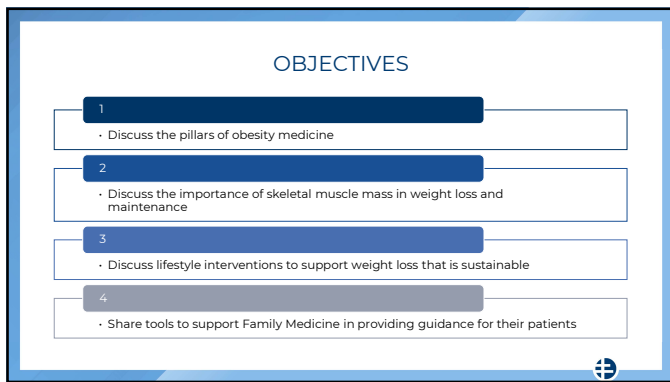
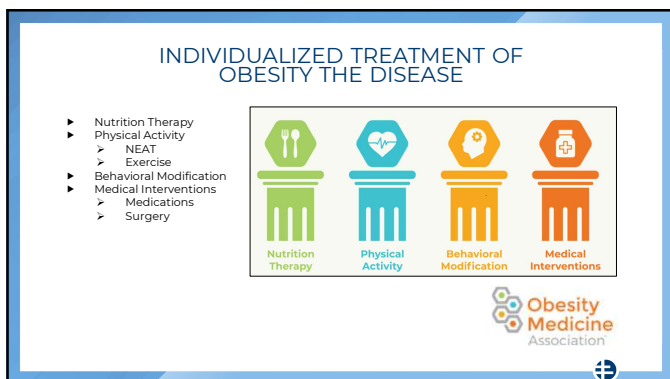




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2



3

The 5 A's

1. Ask
2. Advise
3. Assess
4. Assist
5. Arrange

SMART Goals

Specific
Measurable
Achievable/Attainable
Relevant
Time-Bound



4

IMPORTANCE OF MAINTAINING SMM

[Skeletal Muscle Mass]

Importance of Skeletal Muscle in Health and Disease**Responsible for:**

- Movement
- Fuel utilization (i.e., glucose, fat, Type 2 diabetes)
- Storage of protein (70%) (i.e., critical illness)
- Energy expenditure

Implicated in:

- Regulation of other tissues functions (i.e., myokines)
- Physical function (i.e., strength, disability/quality of life, falls)
- Clinical outcomes (i.e., risk for surgical/post-operative complications, longer hospital stays)
- All-cause mortality/longevity (predictor)



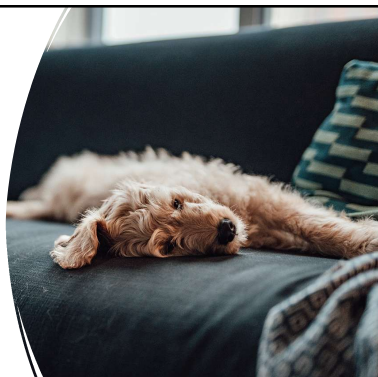
- SMM is your "life insurance for weight maintenance"
- SMM decreases with age
- SMM is responsible for a majority amount of basal metabolic rate (BMR)
- SMM is key to living longer, healthier, stronger, preventing falls, etc.



5

WHAT DRIVES LOSS OF LEAN BODY MASS?

- Reduced appetite & intake
- Inadequate protein intake/adherence
- Sedentary Lifestyle
- Lack of resistance/ strength training
- Unused muscle tissue is broken down to meet protein requirements



6

LEAN MASS IMPACT: WHAT WE KNOW

Rapid Weight Loss & LBM:

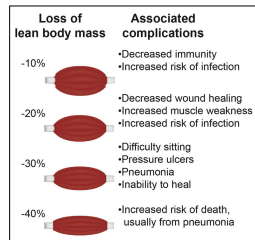
(Based on the Bariatric Studies)

- 55% of LBM loss occurs within first 3 months
- >8 kg of fat-free mass is lost within the first year of surgery

(No consensus based on the limited long-term GLP-1 studies)

- Most clinical trials have shown reductions in lean mass range between 40-60% of total weight lost
- Other studies have shown lean mass reductions of 15% or less of total weight lost

[Argiles J, et al. Skeletal Muscle Regulates Metabolism via Interorgan Crosstalk. J Am Med Dir Assoc. 2016; 17(9):789-96]



7

NATIONAL WEIGHT CONTROL REGISTRY

How are they keeping the weight off?

Lifestyle changes

- 78% eat breakfast every day
- 75% weigh themselves every week
- 62% watch less than 10 hours of TV each week
- 90% exercise, on average, an hour each day

NATIONAL WEIGHT CONTROL REGISTRY
<http://www.nwcr.org>



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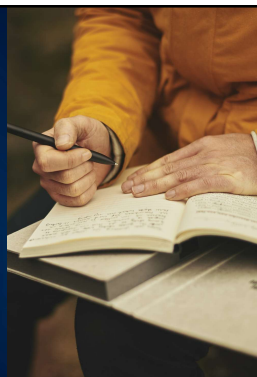
WEIGHT MAINTENANCE

How are they keeping the weight off?

