ACC/AHA 2026 Guidelines

- Very High Risk (Established ASCVD with multiple high-risk features or CAC score >1,000): LDL-C <55 mg/dL (Non-HDL-C <85 mg/dL)
- High Risk (Secondary prevention not at very high risk, diabetes with multiple risk factors, or 10-year ASCVD risk >10%): LDL-C <70 mg/dL
- Intermediate Risk (5% to 10% 10-year risk): LDL-C <100 mg/dL
- Borderline Risk (3% to 5% risk): LDL-C <100 mg/dL
- Low Risk (<3% risk): LDL-C <160 mg/dL

https://www.jacc.org/guidelines/dyslipidemia

OREGON HEALTH & SCIENCE UNIVERSITY

PREVENT ASCVD Risk Calculator

Patients age 30-79 without CVD for 10- and 30-year risk

CVD | **ASCVD** | Heart Failure

Sex*
(•) Male ( ) Female

Age (years)*
30-79

SBP (mmHg)*
90-200

Total Cholesterol (mg/dL)*
130-320

HDL Cholesterol (mg/dL)*
20-100

eGFR (mL/min/1.73m^2)*
15-140

BMI (kg/m^2)*
18.5-39.9

Diabetes
Any history of diabetes.
(•) No ( ) Yes

Current Smoking
Any cigarette use within the last 30 days
(•) No ( ) Yes

Lipid-lowering medication
Current use of statin medication to lower cholesterol
(•) No ( ) Yes

Anti-hypertensive medication
Current use of any medication for hypertension
(•) No ( ) Yes

OREGON HEALTH & SCIENCE UNIVERSITY

Other 2026 Marker Updates

Highly Sensitive CRP (hs-CRP)

- COR 2a: In adults without ASCVD with a borderline 10-y ASCVD risk estimate (3% to <5%) by the PREVENT-ASCVD equations, if hsCRP is measured and is ≥2 mg/L on 2 successive occasions with no identifiable underlying cause of hsCRP elevation, high-intensity statin therapy can be useful to reduce the risk of ASCVD events.

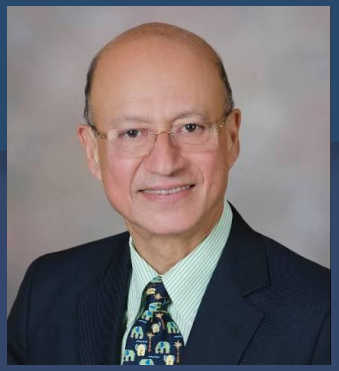
JUPITER Trial

- 15,000+ patients with normal cholesterol levels (low-density lipoprotein [LDL] cholesterol<130 mg/dL) but elevated levels of US-CRP (2.0 mg/L or higher).
- Rosuvastatin 20 mg daily vs placebo for five years - stopped after 1.9 years due to superiority w/statin
- Results: 54% reduction in heart attacks, 48% in stroke, 46% in the need for angioplasty or CABG, and 20% reduction in all cause mortality. Levels of US-CRP were reduced by 37%, LDL by 50%

Ridker PM et al; JUPITER Study Group. Rosuvastatin to prevent vascular events in men and women with elevated C-reactive protein. NEJM 2008;359:21895-2207.

OREGON HEALTH & SCIENCE UNIVERSITY OHSU

Other 2026 Marker Updates



Apolipoprotein B (ApoB)

