



**Advanced
Gastroenterology**
of Central Florida



Beyond the Scale:

Maximizing GLP-1 for
Sustainable Weight Loss

What's Inside!

- Welcome letter from Dr Katukuri.
- Introduction to GLP-1 Medications.
- Benefits & Risks of GLP-1 Medications.
- Muscle Loss Prevention and Protein Intake with GLP-1 Medications.
- Incorporating Emsculpt for Muscle Building.
- Ozempic Face & Ozempic Butt.
- Protein Intake to Support Muscle Maintenance and Growth.
- How to Use Your Medication.
- Possible Side Effects and Managing Symptoms .
- Nutrition and Diet Tips.
- Chart: Building a Balanced Meal Plan.
- Understanding Portion Sizes.
- Chart: Foods to Avoid.
- Hydration and Its Impact on Appetite and Wellness.
- Healthy Lifestyle Habits.
- Gut Health and Its Connection to Weight Loss.
- Emotional Eating and Healthier Coping Mechanisms.
- Mindful Eating Techniques.
- Tracking and Celebrating Progress.
- Frequently Asked Questions (FAQs).
- Long-Term Lifestyle Changes and Maintenance.
- Potential Benefits and Risks of Long-Term GLP-1 Use.
- Seeking Support and Resources.
- Measurement Tracker.

"Congratulations on taking the 1st step of your transformation journey!"



Dr. Vinay Katukuri

Dear Valued Patient,

Welcome to Advanced Gastroenterology of Central Florida! On behalf of our entire team, I'd like to express our sincere gratitude for choosing us as your healthcare provider. We're honored to be part of your wellness journey, and our commitment is to offer you the highest standard of care, compassion, and support.

Our practice is built on a physician-led, patient-focused approach, emphasizing personalized care that addresses your unique needs. As specialists in gastroenterology and wellness, we deliver advanced, evidence-based treatments designed with your health and comfort in mind. Whether you're here for a routine check-up or seeking guidance on specific health concerns, our dedicated team is here to support you every step of the way.

We understand that starting new treatments, especially for weight management or digestive health, may bring questions and uncertainties. We encourage open communication and are here to address any concerns, ensuring you feel comfortable, informed, and empowered throughout your care experience with us.

Thank you once again for placing your trust in us. We look forward to working with you on your path to a healthier future.

Warm regards,

Dr. Vinay Katukuri

Dr. Vinay Katukuri, [Advanced Interventional Gastroenterologist](#)

Beyond the Scale:

Maximizing GLP-1 for Sustainable Weight Loss

1. Introduction to GLP-1 Medications

What Are GLP-1 Medications?

GLP-1 (Glucagon-Like Peptide-1) medications mimic a natural hormone in the body that regulates insulin, reduces blood sugar levels after meals, and decreases appetite. Initially developed to treat diabetes, these medications are now also used to support weight loss. Some common GLP-1's are Ozempic (*Semaglutide*), Mounjaro (*Tirzepatide*) & Zepbound.

How They Work for Weight Loss

GLP-1 medications slow digestion, help you feel full for longer, and send signals to the brain that control hunger, making it easier to eat smaller portions and manage weight effectively.

2. Benefits & Risks of GLP-1 Medications

Reduced Appetite

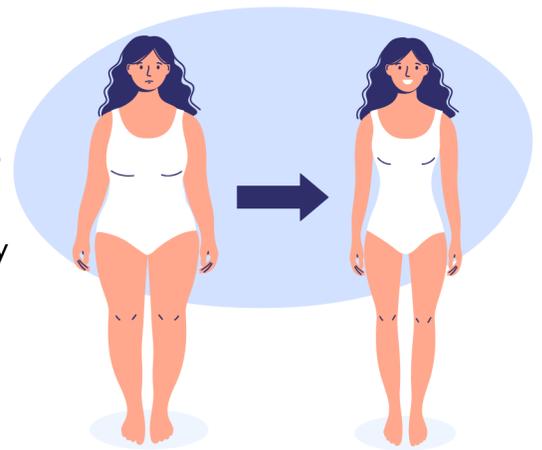
Because GLP-1 medications suppress appetite, some individuals may experience ongoing reduced calorie intake, which could contribute to malnutrition or nutrient deficiencies if not carefully managed.