Strong evidence for weight maintenance:

- Self-monitoring of eating
- Physical activity increase
- Portion control, cutting out unhealthy foods, reducing energy intake
- Increase fruit and vegetable consumption, reduced sweetened beverages
- Decrease in fat intake

[OBES REV 2019 FEB; 20(2):171-211]



9

NUTRITION

- 24-hour recall
- Types of Diets
- Macros
- Tracking
- Small steps –
 - Add a vegetable
 - Reduce soda
 - Focus on fiber or protein



10

NUTRITION KEYS TO SUCCESS

- **Protein** and **Fiber** are the most important nutrients for satiety and weight loss/maintenance.
- One of the main challenges is helping patients to increase protein intake.
 - The more one eats their protein rather than drinks it, the better the satiety.
- Protein supplements are reasonable tools.
- The best protein sources are animal products, which are complete proteins.

- No "NAKED" carbs – this will improve metabolism by adding protein / fats.
- Have 3-5 grams of fiber every eating episode.
 - May need to add fiber when having a protein shake to help with satiety and avoid constipation.

• 10% of BMR is in food digestion. Protein takes the most calories to digest.



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24-HOUR DIETARY RECALL – USEFUL TOOL

24HR: Quick List

- Everything eaten in the day, generally midnight-to-midnight
- Unstructured
- Includes snacks and beverages

Could you please walk me through everything you ate and drank yesterday, from the first thing in the morning until you went to bed?

[Moshfegh et al. Am J Clin Nutr. 2008.]



12



24HR: QUICK RECALL

- Walk me through everything you ate and drank yesterday.
- Any other drinks yesterday – soda, juice, tea, coffee, alcohol?
- **How do you take your coffee?**
- Any desserts or snacks?
- Details about serving sizes.
- Anything else?

Takes approximately 3 minutes (and is fun!)

Aka "Note's Quick and Dirty Version"
Nate Wood, MD, MHS, Chef, DipABLM, DABOM – Yale School of Medicine

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EVIDENCE-BASED DIETS FOR CARDIOMETABOLIC HEALTH

- Mediterranean Diet
- DASH Diet
- USDA's MyPlate
- The "Harvard Diet" Healthy Eating Plate
- Whole Food, Plant-Based Diet



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PLANT-FORWARD DIET

Dietary Components

- **Mediterranean Diet:** fruits, vegetables, legumes, nuts, fish, olive oil, alcohol
- **DASH Diet:** fruits, vegetables, legumes, nuts, fish, whole grains, low-fat dairy, poultry
- **USDA MyPlate:** fruits, vegetables, whole grains, low-fat dairy, lean protein (low-fat meats, poultry, fish, and legumes)
- **The "Harvard Diet" Healthy Eating Plate:** fruits, vegetables, legumes, nuts, seeds, whole grains, fish, poultry
- **Whole Food, Plant-Based Diet:** fruits, vegetables, legumes, nuts, seeds, whole grains

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CHOOSE FOODS WITH LOWER CALORIC DENSITY

Mechanism: Leveraging Energy (Calorie Density)



16

FOODS LOW IN ENERGY DENSITY

How is their energy density low?

1. Fiber!
2. Water!

How does consuming foods that are low in energy density contribute to weight loss?

- Decreased consumption of fat and added sugars ("empty calories")
- Increased mastication time
- Increased duration of satiety

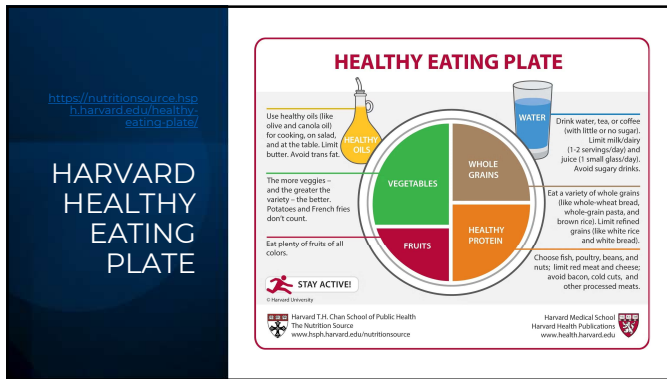


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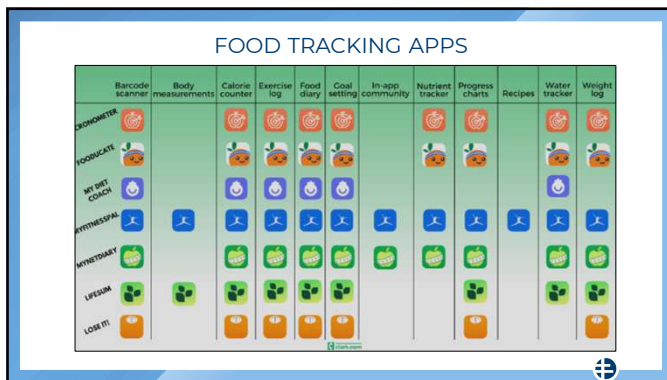
SIMPLE HEALTHY EATING



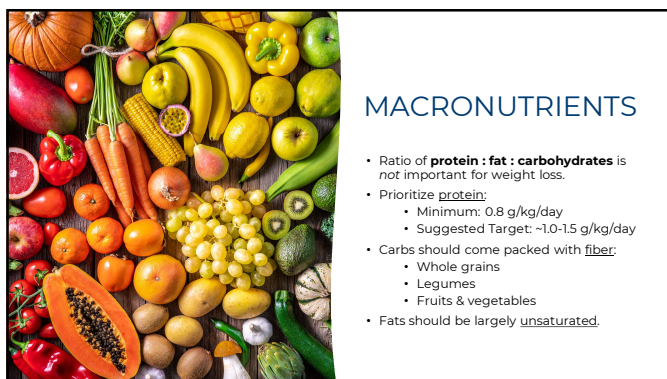
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19



20



21

MACROS

- **Macros** = the amount of protein, carbohydrates, and fats
- Percentiles:
 - Protein = 30-40%
 - Carbs = 30-40%
 - (if lower carb, 25%)
 - Fats = 30-35%



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PROTEIN GOALS

SO, WHAT DIETARY PROTEIN INTAKE IS APPROPRIATE DURING WEIGHT LOSS?