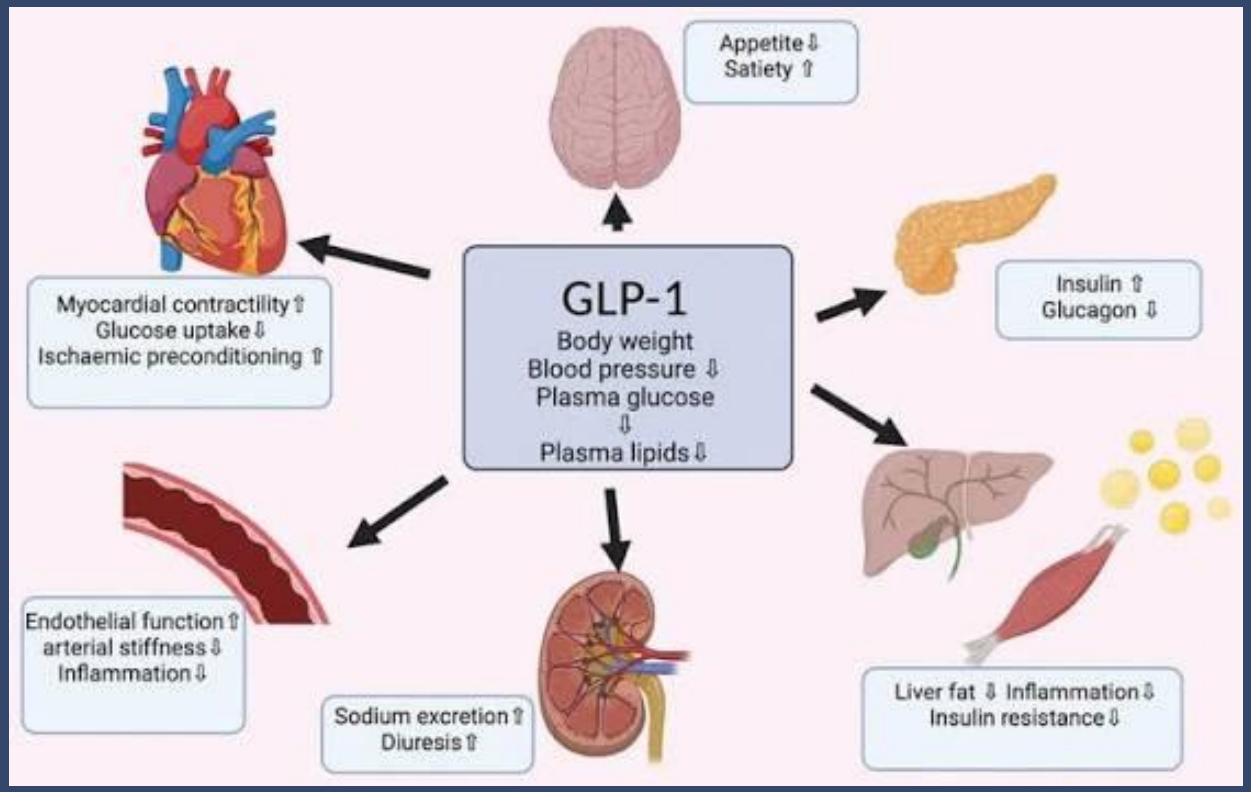
Per Sanjiv Kaul, MD

- COR 2a: In adults on LLT, particularly those with ASCVD, CKM (cardiovascular-kidney-metabolic) syndrome, type 2 diabetes, and/or elevated TG, measurement of apoB is reasonable to guide decisions regarding further therapeutic intensification once LDL-C and/or non–HDL-C goals are achieved.

- "We use it in high-risk patients because it has a better association with atherosclerosis than LDL. Examples: diabetes, metabolic syndrome, or where LDL is 'normal' despite evidence of atherosclerosis
- Pearl: Keep the ApoB as low as the LDL

OREGON HEALTH & SCIENCE UNIVERSITY

My Patients Might Be OK with a Statin but They Really Want to Know about GLP-1 s



OREGON HEALTH & SCIENCE UNIVERSITY
OHSU

GLP1 & GIP Receptor Agonists & Neuroplasticity

The effect of GLP-1 and GIP receptor agonists on neurogenesis, differentiation, and plasticity:

A replicated and convergent body of preclinical evidence indicates that incretin receptor agonists activate molecular effectors critical to neuroplasticity, neuroprotection, and anti-apoptosis.