Weight Loss Results

Many patients experience weight reduction when combining GLP-1 medications with lifestyle changes, potentially losing 5-15% of their body weight over time. Results may vary, and a steady, gradual weight loss is typical.

Health Improvements Beyond Weight Loss

GLP-1 medications may lead to additional benefits such as better blood sugar control, lower blood pressure, and improved cardiovascular health. For those at risk of diabetes, weight loss may also reduce that risk.



Are you a good candidate for GLP-1?

If you have any of the following talk to your doctor before starting any GLP-1 medication

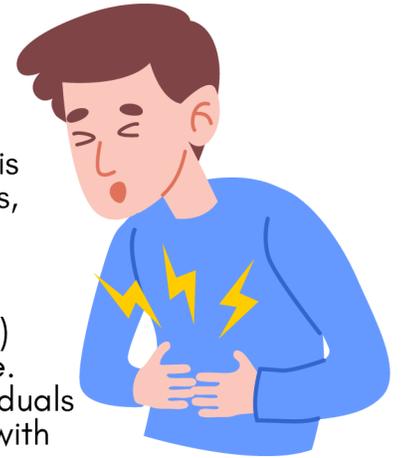
Gallbladder and Pancreatic Concerns

Gallbladder Disease

Long-term GLP-1 use has been associated with an increased risk of gallbladder issues, including gallstones and, in some cases, cholecystitis (inflammation of the gallbladder). This is partly due to rapid weight loss, which can increase the risk of gallstone formation.

Pancreatitis

There have been reports of pancreatitis (inflammation of the pancreas) among patients using GLP-1 medications, although this is relatively rare. Symptoms include severe abdominal pain, nausea, and vomiting. Individuals with a history of pancreatitis may be at higher risk and should consult with their healthcare provider before starting GLP-1 therapy.



Thyroid Health Concerns

Thyroid Tumors

In animal studies, certain GLP-1 receptor agonists were linked to an increased risk of thyroid C-cell tumors. While these findings have not been confirmed in humans, the FDA includes a warning for patients with a history of thyroid cancer or a family history of medullary thyroid carcinoma. Regular thyroid monitoring may be recommended for long-term users.

Hypoglycemia (Low Blood Sugar)

Risk with Co-Administration of Other Diabetes Medications

While GLP-1 medications themselves do not typically cause low blood sugar, the risk of hypoglycemia can increase if they are used in combination with other diabetes medications, such as insulin or sulfonylureas. If you are diabetic, monitoring blood glucose levels is essential to avoid hypoglycemic episodes.

Kidney Function

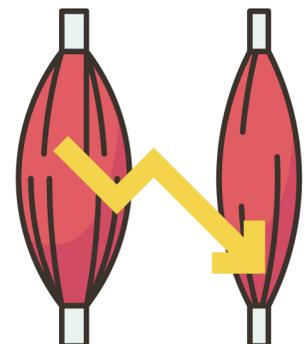
Kidney Health Implications

Some patients have reported kidney issues, including acute kidney injury, while using GLP-1 medications, often due to dehydration from persistent vomiting or diarrhea. Staying well-hydrated and monitoring kidney function is particularly important for patients with pre-existing kidney issues.

Muscle Loss and Lean Body Mass Reduction

Loss of Muscle Mass with Rapid Weight Loss

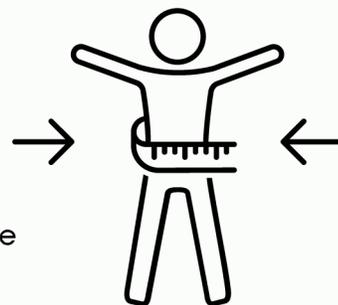
Rapid weight loss, sometimes seen with GLP-1 medications, can lead to muscle loss in addition to fat loss. Preserving muscle mass is important for metabolism, strength, and overall health. Patients are encouraged to engage in strength training exercises and consume adequate protein to counter this effect.



