FAMILY MEDICINE POP! PRISM OF PRACTICE

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Obesity Reimagined

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California Academy of Family Physicians

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Disclosures: Dr. Jaqua has no relevant financial relationships with ineligible companies to disclose.

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Disclosures: Dr. Jaqua has no relevant financial relationships with ineligible companies to disclose. Dr. Pennings is a consultant for Abbott, an independent contractor for Medifast, and a speaker for Novo Nordisk. All financial relationships have been mitigated.

Additional Disclosures

Off-Label Medications

This activity may discuss products that are not currently approved for the indicated use by the Food and Drug Administration (FDA); the curriculum clearly indicates this fact.

Staff Planners

All moderators and planners have no relevant financial relationships with ineligible companies to disclose.

Educational Support

This activity is supported by an unrestricted education grant from Novo Nordisk.

Learning Outcomes

1. Recognize the health impacts of obesity and its interconnections with comorbidities, including MASLD, MASH, and cardiovascular disease

2. Develop individualized treatment plans for obesity management, integrating evidence-based guidelines, pharmacological therapies, and lifestyle modifications with consideration of comorbidities

3. Apply effective patient-centered communication and shared decision-making strategies to support long-term obesity management and treatment adherence

CASE 1: May

Focus: Obesity evaluation in the context of MASH and cardiometabolic comorbidities.

May

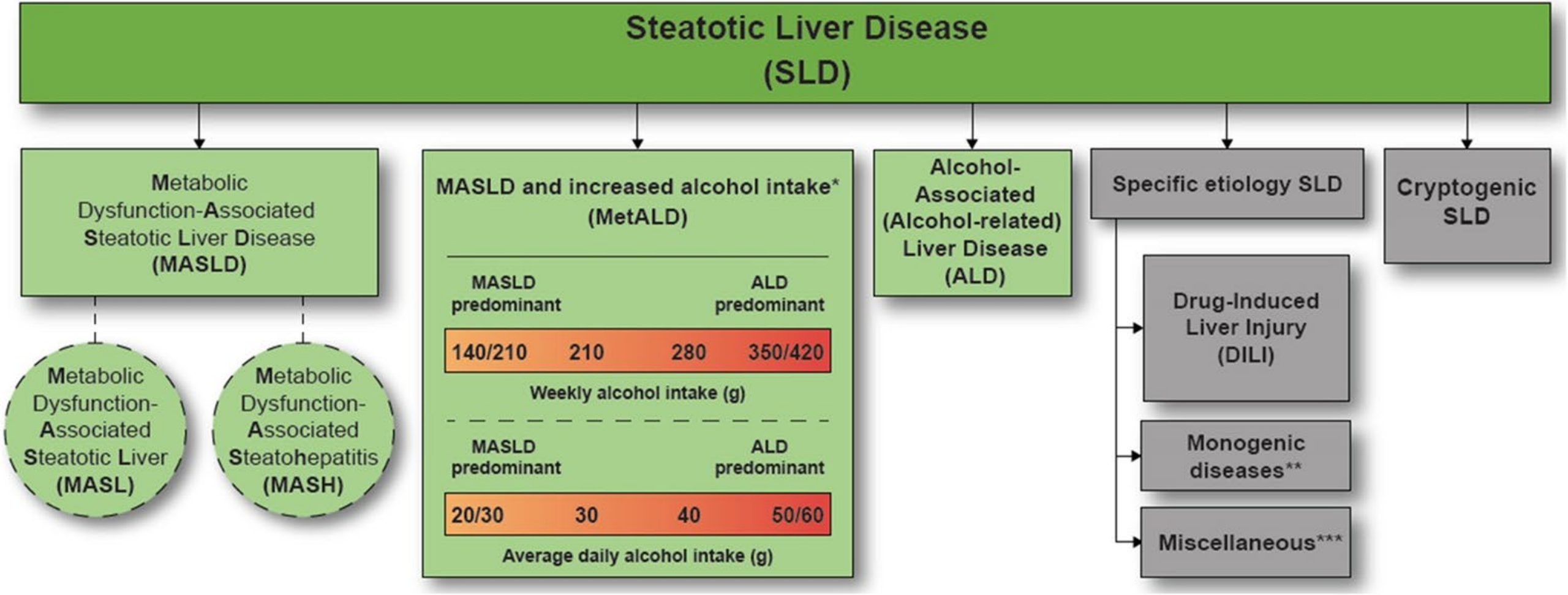
May is a 55-year-old Black/Asian-American female with a history of rheumatoid arthritis, impaired fasting glycemia, chronic low back pain and fatty liver.