Neuro-GDP

- Increases Neurogenesis
- Increases Neurodifferentiation
- Increases Neuroplasticity

Neuroprotection

- Anti-inflammatory
- Anti-oxidant
- Anti-excitotoxicity

Anti-Apoptosis

- Decreases BAX:BCL-2

GLP-1 RAs and GIP RAs are promising therapeutics in the treatment and prevention of multiple domains of psychopathology, including general cognitive, reward, and motivation systems and mental disorders.

BAX = BCL-2-associated X protein; BCL-2 = B-cell lymphoma 2; Neuro-GDP = neuro-genesis, -differentiation, -plasticity; NMDA = N-methyl-D-aspartate; TRD = treatment-resistant depression. McIntyre RS, et al. *CNS Spectr*. 2025;30(1):e23.

OREGON HEALTH & SCIENCE UNIVERSITY

SC GLP-1 Agonist Quick Guide

Weight Loss Medication	Mean Weight Loss compared to Placebo	Dosing (SC injection)	Notes
Liraglutide (Victoza, Saxenda)	Obesity: ~5-10% at 52-72 weeks on max dose Antipsychotic-related weight gain: 5% at 16 weeks	Daily Start: 0.6mg Target: 3mg, after increasing by 0.6mg weekly	Higher risk of biliary disease and pancreatitis
Semaglutide (Ozempic, Wegovy)	Obesity: ~10-15% at 52-72 weeks on max dose	Weekly Start: 0.25mg Target: 2.4mg, after dose increases every 4 weeks	An oral version, not approved for weight loss, works about as well as the SC version Higher risk of gastroparesis
Tirzepatide (Mounjaro, Zepbound)	Obesity: ~18% at 72 weeks on max dose	Weekly Start: 2.5mg Target: 5, 10, or 15mg, increasing in 2.5mg increments every 4 weeks	FDA approved in obesity with sleep apnea Higher risk of nausea and vomiting

Slide Courtesy: Christopher Aiken, Editor *Carlat Report.* From the Article: "New Weight Loss Drugs in Psychiatry. The Carlat Psychiatry Report. Vol 23, Issue 4, April 2025. www.thecarlatreport.com

OREGON HEALTH & SCIENCE UNIVERSITY

GLP-1 Agonist Drugs Comparison

	DOSAGE	DOSAGE FORM	APPROVED FOR	WHO CAN TAKE IT?	OTHER BENEFITS
Ozempic (SEMAGLUTIDE)	1 WEEKLY		TYPE 2 DIABETES	ADULTS	HEART, KIDNEYS, WEIGHT LOSS
Rybelsus (SEMAGLUTIDE)	1 DAILY		TYPE 2 DIABETES	ADULTS	WEIGHT LOSS
Wegovy (SEMAGLUTIDE)	1 WEEKLY		WEIGHT LOSS	12+ → KIDS + ADULTS	N/A
Trulicity (DULAGLUTIDE)	1 WEEKLY		TYPE 2 DIABETES	10+ → KIDS + ADULTS	HEART, KIDNEYS, WEIGHT LOSS
Victoza (LIRAGLUTIDE)	1 DAILY		TYPE 2 DIABETES	10+ → KIDS + ADULTS	HEART, KIDNEYS, WEIGHT LOSS
Saxenda (LIRAGLUTIDE)	1 DAILY		WEIGHT LOSS	12+ → KIDS + ADULTS	N/A
Byetta (EXENATIDE)	2 DAILY		TYPE 2 DIABETES	ADULTS	WEIGHT LOSS
Bydureon BCise (EXENATIDE)	1 WEEKLY		TYPE 2 DIABETES	10+ → KIDS + ADULTS	WEIGHT LOSS
Mounjaro (TIRZEPATIDE)	1 WEEKLY		TYPE 2 DIABETES	ADULTS	WEIGHT LOSS

Medicare Part D Bridge Program ($50 Copay per month):