3. Muscle Loss Prevention and Protein Intake with GLP-1 Medications

Understanding Muscle Loss During Weight Loss

Maintaining and building muscle mass is an essential part of a healthy weight loss journey, especially when using GLP-1 medications. While GLP-1 medications help by reducing appetite and supporting weight loss, it's important to remember that muscle preservation and growth play a key role in long-term health and metabolism. Here's how to focus on muscle health during your treatment:



Why Muscle Matters in Weight Loss

Boosting Metabolism

- Muscle tissue burns more calories than fat, even at rest. By maintaining and building muscle, you can increase your metabolic rate, helping your body to burn more calories throughout the day.



Improving Strength and Mobility

- Having stronger muscles improves daily function, increases energy levels, and supports overall mobility, which can enhance quality of life and reduce the risk of injury.

Supporting Body Composition

- Preserving muscle while losing weight can result in a leaner, more toned appearance and can help prevent the “soft” look that sometimes occurs with weight loss.

Strength Training for Muscle Health

Incorporate Resistance Exercises

- Aim to include strength or resistance exercises 2-3 times per week. This can involve weight lifting, bodyweight exercises (such as squats, lunges, and push-ups), or resistance bands, all of which help stimulate muscle growth and strength.



Progressive Overload

- Gradually increase the weight, resistance, or difficulty of your exercises over time. This practice, known as “progressive overload,” challenges your muscles and encourages growth and strength gains.

Recovery is Key

- Allow at least 48 hours of rest for each muscle group to recover and rebuild after a workout. Recovery is an essential part of muscle development and helps prevent injuries.

Incorporating Emsculpt for Muscle Building

What is Emsculpt?

Emsculpt is an FDA-approved, non-invasive treatment that uses High-Intensity Focused Electromagnetic (HIFEM) technology to stimulate powerful muscle contractions. These contractions go beyond what's achievable through traditional exercise, making Emsculpt an effective option for both fat reduction and muscle toning.

Key Benefits of Emsculpt:

- **Fat Reduction:** Studies have shown that Emsculpt can lead to an average reduction of up to 30% in localized fat.
- **Muscle Building:** Emsculpt treatments have demonstrated an average increase in muscle mass of around 25%, helping patients achieve a more defined and toned appearance.
- **FDA Approval:** Emsculpt is FDA-approved for muscle building and fat reduction in areas such as the abdomen, buttocks, arms, and thighs, making it a safe and effective option for patients seeking body contouring.

Enhanced Definition: By specifically targeting muscles, Emsculpt aids in sculpting and defining areas like the abdomen, thighs, arms, and buttocks, leading to a more toned appearance.

Complimentary to Strength Training: Emsculpt can be used in conjunction with regular workouts, amplifying muscle-building effects and enhancing results from strength training.

How Emsculpt Works with GLP-1 Treatments

Emsculpt provides an extra boost in muscle preservation and toning without the need for extended workout sessions. For patients using GLP-1 who may be in a calorie deficit, Emsculpt supports muscle health and combats the risk of muscle loss.