- At least 1.2 g/kg/day of high-quality protein
 - 1.4 - 2.0 g/kg/day for exercising individuals
[International Society of Sports Nutrition Position Stand; Jäger R, et al., J Int Soc Sports Nutr. 2017; 14:20]
- At least **20%** of total energy intake
- 20-40 g at each eating occasion (maximal stimulation of muscle protein synthesis)



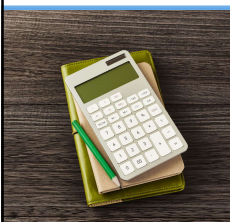
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IF YOU WANT TO TRACK CALORIES

Energy for Weight Loss

1. Estimate the total number of calories burned per day =
 - Basal metabolic rate (based on age, sex, height, weight)
 - Calories burned during physical activity
2. Set desired pace of weight loss (~½ to 2 pounds per week)
 - Deficit of 250 calories per day = loss of ~½ pound per week
 - Deficit of 500 calories per day = loss of ~1 pound per week
 - Deficit of 1000 calories per day = loss of ~2 pounds per week
3. Daily calorie goal = (1) minus (2)

<https://www.calculator.net/calorie-calculator.html>



24



OPTIMIZING DIET WHILE TAKING A GLP-1

- Ensure adequate energy intake: > **1,200 calories** per day
- Ensure adequate *fluid* intake
 - 2.2 L/day for women
 - 3.0 L/day for men
- To minimize side effects, consider:
 - Smaller, more frequent meals
 - Avoiding foods that exacerbate acid reflux
 - Stopping eating when feeling **80%** full

[Almandoz et al. Obesity. 2024.]

25

10 Eating Tips for Patients on GLP1/GIP Medications

1. Protein	2. Vegetables	3. Fats	4. Eat fruit and/or starch <u>last</u> if you are still hungry.
Eat high protein foods first. <ul style="list-style-type: none"> • Animal-based proteins - beef, chicken, fish, shellfish, turkey, pork, eggs, cheese (do not rely too heavily on cheese since it is high in fat), low carb Greek yogurt, cottage cheese, whey protein powder or drinks, protein bars. • Plant-based proteins - tofu, tempeh, seitan, Quorn, Beyond Meat, pea protein, brown rice protein, pea protein powder or drinks, protein bars. 	Eat non-starchy vegetables next. <ul style="list-style-type: none"> • Artichokes, asparagus, broccoli, brussels sprouts, cabbage, carrots, cauliflower, celery, collard greens, cucumber, eggplant, green beans, hearts of palm, kale, lettuce (all varieties), mushrooms (all varieties), olives (not brined), onions, parsley, peppers (all varieties), radishes, sauerkraut, seaweed, snap and snow peas, spinach, sprouts, spaghetti squash, yellow squash, zucchini, tomatoes, turnip greens. 	Allow some healthy fats. <ul style="list-style-type: none"> • Nuts, seeds, olive oil, avocado and avocado oil, peanut oil, butter, coconut oil, chia seeds, flax seeds. • Try to limit processed seed oils like canola, corn, and soybean oil. Many are found in mayonnaise, salad dressing, margarine, and processed foods. 	<ul style="list-style-type: none"> • Best fruits (not juices) - berries, apples, oranges, peaches, pears, kiwi. • Best complex starches - ½ cup beans (like pinto, lima, navy, chili, black, etc.), low carb tortillas or zero net carb street tacos, ½ cup cooked chickpea or lentil pasta, ½ cup sweet potatoes, flourless or keto bread, ½ cup cooked old fashioned or steel cut oats, ½ cup cooked parboiled rice, ½ cup cooked brown rice, ½ cup cooked wild rice, ½ cup cooked basmati rice, 3 cups air-popped popcorn.
			5. Avoid high fat and fried foods. 6. Avoid processed meats. 7. Avoid refined carbohydrates and sugar. <ul style="list-style-type: none"> • White bread, white rice, pasta • Desserts - cookies, pastries, ice cream • Most breakfast cereals • Sugar-sweetened beverages, candies, chocolate
			8. Limit carbonated beverages. <ul style="list-style-type: none"> • Can contribute to bloating.
			9. Limit alcohol intake. 10. Eat slowly to avoid feeling too full.