1. Wegovy (injection or tablet)
2. Zepbound (KwikPen® only)
3. Foundayo® (tab)

GoodRx Health

OREGON HEALTH & SCIENCE UNIVERSITY OHSU

GLP-1 Studies in Patients on Antipsychotics

Liraglutide:

2 RCTs - Larsen et al, 2017; Whicher et al, 2021

16-wk study of placebo vs liraglutide up to 1.8 mg daily for patients with prediabetes receiving clozapine (68%) or olanzapine

- Patients receiving liraglutide had improved glucose tolerance, reductions in waist circumference, and -5.3-kg weight loss vs placebo

Semaglutide:

Case series of 12 patients receiving various antipsychotics who had experienced failure on metformin and were given semaglutide up to 2 mg/wk (Prasad, 2023)

Weight loss outcomes:

- 3 mo: 4.56 ± 3.15 kg (P <.001)
- 6 mo: 5.16 ± 6.27 kg (P = .04)
- 12 mo: 8.67 ± 9 kg (P = .04)

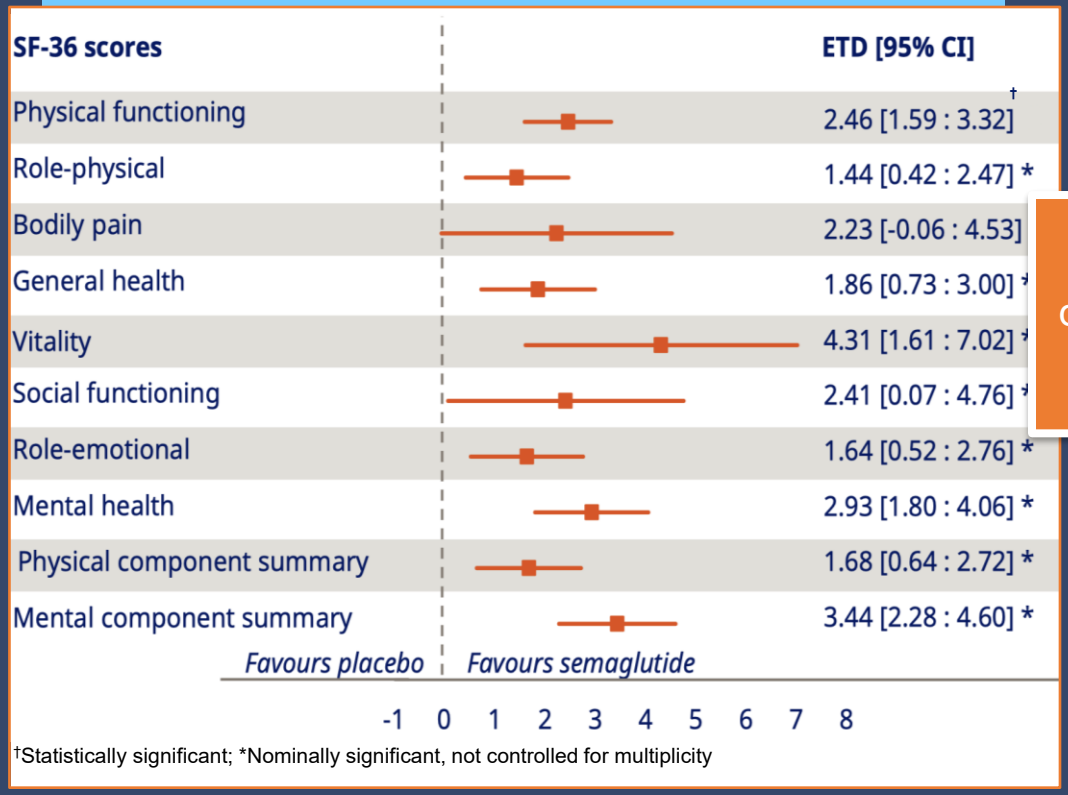
RCT = randomized controlled trial.