- Complains of abdominal pain post-vacation, weight gain, frustration with health status.

- Ultrasound shows echogenic liver parenchyma consistent with fatty liver.

Background

Steatotic Liver Disease



Kanwal, F., Neuschwander-Tetri, B. A., Loomba, R., & Rinella, M. E. (2024). Metabolic dysfunction-associated steatotic liver disease: Update and impact of new nomenclature on the American Association for the Study of Liver Diseases practice guidance on nonalcoholic fatty liver disease. Hepatology (Baltimore, Md.), 79(5), 1212–1219. https://doi.org/10.1097/HEP.0000000000000670

MASLD

BMI	BMI >25 kg/m^2 [23 Asian] **OR** waist circumference >94 cm (M) / 80 cm (F)*
Fasting Serum Glucose	≥100 mg/dL **OR** 2-hour post-load glucose level ≥140 mg/dL **OR** HA1c >5.6% **OR** T2D
Blood Pressure	≥130/85 mmHg **OR** specific antihypertensive drug therapy
Plasma Triglycerides	≥150 mg/dL **OR** lipid-lowering drug therapy
Plasma HDL Cholesterol	≤40 mg/dL (M) / ≤50 mg/dL (F) **OR** lipid-lowering drug therapy

Adult Criteria for MASLD = Hepatic Steatosis **+** One Additional Criterion

May

Two additional criteria:

- ✓ **BMI = 27.8 kg/m²**
- ❑ Fasting glucose 91mg/dL
- ✓ **HbA1c 5.8%**
- ❑ BP - 109/74
- ❑ Triglycerides 100mg/dL
- ❑ HDL 51 mg/dL
- ❑ Rare alcohol use

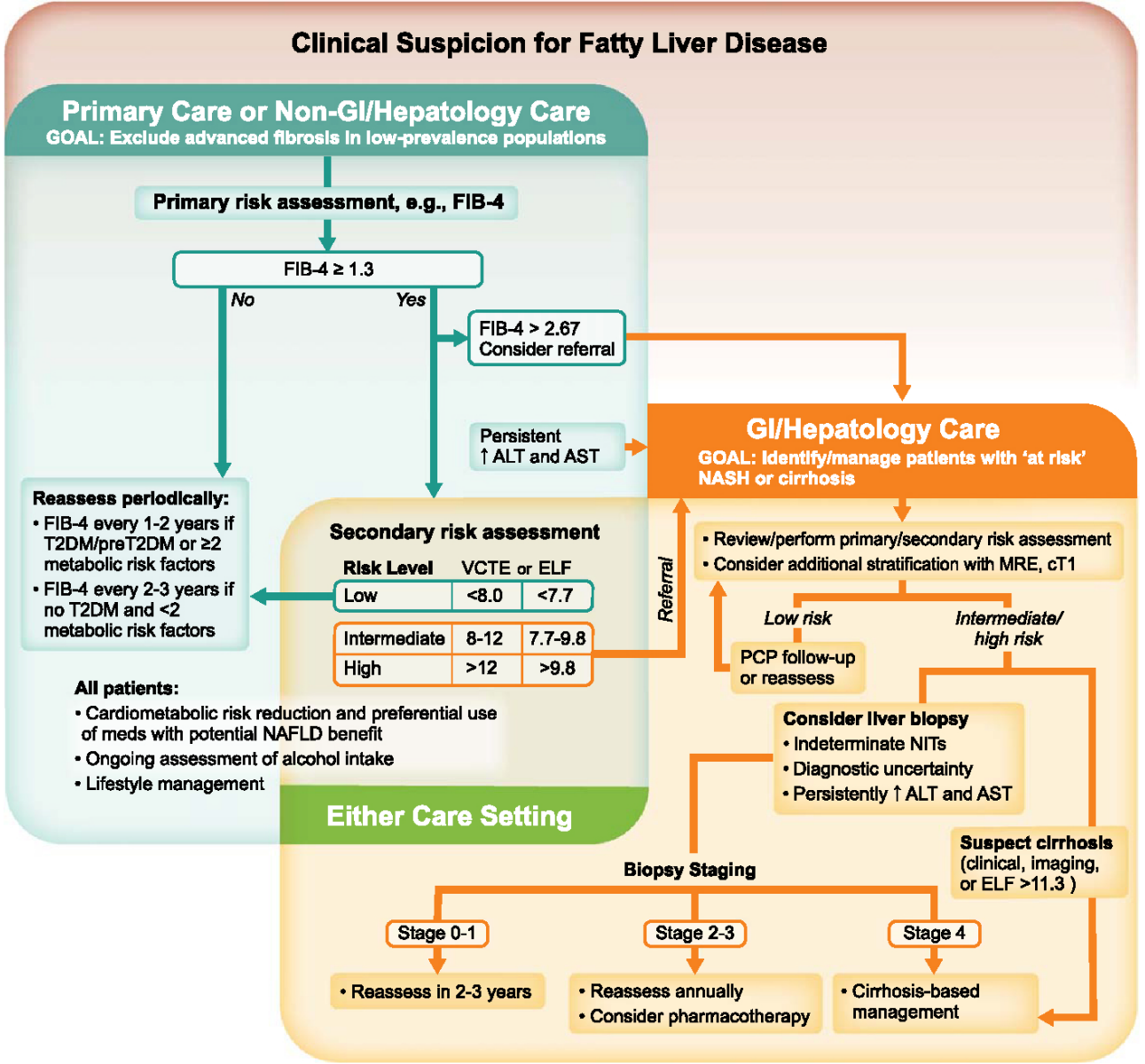
Additional Data:

- AST 33
- ALT 13
- Platelets 322
- Hepatitis B & C screens – negative
- ANA - negative

Evaluation

Evaluation of Hepatic Steatosis

1. Calculate FIB-4: Age, ALT, AST, Platelets
2. If < 1.3 →Obesity Management and CVD prevention
3. If ≥ 1.3 → Secondary assessment VCTE or ELF
4. If abnormal → refer for further evaluation



Rinella, Mary E.1; Neuschwander-Tetri, Brent A.2; Siddiqui, Mohammad Shadab3; Abdelmalek, Manal F.4; Caldwell, Stephen5; Barb, Diana6; Kleiner, David E.7; Loomba, Rohit8. AASLD Practice Guidance on the clinical assessment and management of nonalcoholic fatty liver disease. Hepatology 77(5):p 1797-1835, May 2023. | DOI: 10.1097/HEP.0000000000000323

Calculating May's FIB-4 Score

Fibrosis-4 (FIB-4): Index for Liver Fibrosis uses 4 metrics to calculate liver fibrosis risk:

Age	55
AST	33
ALT	13
Platelets	322
Hep B&C	Negative
ANA	Negative

FIB-4 Score = 1.54

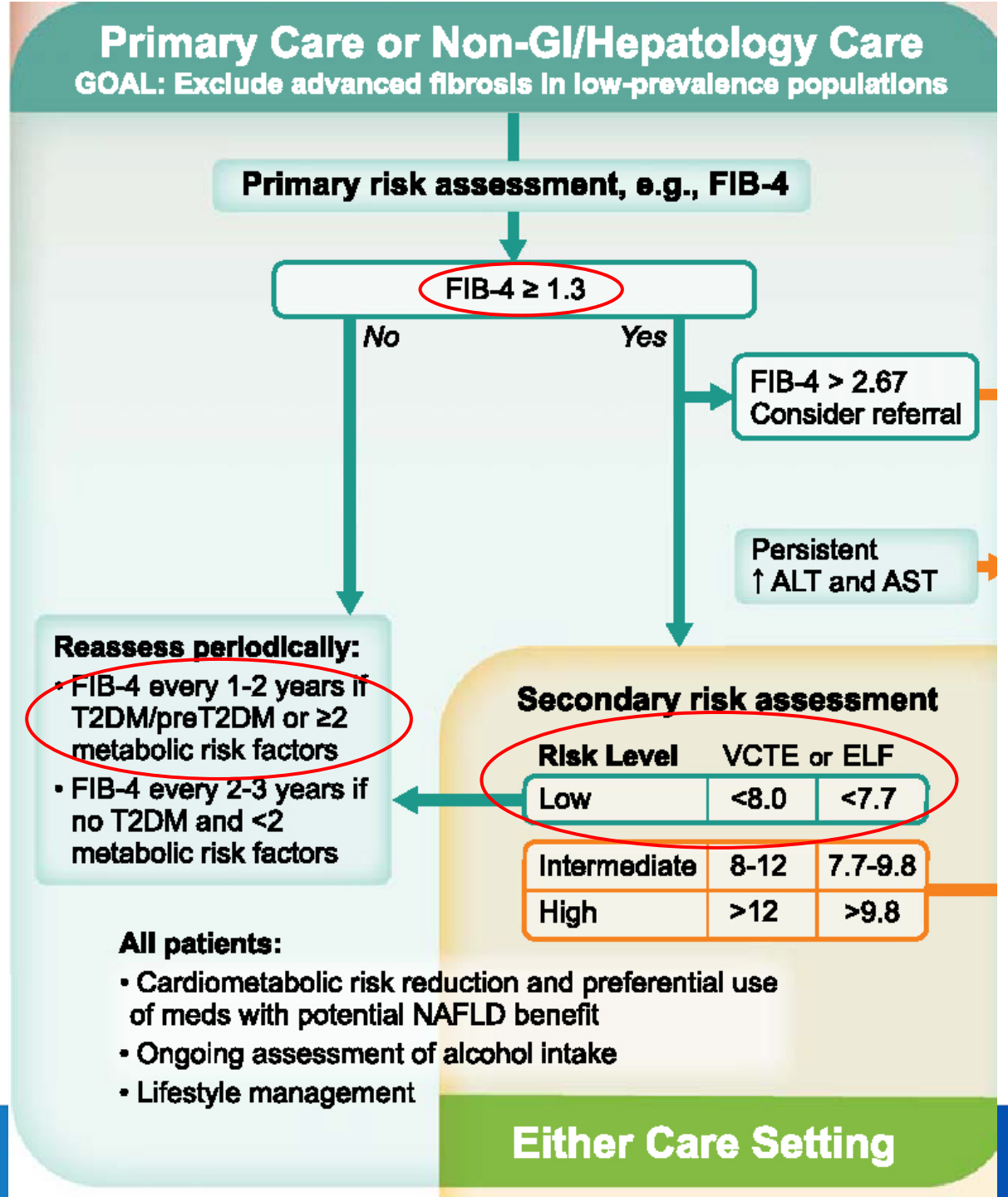
Secondary Risk Assessment

Vibration Controlled Elastography

- Enhanced Liver Fibrosis Test (Lab test)
- Low risk for fibrosis

May:

Liver Elastography →
Liver Stiffness Value of 7.32 kPa

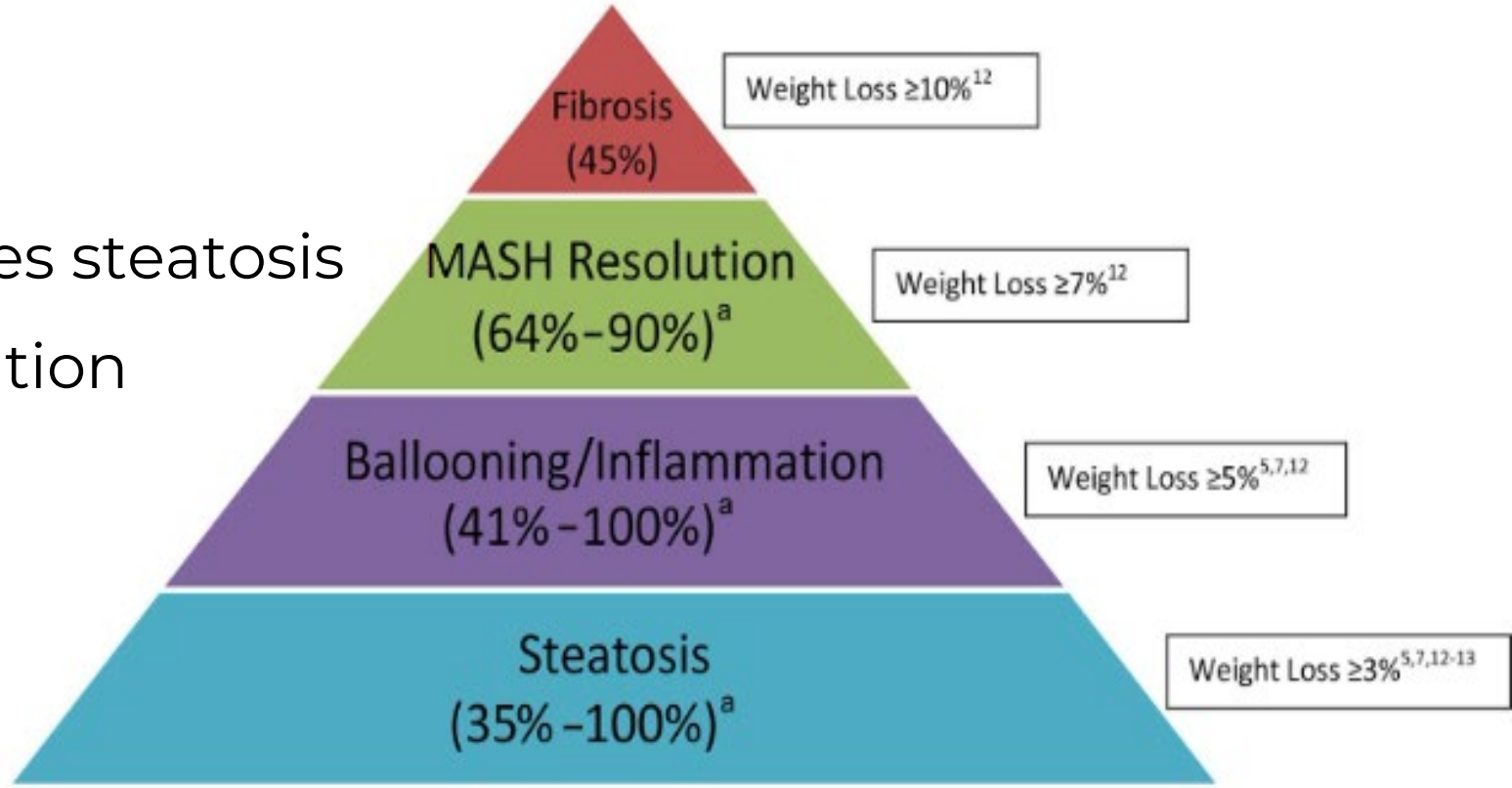


Management

Management of Hepatic Steatosis

Weight Loss

- ≥ 3% weight loss improves steatosis
- ≥ 5% improves inflammation
- ≥ 7% MASH resolution
- ≥ 10% improves fibrosis



Hannah, W. N., Jr, & Harrison, S. A. (2016). Effect of Weight Loss, Diet, Exercise, and Bariatric Surgery on Nonalcoholic Fatty Liver Disease. *Clinics in liver disease*, *20*(2), 339–350. https://doi.org/10.1016/j.cld.2015.10.008

Lifestyle

- Diet - Negative energy balance, Mediterranean diet, Limit - sugar, saturated fat, process foods
- Sleep - 7-9 hours, regular sleep routine, evaluate for OSA
- Alcohol - abstain or minimize - no safe level
- Exercise - improve insulin resistance, reduces steatosis
- Coffee - 2+ cups/day beneficial
- Smoking cessation

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Additional Treatment

Medications

Resmetirom

- approved for treatment of MASLD w/ F2-F3 fibrosis

Semaglutide & tirzepatide

- improve steatosis and fibrosis in addition to obesity

Pioglitazone

- improves steatosis but fibrosis improvement unproven

Vitamin E

- improves steatosis but fibrosis improvement unproven

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CASE 2: Nicole

Focus: Long-term obesity management post-surgery and pharmacological access.

Nicole

Nicole is a 52-year-old Black female with post-bariatric weight regain, CKD stage 3a.

- Wants to resume care and clarify medication safety and coverage

- Raising concerns about affordability and interest in compounded options

Background

Follow-Up After Bariatric Surgery

- Regular monitoring prevents weight regain and helps identify and manage complications that are common after bariatric surgery
- Excessive protein intake can lead to intraglomerular hypertension, hyperfiltration, and glomerular injury, accelerating CKD progression.
  - **Recommended protein intake:** ~**0.8 g/kg/day** for CKD stages 3-5 non-dialysis dependent.