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PHYSICAL ACTIVITY – NEAT

Non Exercise Activity Thermogenesis

- Makes up 60-80% of our physical activity to help maintain weight
- **Goal:** 5,000 steps & sitting < 6 hours is a heart-healthy goal and is no longer sedentary
- > 7,000 steps / day will reduce cancer risk by 10%
- Sit-to-Stand desk, under the desk elliptical, park farther away, take the stairs
- Tracking steps - knowing this for consistency in weight management



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PHYSICAL ACTIVITY - EXERCISE

- *Strength or resistance training* – 10 minutes daily, exercise snacking, or 30 min 3x / week
 - Increased muscle mass improves BMR which is **70% of caloric burn daily**
- Improves body composition
 - Reduces visceral fat
- *HIIT training* – **high** intensity interval **training**
- Consider intensity – Can you carry on a conversation? Are you getting stronger?
- 150 minutes of moderate intensity / week helps with weight loss and prevents weight gain
- 250 minutes or more can lead to weight loss and weight maintenance



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SEW INCORPORATING EXERCISE

Incorporating exercise into your day

Too much sitting and too little exercise is bad for your health. Sneak some exercise into your daily routine. One idea: Every time you use the bathroom pick 1-3 different exercises to do. Just think, if you go to the bathroom 5-6 times in a day that could add up to 50-60 squats. That is a pretty decent workout for not hitting the gym. Every minute of exercise counts!

- 10 alternating leg lunges
- 10 squats or jumping squats
- 10 standing ab crunches
- 10 jumping jacks
- 10 wall push ups
- 10 calf raises
- Neck rolls
- Shoulder stretches
- Take 2 laps around your home, office, or this clinic!
- Take a 5-10 min walk during your lunch break



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RESOURCES FOR EXERCISE, OTHERS

Smart Phrases

- ❖ SEW YOUTUBE EXERCISES
- ❖ FARGO EXERCISE (from Fargo Weight Management team)
- ❖ SEW INCORPORATING EXERCISE
- ❖ SEW EATING ON GLPI

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Channel	Type	Experience Level	Duration	Equipment Needed	Other Notes
Fit by Mik	Strength/Cardio HIT	All levels	8-35 minutes	Often dumbbells	Wide variety of strength training and cardio exercises. Also includes sculpt, HIIT, cardio, dance, and stretching. Many options for variations for those with knee and wrist pain.
Grow with Jo	Cardio	Beginner	10-60 minutes	Sometimes dumbbells	Dance and walking exercises. Also has a variety of light strength training exercises.
HASfit - often a great starting place	Many different types	All levels	10-45 minutes	Sometimes dumbbells	All types of exercises. Go to playlists to find lots of videos for seniors, obese/plus size, limited mobility, physical therapy help (scapula, posture, etc.).
Body Project	HIIT Strength/Cardio	Beginner/Intermediate	30 minutes (typically)	Sometimes dumbbells	Also includes some plates and yoga.
Holly Hono	HIIT Strength/Cardio	Beginner	5-20 minutes	None	Holly is also on a weight loss journey. Tailored for plus-size individuals.
FitnessBlender	Fitness Blender	All levels	Primarily 10-40 minutes	Sometimes dumbbells	Created by a husband/wife team. Over 600 free videos.
Caroline Girvan	HIIT Strength/Cardio	Intermediate/Advanced	20-40 minutes	Often dumbbells	Efficient, great workouts quickly. Can do one-off videos or follow structured calendars/plans. Lots of body weight or dumbbell workouts.
Heather Robertson	HIIT Strength/Cardio	Intermediate/Advanced	30-45 minutes	Often Dumbbells Sometimes Stability ball Mini bands Wrist/Ankle Wts.	Can do one-off videos or follow structured calendars/plans. Lots of body weight or dumbbell workouts (sometimes need other equipment).

SFW YOUTUBE EXERCISES

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Juice and Tova	HIIT Strength/Cardio	Intermediate/Advanced	10-30 minutes	Sometimes Dumbbells	Couple (man and woman). One does advanced exercises. One modifies for more intermediate level.
MadFit	HIIT Strength/Cardio	All levels	5-45 minutes	Sometimes Dumbbells or Resistance Bands	Dance, strength training, HIIT, cardio
Nourish Move Love	HIIT Strength/Cardio	Intermediate/Advanced	10-30 minutes	Dumbbells	Efficient, great workouts quickly. Includes plates and barre-type workouts. Many videos designed for women.
RG Fitness Official	HIIT Strength/Cardio	All levels	5-60 minutes	Sometimes dumbbells	Most videos look intermediate/advanced. Search "beginner" for easier workouts.
ACHV Peak	HIIT Strength/Cardio	Intermediate/Advanced	10-30 minutes	Resistance Bands Dumbbells	Can do one-off videos or follow structured calendars/plans.
DanceFit with Ashlyn	Dance/Zumba	Any	10 minutes (or shorter)	None	Can combine dance videos to make longer workouts.
Zumba Sulu	Dance/Zumba	Any	25-30 minutes (or shorter)	None	Can also combine one-song videos to make longer workouts.
Dance with Desha	Dance/Bollywood	Any	30 minutes	None	
PopSugar Fitness	Dance/Cardio	Any	10-30 minutes	None	
AndFitness	Dance (Hip Hop)	Any	10-25 minutes	None	Can also combine one-song videos to make longer workouts.
Get Fit with Rick	Walking/Dance	Any	10-50 minutes	None	Walking or dance-based exercise to music. Each video gives number of steps completed during work out.
Yes2Next	Various	Beginner/Senior	5-20 minutes	None	Various types (chair exercises, balance, dance, cardio, among others).