Larsen JR, et al. *JAMA Psychiatry*. 2017;74(7):719-728. Whicher CA, et al. *Diabetes Obes Metab*. 2021;23(6):1262-1271. Prasad F, et al. *Ther Adv Psychopharmacol*. 2023;13:20451253231165169.

OREGON HEALTH & SCIENCE UNIVERSITY

GLP-1 Agonists May Improve Quality of Life in Obese Patients

Treatment of Obesity with Semaglutide 2.4 mg Could Improve Some Quality-of-Life Measures



†Statistically significant; *Nominally significant, not controlled for multiplicity

In a meta-analysis of 31 randomized controlled trials (n=7937), symptoms of depression were reduced by lifestyle and medication interventions in individuals with obesity

- SF-36 = Short Form-36 Health Survey; CI = confidence interval; ETD = estimated treatment difference.
- Rubino D, et al. *JAMA*. 2021;325(14):1414-1425. Fabricatore AN, et al. *Int J Obes (Lond)*. 2011;35(11):1363-1376.

OREGON HEALTH & SCIENCE UNIVERSITY

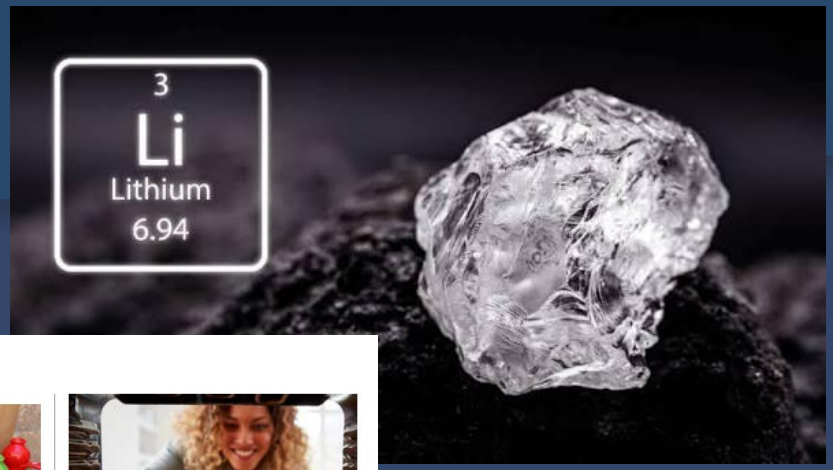
2026 Psychiatric Sentiment on GLP-1s

- Findings suggest modest antidepressant effects, inconsistent associations with suicidality and potential therapeutic benefit in disorders of reward regulation. These findings are constrained by limited sample diversity, variability in outcome measures and the consistent underrepresentation of individuals with psychiatric comorbidities...
- Preliminary evidence suggests modest antidepressant effects and potential therapeutic roles in eating and SUD.

Sa B, Maristany A, Subramaniam A, et al. Psychiatric effects of GLP-1 receptor agonists: A systematic review of emerging evidence. *Diabetes Obes Metab.* 2026 Jan;28(1):50-59.

OREGON HEALTH & SCIENCE UNIVERSITY
OHSU

What About Lithium?



Lithium has many essential applications

Rechargeable batteries
The main application is EVs but also used in ESS and portable electronics

Medicine
Lithium carbonate is used to treat mania, depression, and bipolar disorder

Ceramics
Lithium gives strength to ceramic coatings and reduces their melting point

Glass
Lithium improves the strength and lustre of glass, while reducing its thermal expansion

Industrial catalyst
Lithium compounds can be catalysts for making synthetic rubber, plastics & medicines

Air cleaner
Lithium hydroxide removes CO_2 from the air in submarines and spacecraft

Primary batteries
Non-rechargeable lithium batteries are often used in watches and smoke alarms

Aluminium production
Lithium lowers the melting temperature of aluminium oxide (alumina)

Lubricants & greases
Lithium stearate is used in high-performance lubricants, including for wind turbines

Cooling & drying air
Lithium chloride is used in industrial-scale air conditioning units