Role of CKD in Obesity Pharmacotherapy

- Patients with CKD stage 3a are at **increased risk of acute kidney injury (AKI)** during episodes of volume depletion
- **Nephrotoxic agents**, including NSAIDs and iodinated contrast, **should be avoided** to prevent further renal damage.
- CKD contributes to **chronic inflammation**, which exacerbates insulin resistance and complicates weight loss efforts.
- **GLP-1 receptor agonists** are effective for weight loss and **provide renal protection** by reducing albuminuria and improving glycemic control.

AOM Contraindicated/Cautioned in CKD

Medication	Potential Adverse Effects in CKD
Orlistat	Contraindicated in patients with or at risk of oxalate nephropathy.
Phentermine	Contraindicated in severe renal impairment (eGFR <30 mL/min).
Naltrexone ER/ Bupropion ER	Contraindicated in severe renal impairment (eGFR <30 mL/min). Caution in moderate renal impairment (eGFR 30-49 mL/min); dose should not exceed 8 mg/90 mg twice daily.
Phentermine/ Topiramate ER	Contraindicated in severe renal impairment (eGFR <30 mL/min). Caution in moderate renal impairment (eGFR 30-49 mL/min); dose should not exceed 7.5 mg/46 mg daily.
Liraglutide	Caution in patients with volume depletion (e.g., due to nausea, vomiting, or diarrhea).
Semaglutide	Generally safe in CKD; caution with volume depletion. Proven reno-protective effects.
Tirzepatide	Limited data on renal outcomes; caution advised.

Management

Think, Pair, Share

What treatment options would you recommend for Nicole when insurance does not cover weight loss medications?

Non-Pharmacologic Optimization Strategies for Nicole

- Medical nutrition therapy helps tailor diets for CKD patients after bariatric surgery to meet both kidney and surgical needs.
- Sustainable lifestyle modifications—including regular physical activity, improved sleep, and avoidance of substance use.
- Behavioral therapy and psychosocial support are critical to improving adherence to dietary and lifestyle changes.

Insurance Doesn’t Cover Nicole’s Weight Loss Medications

Use manufacturer savings cards, copay assistance programs or prescription discount programs

- Available for some brand-name medications
- Often limited to patients with commercial insurance

Request prior authorization or appeal insurance denials

- Provide documentation of BMI, comorbidities, and past treatment attempts
- Use standardized appeal letters from drug manufacturer or specialty societies

When Insurance Doesn’t Cover Weight Loss Medications

Therapeutic Solutions

- Step therapy
- Split combo into separate medications
- Off-label use
- Document comorbidities

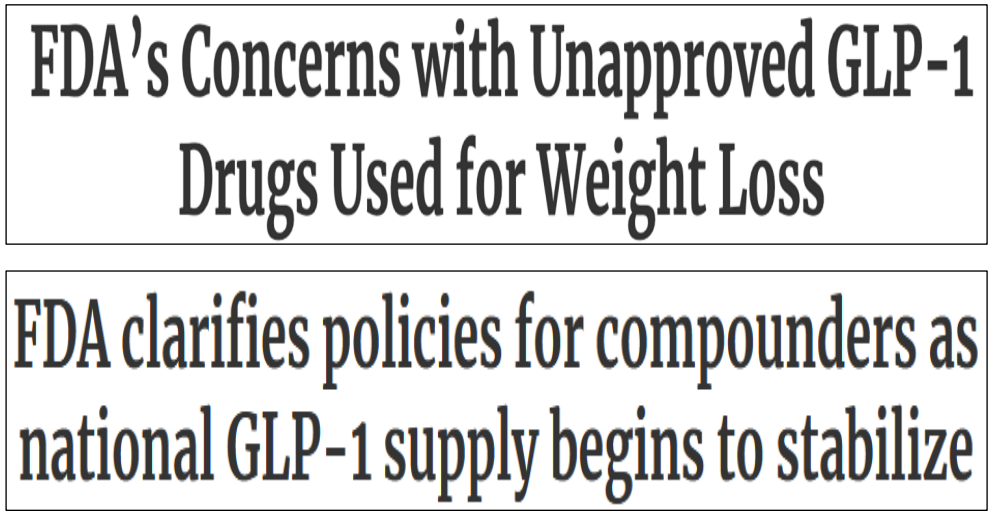
Are Compounded GLP-1s Safe?