SFW YOUTUBE EXERCISES

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Chair Fit Camp	Primarily chair exercises	Senior/Chair (seniors)	5-30 minutes (mostly 10)	None (usually)	Best collection of chair exercises. Mostly beginner, a few more advanced.
MS Society	MS Wellness	MS, etc.	5-30 minutes	None (maybe light dumbbells)	Focused on helping people with neurologic disorders.
More Life Health	Various	Senior	5-40 minutes (mostly < 20)	Maybe resistance bands & light dumbbells	Various types (chair exercises, balance, strength, cardio, among others).
Curtis Adams	Various	Senior	5-30 minutes (mostly < 20)	Light dumbbells	Each exercise shows standing and chair options. Goal is to provide fun and exciting exercises seniors want to do.
Center Space Yoga	Yoga	Beginner/Senior	5-40 minutes	None	Includes chair yoga videos.
Leap Service	Restoration Gentle Yoga	People with Pain / Mobility Issues	10-30 minutes	None	Taught chair yoga, meditation, etc.
Yoga with Adriene	Yoga	Any	10-60 minutes	None	Also has lots of great exercises/stretches to work on back pain, shoulder pain.
Joseph Carr	Chair Yoga	Any	10-40 minutes	None	Chair yoga, meditation.
Chair Yoga with Cate	Chair Yoga	Any	10-30 minutes	None	Only a few videos, but appear well done.
BodyBoss Portable Gym	Resistance Band-Type Workouts	Intermediate	30-45 minutes	BodyBoss 2.0 Portable Gym System	Scroll down page and click on workouts. Uses BodyBoss Portable Gym system (\$110 on Amazon).

SFW YOUTUBE EXERCISES

- Other (Non-YouTube) Options
- **Netfix:** Nike Training Club (10-40 minute videos)
 - **Phone App:** FitOn (various workout types of various lengths; many free, some require subscription)
 - **Mossa:** \$4.99 / month
 - **Strong like a Mother:** \$200 / year

- **MAPS Programs:** <https://www.mindpumpmedia.com/> - MAPS Individual Programs - 15 Minute Program \$97
- **knownwell, Inc & The Training Lab:** \$40/mo after free trial. <https://marketplace.trainheroic.com/workout-plan/team/knownwell/trainheroic> (Beginner Level); <https://marketplace.trainheroic.com/workout-plan/team/fit-like-fitch> (Intermediate Level)
- **Muscleandstrength.com** - Strength training programs (8-12 weeks long) with written and video instructions for each exercise. Sometimes cardio sessions are included in the program. Most require dumbbells. Some programs include gym weight machines. Workout duration: 20-60 minutes. Frequency: 3-6 days per week.
- **Amazon Prime:** Maggie Binkley, 15-20 minutes, 6 days a week. Workouts both with and without dumbbells.
- **The Fit Collective:** 12 month beginner strength training program using dumbbells (10 minutes, 3 days a week). Also an advanced strength training program (20-30 minutes workouts, 3 days a week). \$199 for the full year program.

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SFWYOUTUBEEXERCISES

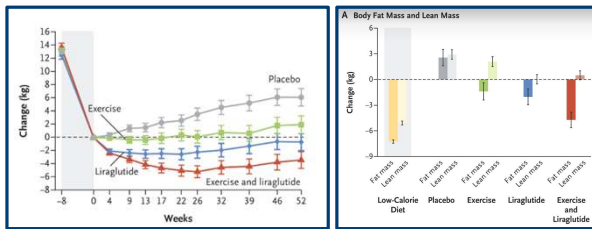
Options in the Community

- Exercise is Medicine – one month free gym membership to the Wellness Center on Oxbow. They will call you to set up your membership M-W-Fr. A certified physical trainer in exercise science will meet with you to teach you how to use the equipment and show you around, provides a MAP (member access program) appointment - will discuss behaviors for success and goals. Sanfordwellness.org • Oxbow has 94 degree 5 foot pool and main is 84 degree. MAP program meet 1x a month, schedule at front desk or call and given an hour to review goals and barriers with trainer
- Stay Active & Independent for Life (S.A.I.L.) - Free balance, strength and fitness class offered through Sanford Health for adults 65+. Participants improve balance and mobility, reduce their risk of falls and improve their quality of life while having fun meeting new people. Experienced and skillful instructors teach each class. Classes are tailored to older adults who are active and wish to maintain or increase their fitness level. Chairs will be available as needed. Registration is required. Call (605) 333-4440 to register. More information can be found at <https://www.sanfordhealth.org/classes-and-events/stay-active-and-independent-for-life>
- Other options after your free month are planet fitness with a \$10 membership (believe they offer one-on-one instruction from patient experience), this is the least expensive in town. The Midco pool has reduced passes or free if on SNAP. Midco provides \$1 use for SD Medicaid patients



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INCORPORATING GLP-1 RA AND EXERCISE AFTER WEIGHT LOSS

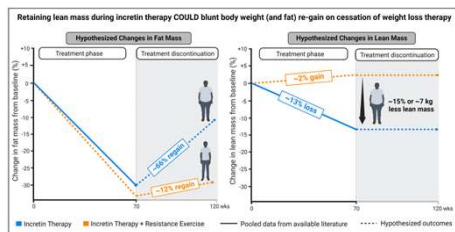


[Lundgren JR, et al., N Engl J Med. 2021; 384:1719-1730]



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DISCONTINUATION OF GLP-1 THERAPY WITH/WITHOUT RESISTANCE EXERCISE

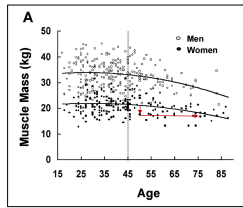


[Locatelli JC, et al. Diabetes Care. 2024; 47:1718-1730]