Colour
Lithium carbonate creates deep red effects in fireworks

Aircraft alloy
Lithium-aluminium alloys are light and strong, reducing the weight of aircraft & vehicles

OREGON HEALTH & SCIENCE UNIVERSITY

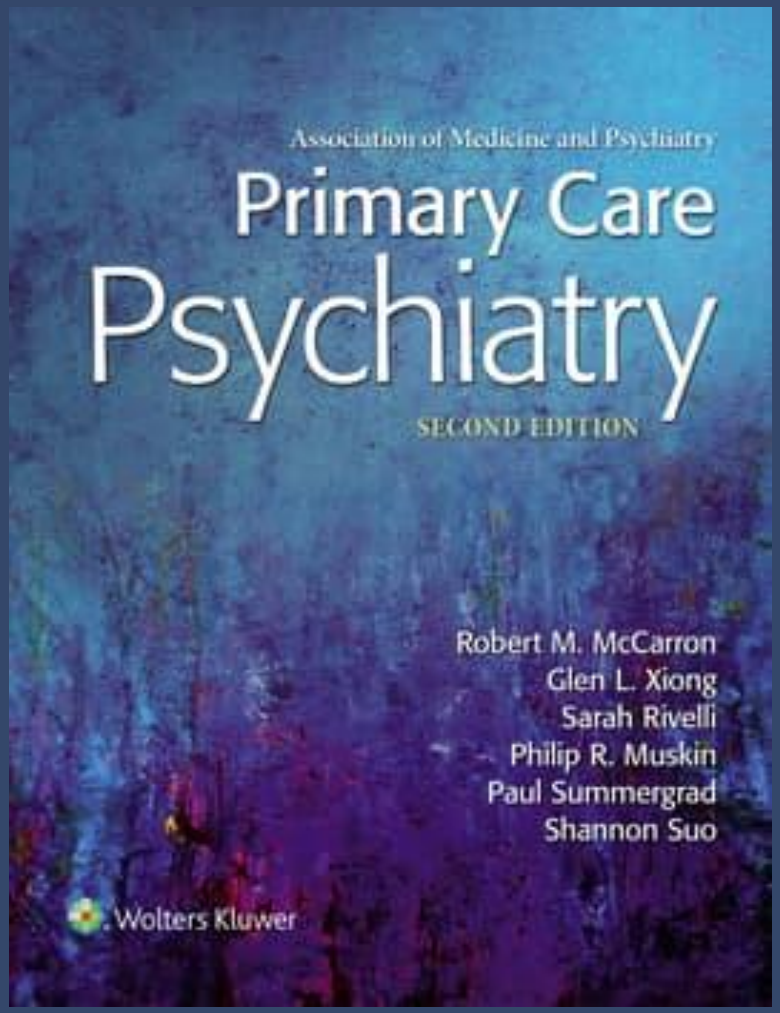
Lithium and Reduced Coronary Artery Calcification?

- 10-year retrospective study of 177 patients 45 years and older with bipolar d/o in China
- 84 patients on lithium had 89% lower odds of aortic calcification and 81% lower odds of coronary artery calcification compared to the 93 patients NOT prescribed lithium
- No dose-dependent differences were seen (doses ranged from <600mg to 1200mg/day)
- Major limitation: X-ray was used to assess for calcification rather than CT-based calcium scoring

- Jiang J, et al. Association between lithium treatmen tand vascular calcification in bipolar disorder: a retrospective cohort study. Journal of Afective Disorders 2026;

OREGON HEALTH & SCIENCE UNIVERSITY OHSU

Some Final Key Med-Psych Pearls



OREGON HEALTH & SCIENCE UNIVERSITY

Ferritin 2026 Updates

- The American Gastroenterological Association (AGA) officially liberalized its diagnostic threshold from 15 ng/mL to 45 ng/mL for adults. This shift alone successfully identified an estimated 3.3 million additional cases of iron deficiency anemia in the United States.