Compounded GLP-1s are *NOT* FDA-approved and may carry significant risks

- Often use non-equivalent forms like semaglutide sodium or acetate
- Not regulated for safety, potency, or purity
- FDA has issued warnings due to adverse events and contamination

May be considered ONLY if:

- The branded drug is in shortage
- The patient is fully informed of risks



fda.gov/drugs/drug-safety-and-availability

Clinical Recommendation:

- Use FDA-approved products whenever possible
- Document source and informed consent if compounded version is used

Key Points to Remember

- **Obesity significantly contributes to comorbid conditions** such as MASLD, MASH, and cardiovascular disease—early recognition is critical to prevent disease progression.
- **A 5–10% sustained weight loss** can lead to measurable improvements in liver inflammation, fibrosis, and cardiometabolic health.
- **Obesity management should be tailored** using evidence-based medications, lifestyle interventions, and comorbidity-specific adjustments (e.g., CKD, post-bariatric surgery, malnutrition risk).
- **Using non-stigmatizing, patient-centered communication** and shared decision-making supports long-term engagement and treatment success.

Practice makes better!

- Reserve your timeslot now
  - **Transform** how you engage your patients
  - **Experience** the difference real practice makes
  - **Practice** real conversations with live simulated patient

PAT CAMERON
66 y/o GLP-1 User
Cardiovascular Disease and Perioperative Management

RILEY MORGAN
28 y/o with Class 3 Obesity, Depression, and Low Energy

Continuing Medical Education

2025 Family Medicine POP: Questions & Answers

Obesity Care Reimagined

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1. *Ultrasound for fatty liver: when to order abdominal ultrasound with elastography vs parenchyma ultrasound?*

   - **Start with FIB-4.** If **FIB-4 ≥1.3** (use **≥2.0** if age >65), proceed to a **non-invasive fibrosis test**—prefer **elastography** (VCTE/FibroScan or shear-wave US). This is the recommended stepwise pathway.
   - **Use elastography** to **stage fibrosis** and risk-stratify; consider **MRE** if results are indeterminate or clinical suspicion remains high.
   - **Do not rely on standard ("parenchyma") B-mode US to diagnose MASLD**—it has **low sensitivity** (especially in mild disease/obesity) and **cannot stage fibrosis**.
   - **Order a conventional parenchymal US** mainly when you need to assess **other hepatobiliary pathology** (e.g., biliary obstruction, focal lesions); use **elastography** when the question is "does this person have significant fibrosis?"

https://www.giboardreview.com/wp-content/uploads/2023/09/AASLD-Guidelines-2023-on-NAAFLD.pdf

2. *A physician "microdoses" GLP-1 from vials across the week for a steady state—is this safe?*

   - **Not recommended / no proven benefit.** The **FDA-approved labels** for semaglutide and tirzepatide specify **once-weekly** administration; they do **not** endorse splitting weekly doses into multiple injections.
   - **PK already supports steady exposure with weekly dosing.** Semaglutide's elimination **half-life ≈ 1 week**; tirzepatide's **≈ 5 days**—so "smoothing" with intra-week splits isn't necessary and is **unstudied**. https://www.tandfonline.com/doi/pdf/10.2147/DDDT.S470826
   - **Safety concerns (especially with multi-dose/compounded vials):** The **FDA** reports **dosing errors and overdoses (some hospitalized)** when patients draw up fractional doses; it also warns about **unapproved semaglutide salt forms** and sterility/potency issues in compounded products.