36

EXPECTED MUSCLE MASS LOST DURING GLP-1 RA TREATMENT



[Janssen I, J Appl Physiol 2000; 89: 81-88]

STEP 1 Trial

Body weight lost after a year:

~15% or **16.86 kg**

Measured lean body mass lost after a year (DEXA):

6.92 kg

Expected loss of muscle after a year:

3.46 kg

[Wilding JPH, et al., N Engl J Med. 2021; 384:989-1002]



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BEHAVIOR

- Screen for mental health concerns
- Screen for OSA, discuss sleep hygiene, manage stress
- Screen for eating disorders
 - Anorexia, bulimia history can be contraindications
 - *Binge eating disorder*
- Over 80% of people with extra weight have a history of trauma
- **Refer for counseling**
- Smart Phrase:
SFWBEDSCRENCRITERIA

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BINGE EATING SCREEN

Binge eating disorder is defined as consuming an amount of food that is definitely larger than most people would eat in similar circumstances. These episodes occur, on average, at least once per week for at least three months.

During these episodes, individuals lack control and do not engage in inappropriate compensatory behaviors such as purging, fasting, or excessive exercise. Binge eating episodes are marked by at least three of the following:

- eating more rapidly than normal
- eating until feeling uncomfortably full
- eating large amounts of food when not feeling physically hungry
- eating alone because of embarrassment by the quantity of food consumed
- feeling guilty or depressed after overeating.

The level of severity is based upon the number of binge eating episodes per week:

Mild	1-3
Moderate	4-7
Severe	8-13
Extreme	14 or more

1. Eating an unusually large amount of food in a relatively short period of time? **YES // NO**
2. Feeling a loss of control or as though cannot stop while eating? **YES // NO**
If YES, continue to #3. If NO, stop.
3. Eating more rapidly than normal? **YES // NO**
4. Eating until feeling uncomfortably full? **YES // NO**
5. Eating large amounts of food when not feeling physically hungry? **YES // NO**
6. Eating alone because of embarrassment by the amount of food consumed? **YES // NO**
7. Feeling disgusted with oneself, depressed, or guilty after overeating? **YES // NO**
8. How often do these episodes occur? >1x/week? **Specify.**

Vyvanse is an FDA approved treatment. Off label use of **Topamax** has also been shown to be effective. Behavioral therapy is also recommended.



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WEIGHT MANAGEMENT INDICATIONS

Where to start?

- What disease states are present?
- Ask the patient what their concerns may be?
- Is Binge Eating Disorder present?
- Insurance coverage?

Start a medication, close follow up, reassess, adjust dosing, or add medications.

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WEIGHT MANAGEMENT MEDICATIONS & INDICATIONS

- BMI ≥ 30
- BMI ≥ 27 + weight associated medical conditions
 - Diabetes, high blood pressure, high cholesterol, kidney disease, liver disease, history of weight associated cancer, etc.
- Can be used for medical weight management, pre-bariatric surgery and post bariatric surgery



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WEIGHT MANAGEMENT MEDICATIONS: INSULIN RESISTANCE

- Metformin
 - Indications: prediabetes, diabetes, PCOS, insulin resistance, hyperinsulinemia
 - A medication to consider adding to all others
 - Best tolerated with a full glass of water and with largest meal
 - Start with 500 mg daily and titrate gradually
 - Monitor renal function, B12
 - Check a fasting insulin and fasting glucose
 - HOMA-IR
 - Fasting insulin > 7 may be elevated



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WEIGHT MANAGEMENT MEDICATIONS: APPETITE SUPPRESSION

- **Phentermine** – 8 mg, 15 mg, 30 mg, 37.5 mg
- **Diethylpropion** – 25 mg, CR 75 mg
- **Phendimetazine** – 35 mg, 105 mg CR
 - Side effects of this medication include headache, dizziness, nausea, dry mouth, constipation, diarrhea, unpleasant taste, insomnia, irritability, anxiety, increased blood pressure, increased heart rate, palpitations.
 - *Limit caffeine when starting*
 - **Contraindications:** glaucoma, history of CAD, hyperthyroid, poorly controlled hypertension, pregnancy/BF, history of addiction, pulmonary hypertension.
- **Topiramate** (Topamax) - 25 mg – 100 mg
 - Helps with food noise
 - Also indicated for B.E.D.
 - Side effects of this medication include fatigue, insomnia, abdominal (stomach) pain, nausea, diarrhea, constipation, numbness/tingling, dizziness, brain fog, hair loss, change in mood, vision change, kidney stones, altered taste (especially carbonated drinks like soda and beer).
 - *Drinking water with lime/lemon and taking TUMS can help with side effects.*
 - **Contraindications:** history of kidney stones, kidney disease, liver disease, considering conceiving.
- **Qsymia** (phentermine + topiramate)-more expensive than prescribing separately



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WEIGHT MANAGEMENT MEDICATIONS: CRAVINGS AND FOOD NOISE

- **Wellbutrin**
 - Consider use if patient also has depression/anxiety or also needs help with smoking cessation.
 - Side effects include dry mouth, headaches, irritability, anxiety, agitation, nausea, constipation, sweating, feeling shaky, and dizziness.
 - Contraindicated for those patients with a history of seizure disorders, glaucoma, bipolar mood disorder, uncontrolled high blood pressure, and patient taking MAO inhibitors.
 - Consider short or immediate acting forms for patient with previous bariatric surgery.
- **Naltrexone**
 - Consider with patient who also have alcohol abuse.
 - Side effects include headache, anxiety, nausea, constipation, fatigue, trouble sleeping, or dry mouth.
 - Contraindicated for patients taking chronic opioid medications.
 - If patients will be having surgery or plan to take other prescribed opioids, they should stop the medication 3-4 days prior.
 - Initial titration: ¼ tablet every evening x 7 days, then ½ tablet twice a day x 7 days, then ¾ in AM and ½ tablet in PM x 7 days, then ½ tablet two times day.
 - Okay to slow down titration if side effects are not tolerable at this rate.