Guideline / Standard Source	Old / Traditional Cutoff	Updated Clinical Threshold	Impact of the Change
AGA Guidelines	≤ 15 ng/mL	**≤ 45 ng/mL**	Catches 3.3M more adult cases; triggers better diagnostic safety tracking.
Modern Hospital Labs	10 ng/mL (Females)	**30 ng/mL (Unified)**	Removes sex-based bias; ensures premenopausal women get treated earlier.
Pediatric Standards (ASH)	~15 µg/L	**24 µg/L**	Detects childhood iron deficits before the onset of anemia.
WHO / Traditional CDC	12–15 µg/L	*Under Review*	Increasingly criticized by experts as too low to reflect actual tissue iron needs.

OREGON HEALTH & SCIENCE UNIVERSITY

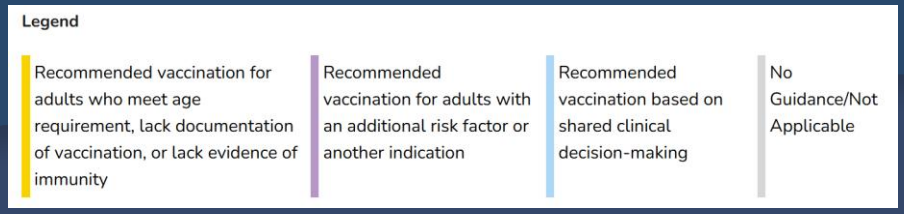
Key Vaccine Schedule

Vaccine	19-26 years	27-49 years	50-64 years	≥65 years
Zoster recombinant (RZV)	2 doses for immunocompromising conditions (See Notes)		2 doses	
Human papillomavirus (HPV)	2 or 3 doses depending on age at initial vaccination or condition	27 through 45 years		
Pneumococcal (PCV15, PCV20,PCV21, PPSV23)			See Notes	See Notes
Hepatitis A (HepA)	2, 3, or 4 doses depending on vaccine			
Hepatitis B (HepB)	2, 3, or 4 doses depending on vaccine or condition			

Source: https://www.cdc.gov/vaccines/hcp/imz-schedules/adult-age.html#table-age

OREGON HEALTH & SCIENCE UNIVERSITY

Key Vaccine Schedule



Vaccine	19-26 years	27-49 years	50-64 years	≥65 years
COVID-19	1 or more doses of 2024–2025 vaccine (See Notes)			2 or more doses of 2024-2025 vaccine (See Notes)
Respiratory Syncytial Virus (RSV)	Seasonal administration during pregnancy. (See Notes)		50 through 74 years (See Notes)	≥75 years
Tetanus, diphtheria, pertussis (Tdap or Td)	1 dose Tdap each pregnancy; 1 dose Td/Tdap for wound management (See Notes)			
	1 dose Tdap, then Td or Tdap booster every 10 years			

Source: https://www.cdc.gov/vaccines/hcp/imz-schedules/adult-age.html#table-age

OREGON HEALTH & SCIENCE UNIVERSITY

Antidepressants and Abnormal Bleeding

- A recent meta-analysis (20 studies) provided evidence that the studied antidepressants are associated with 31% (paroxetine) to 50% (venlafaxine) increase in the risk of gastrointestinal bleeding (GIB).
  - *Br J Clin Pharmacol*. 2025 Dec 29;92(3):793–808.
- "While we observe no differences across these antidepressants (SSRI: citalopram, escitalopram, fluoxetine, fluvoxamine, paroxetine, and sertraline; and SNRIs: desvenlafaxine, venlafaxine, and duloxetine), clinicians may wish to consider initially prescribing medications with the lower risk of GIB, all other factors being equal."

OREGON HEALTH & SCIENCE UNIVERSITY

"Fortune Favors the Prepared Mind" – Louis Pasteur

Thank You!
Time for Questions

OREGON HEALTH & SCIENCE UNIVERSITY