Figure 1

Figure 2

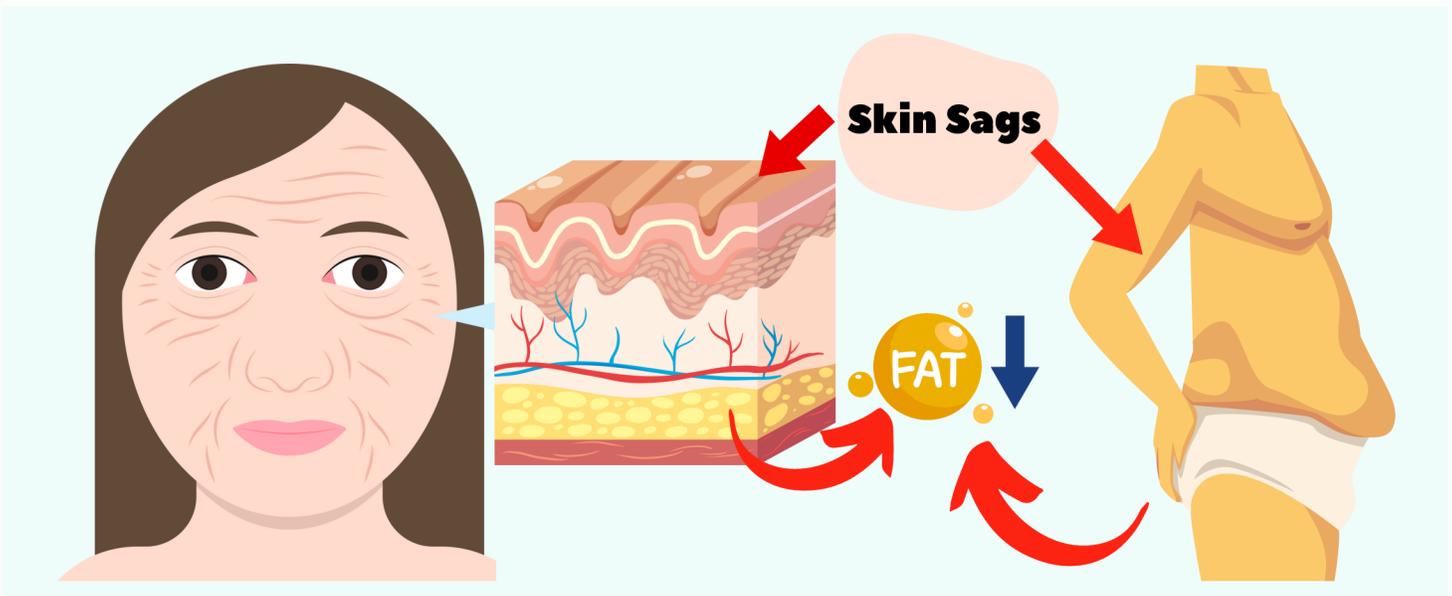
Patient receiving EmSculpt Treatment to Obliques (Love handles) in **Figure 1**, and Lower belly pouch in **Figure 2**.

Ozempic Face & Ozempic Butt

“**Ozempic face**” and “**Ozempic butt**” are terms that have emerged to describe specific changes in facial and body appearance that some people experience when losing weight on GLP-1 medications like Ozempic (semaglutide). These changes are related to rapid weight loss and reductions in fat, which can affect the appearance of certain areas of the body. Here’s a closer look at what these terms mean:

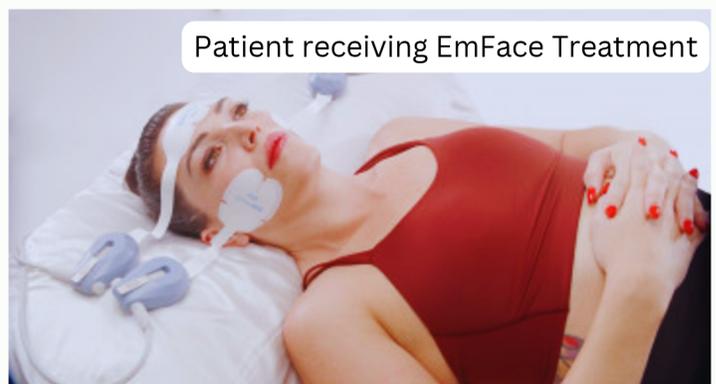
Ozempic Face: Refers to a gaunt or aged look that occurs when facial fat decreases quickly, leading to hollowed cheeks and sagging skin. A new treatment called Emface may help with this by using radiofrequency and electromagnetic stimulation to lift and tone facial muscles and improve skin elasticity. Emface is non-invasive and can restore a more youthful appearance by boosting collagen and strengthening facial muscles, which helps counter the volume loss seen with rapid weight loss.

Ozempic Butt: Describes a flatter or sagging appearance of the buttocks due to fat and muscle reduction. Treatments like Emsculpt can help build muscle and shape the buttocks area, supporting a fuller, lifted look.



Overall Strategies: Combining strength training, adequate protein intake, and staying well-hydrated can help maintain muscle tone and avoid significant volume loss. Emface and Emsculpt offer non-invasive options to support muscle and skin tone, helping enhance appearance during weight loss.