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WEIGHT MANAGEMENT MEDICATIONS: **BINGE EATING DISORDER**

- **Lisdexamfetamine** (Vyvanse)
 - For binge eating disorder, can help reduce intrusive thoughts and binge episodes. Also decreases appetite and helps with portion control.
 - Side effects of this medication include headache, dizziness, nausea, dry mouth, constipation, diarrhea, unpleasant taste, trouble sleeping, irritability, anxiety, increased blood pressure, increased heart rate, palpitations.
 - **Contraindications:** same as **Phentermine**
- **Topiramate** (discussed previously)



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WEIGHT MANAGEMENT MEDICATIONS: CKD, T2DM, HEART FAILURE



- **Empagliflozin (Jardiance)**

- **Dapagliflozin (Farxiga)**

- Indications: blood sugar management in patients with diabetes. It is also used for patients with heart failure and chronic kidney disease. This medication works by helping your body get rid of excess sugar through your urine.
- **Side effects** may include increased need to urinate, increased risk of urinary tract infections, increase risk of yeast infections, increased thirst, constipation, nausea, dizziness, and dry mouth.
- *Drink plenty of water while on this medication.* Practice good hygiene when using the bathroom to prevent urinary tract infections.
- This medication should not be used in patients who are on *dialysis* or are *pregnant* or *nursing*.

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GLP-1 INDICATIONS

- Type 2 Diabetes
 - Victoza (liraglutide)
 - Ozempic (semaglutide)-oral and injectable
 - Mounjaro (tirzepatide)
- Weight Management
 - Savenda (liraglutide)
 - Wegovy (semaglutide)-oral and injectable
 - Zepbound (tirzepatide)
 - Foundaryo (orforglipron)
- Metabolic Dysfunction-Associated Steatohepatitis (MASH)
 - Stage F2-F3 fibrosis
 - Wegovy (semaglutide)-oral and injectable
- Major adverse cardiovascular events (MACE)
 - Previous heart attack, previous stroke, peripheral artery disease
 - Wegovy (semaglutide)
- Obstructive Sleep Apnea
 - Moderate to Severe
 - Zepbound (tirzepatide)



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SEMAGLUTIDE & TIRZEPATIDE

Semaglutide (Wegovy, Ozempic)

- Titration doses: 0.25 mg, 0.5 mg, 1 mg
- Maintenance doses: 1.7 mg, 2.4 mg, 7.2 mg (Wegovy HD)



Tirzepatide (Zepbound, Mounjaro)

- Titration doses: 2.5 mg, 7.5 mg, 12.5 mg
- Maintenance doses: 5 mg, 10 mg, 15 mg



Assess prior to dose change:

- Effectiveness for satiety, food noise
- Adequate protein intake, nutrition
- Manageable side effects
- Exercise
- Effectiveness for weight loss - **adjust only if other pillars are aligned**
- Factors affecting progress - stress, sleep



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GLP-1 & GLP-1/GIP MEDICATIONS

- **Side effects:** Nausea, vomiting, diarrhea, constipation, hypoglycemia in patients with T2DM (more common if used in conjunction with diabetes medications known to cause hypoglycemia), injection site reactions, increased lipase, increased heart rate.
 - **Rarely reported:** pancreatitis, gallbladder disease, renal impairment, suicidal thoughts.
 - Causes a modest delay of gastric emptying.
 - Advise patients to **avoid dehydration** in relation to GI side effects.
 - Monitor **blood glucose** in diabetic patients and adjust co-administered sulfonylureas (e.g., reduce dose by 50%) and other anti-diabetic medications as needed to prevent potentially severe hypoglycemia.
 - Possible increase in **thyroid cancer risk** based on murine model data.
 - Contraindicated in pregnancy and in patients with a personal or family history of medullary thyroid cancer or multiple endocrine neoplasia.
 - Zepbound decreases absorption of OCPs due to delayed gastric emptying; use a backup non-oral contraceptive for first 30 days and then for 30 days with every dose increase.
-
- Treat constipation sooner than later.
 - Consider prescription for **antiemetic** for those who experience severe nausea.