Bottom line: Stick to **labeled once-weekly pens and titrations**; avoid "microdosing" from vials—there's **no clinical evidence of benefit and real-world safety signals of harm.**

https://www.fda.gov/drugs/human-drug-compounding/fda-alerts-health-care-providers-compounders-and-patients-dosing-errors-associated-compounded

3. *What's the evidence for microdosing GLP-1?*

   - **Trials:** There are **no randomized trials** or guideline endorsements showing efficacy/safety advantages for splitting weekly semaglutide or tirzepatide doses. (Standard of care is weekly per labeling.) https://www.accessdata.fda.gov/drugsatfda_docs/label/2023/209637s020s021lbl.pdf
   - **Pharmacokinetics:** Published PK data show **semaglutide reaches steady state in ~4–5 weeks** with a ~**1-week half-life**, which underpins the validated once-weekly schedule; additional intra-week injections have **no demonstrated clinical upside.**

https://www.tandfonline.com/doi/pdf/10.2147/DDDT.S470826

4. *Counseling on risks of MASLD treatments like vitamin E (and all-cause mortality/prostate cancer)?*

   - **Who might benefit:** Non-diabetic adults with **biopsy-proven NASH**—**vitamin E 800 IU/day** improved histology in **PIVENS**. Discuss as an option in carefully selected patients. https://www.nejm.org/doi/pdf/10.1056/NEJMoa0907929?articleTools
   - **Potential harms to discuss:** Meta-analyses raised concern for **slight ↑ all-cause mortality** at high doses; **SELECT** found **↑ prostate cancer risk** with **400 IU/day α-tocopherol**. Use shared decision-making; avoid in men at high prostate-cancer risk. https://jamanetwork.com/journals/jama/fullarticle/1104493

5. *How to explain hepatic steatosis to patients (and why it matters)*

   - "**Hepatic steatosis** means extra fat in the liver. Most people feel fine, but in some, fat triggers **inflammation** and **scarring (fibrosis)** that can progress to cirrhosis. We check your **fat** and—more importantly—your **fibrosis risk**. Treatment targets the **whole metabolic picture** (weight, glucose, BP, lipids)."
   - Patient-friendly resources: **NIDDK** overview; **American Liver Foundation** lifestyle pages.

https://www.niddk.nih.gov/health-information/liver-disease/nafld-nash

6. *What are the risks of compounded GLP-1 products?*

   - **Variable potency/formulation** (including **unapproved salt forms**), **dosing errors**, **contamination/sterility** issues, and **counterfeits**; FDA has documented adverse events and hospitalizations. Prefer approved products; if compounding is used during a true shortage, ensure rigorous counseling and training on devices/syringes.

https://www.fda.gov/drugs/human-drug-compounding/fda-alerts-health-care-providers-compounders-and-patients-dosing-errors-associated-compounded

7. *When should GLP-1 meds be discontinued when used only for weight loss?*

- **Ineffective:** If **<5% weight loss after ~3 months at a therapeutic dose**, stop or switch per Endocrine Society guidance. https://www.abom.org/wp-content/uploads/2018/08/Pharmacological-Management-of-Obesity-an-Endocrine-Society-Guideline.pdf
- **Adverse events/contraindications:** Suspected **pancreatitis**, **gallbladder disease**, severe GI intolerance, hypersensitivity, or **MTC/MEN2** history (per labels). https://pi.lilly.com/us/zepbound-uspi.pdf
- **Pregnancy/planning pregnancy:**
  - **Semaglutide (Wegovy):** stop **≥2 months** before planned conception. https://www.accessdata.fda.gov/drugsatfda_docs/label/2024/215256s011lbl.pdf
  - **Tirzepatide (Zepbound):** discontinue when pregnancy is recognized; counsel that **oral contraceptive efficacy may be reduced for 4 weeks after initiation and after each dose increase**—use non-oral or add barrier. (Many clinicians allow ~1 month washout given t½ ~5 days.)
- **Context for expectations:** Stopping GLP-1s commonly leads to **weight regain** (e.g., STEP-1 extension: ~⅔ of lost weight regained within a year off semaglutide). https://pubmed.ncbi.nlm.nih.gov/35441470/

8. *Do you have weaning/taper protocols once patients meet weight-loss goals?*

- **No trial-validated taper is required** (not dependence-forming). Because obesity is **chronic**, most patients need **ongoing maintenance** at the **lowest effective weekly dose** plus lifestyle support. If discontinuing, a **pragmatic step-down** (e.g., drop one dose tier every 4–8 weeks) can help monitor appetite/weight and reinforce relapse-prevention—just know data are limited and **weight regain is common** after stopping.

https://pubmed.ncbi.nlm.nih.gov/35441470/

Any medications or treatment methods suggested in this document should not be used by the practitioner without evaluation of their patient's condition(s) and possible contraindication(s) or danger(s) of use of any specific medication.