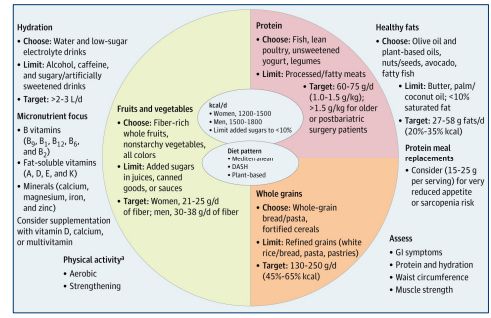
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ORAL GLP-1 MEDICATIONS

- **Foundayo (orforglipron)**
 - Non-peptide GLP-1
 - Once daily dose
 - Can be taken with or without food, drink, and medication
 - Increase monthly, as tolerated and as needed
 - 0.8 mg, 2.5 mg, 5.5 mg, 9 mg, 14.5 mg, 17.2 mg
 - Medication interactions:
 - Simvastatin: Foundayo can double levels of simvastatin. Lower simvastatin dose to 20 mg daily.
 - Strong CYP3A4 inhibitors (Paxlovid, clarithromycin, ketoconazole, itraconazole)
 - Insulin and sulfonylureas
 - Oral birth control pills: Foundayo decreases absorption of OCPs due to delayed gastric emptying; use a backup non-oral contraceptive for first 30 days and then for 30 days with every dose increase.
- **Wegovy (semaglutide)**
 - Once daily dose
 - Must take on empty stomach with no more than 4 oz water, then wait 30 minutes before eating, drinking, or taking other medications.
 - Increase monthly, as tolerated and as needed
 - 1.5 mg, 4 mg, 9 mg, 25 mg
 - Side effects and medication interactions same as other GLP-1s

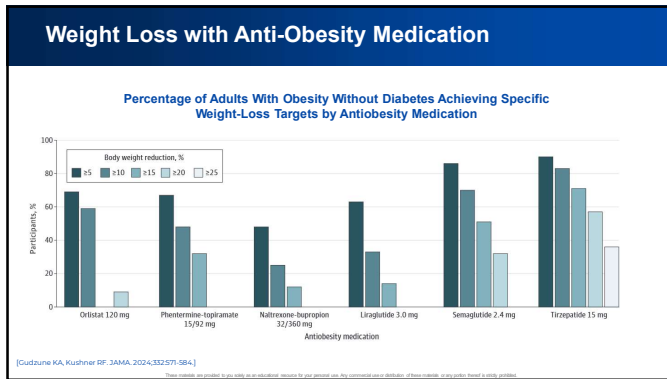
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INTEGRATING DIET AND PHYSICAL ACTIVITY WHEN PRESCRIBING GLP-1'S — LIFESTYLE FACTORS REMAIN CRUCIAL



[Mehrtash F, Dushay J, Manson JE. Integrating Diet and Physical Activity When Prescribing GLP-1s—Lifestyle Factors Remain Crucial. JAMA Intern Med. 2025;185(9):1151-1152. doi:10.1001/jamainternmed.2025.7794]

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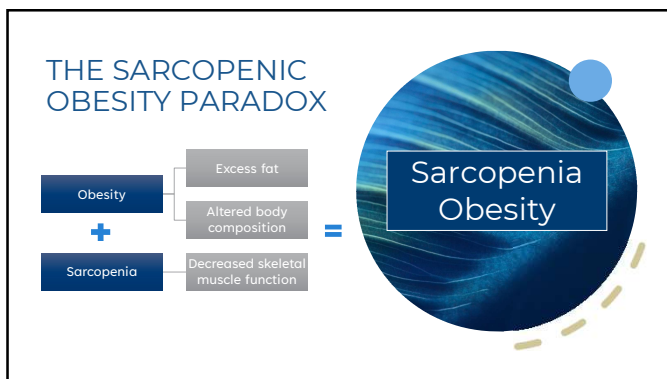


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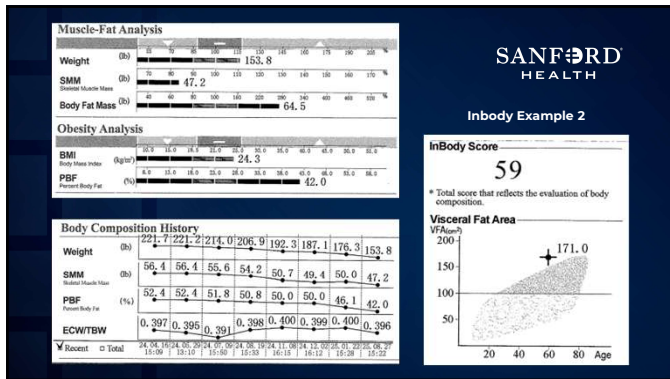
CRITERIA FOR SURGERY

- BMI > 40 kg/m²
 - [Now changed to BMI > 35]
- BMI 35 – 40 kg/m² with weight related health problems
 - [Now changed to BMI 30 – 35]
 - Diabetes, high blood pressure, sleep apnea, reflux
- You have made past attempts at weight loss
- You are willing to make healthy, lifelong lifestyle changes

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CARE-TEAM APPROACH TO MANAGING OBESITY: A CASE EXAMPLE

- Weight-focused Visit
 - Pre-visit questionnaire is populated into the electronic medical record
 - or
 - Medical assistant (MA) completes pre-visit obesity-related questions
 - Clinician reviews and discusses patient responses
 - Treatment options are discussed, and patient is given resources
 - Referral to RD, health psychologist, trainer, physical therapist, or bariatric surgeon, as indicated
 - Handout on pharmacotherapy options; patient to check coverage
- Follow up with MD/DO or APP for counselling and monitoring
 - Scheduled in-person or telehealth visits every 3 months with MD, DO or APP for long-term management
- MA, RN, or Pharm tech/PharmD manages medication prior approvals
- EMR messaging for check-ins and problem-solving

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