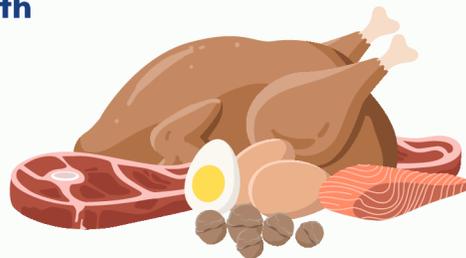
Maintaining a steady, gradual weight loss pace can help. Some people choose cosmetic options like dermal fillers to restore lost volume and improve facial fullness. Strength training exercises targeting the glutes, such as squats, lunges, and hip thrusts, can help maintain or build muscle in the buttocks area.



Protein Intake to Support Muscle Maintenance and Growth

Prioritize Protein

Protein is crucial for muscle repair and growth, especially when you're losing weight. Aim to include a source of protein with each meal, such as lean meats, eggs, dairy, legumes, or plant-based protein options.



Daily Protein Goals

A general recommendation is 0.6–0.8 grams of protein per pound of body weight, depending on individual activity levels and goals. Consult with your healthcare provider to find a protein intake goal that supports your muscle health.

Recommended Protein Sources

- **Lean Meats:** Chicken, turkey, and lean cuts of beef or pork.
- **Fish and Seafood:** Salmon, tuna, shrimp, and other fish rich in omega-3s.
- **Eggs:** A versatile, high-protein option that also provides essential nutrients.
- **Plant-Based Proteins:** Beans, lentils, tofu, tempeh, and quinoa for those on plant-based diets.

Protein Timing

Spread your protein intake evenly throughout the day. Having protein in each meal, particularly after a workout, can help maximize muscle synthesis and recovery.

Additional Tips for Building and Toning Muscle

Incorporate Functional Movements

Exercises that mimic daily activities, like squats, lunges, or deadlifts, help build muscle in a way that also improves strength for daily tasks.

Consider Working with a Trainer

If you're new to strength training, a certified trainer can guide you through proper techniques and help create a plan tailored to your goals and abilities.

Stay Consistent

Building and toning muscle is a gradual process that requires regular effort. Make strength training a consistent part of your routine for the best results.

4. How to Use Your Medication

Administration Instructions

GLP-1 medications are often administered via a pre-filled pen or syringe injected under the skin.

Key steps include:

1. Thoroughly wash your hands.
2. Use an alcohol swab to clean the injection site, typically the abdomen or thigh. (*Studies indicate that injecting into the thigh may help reduce gastrointestinal symptoms.*)
3. Gently pinch a fold of skin between your thumb and forefinger, then slowly insert the needle into the skin.
4. Once positioned, gradually press down on the plunger to inject the full dose of medication.



Dosage and Timing

Injections are once a week. Starting with a low dose and gradually increasing helps minimize side effects - usually increasing the dose every 4 weeks. It's essential to follow the prescribed schedule for consistency. Rotate injection sites weekly to prevent soreness.

Missed Dose

If you miss a dose, take it as soon as possible unless it's close to the next dose; do not double up. Regularity is crucial for results.

5. Possible Side Effects and Managing Symptoms

Common Side Effects

Patients may experience mild side effects as the body adjusts, including:

- **Nausea** (often subsides after a few weeks)
- **Vomiting**
- **Constipation or diarrhea**
- **Heartburn or gas**
- **Headache**



Managing Side Effects

- **Don't over eat:** Start with smaller meals and eat slowly.
- **To reduce heartburn:** Avoid lying down after meals for 2-3 hours.
- **Stay hydrated:** Especially if you experience gastrointestinal symptoms.
- **For Nausea Relief:** Put a small amount of rubbing alcohol on a cotton ball & sniff it.

When to Seek Medical Advice

- If side effects become severe or interfere with daily life, contact your healthcare provider. Adjustments or additional treatments may help manage symptoms.

6. Nutrition and Diet Tips

Building Balanced Meals

Focus on nutrient-dense foods that support fullness and satiety:

- **Lean Proteins:** Chicken, fish, eggs, and tofu.
- **Whole Grains:** Oats, brown rice, quinoa.
- **Fruits and Vegetables:** Rich in vitamins, minerals, and fiber.

Foods to Avoid

Certain foods may increase side effects or hinder progress:

- **Processed Foods:** High in unhealthy fats.
- **Sugary Snacks:** Spikes blood sugar and cravings.
- **High-Fat Meats and Dairy:** Adds unnecessary calories.

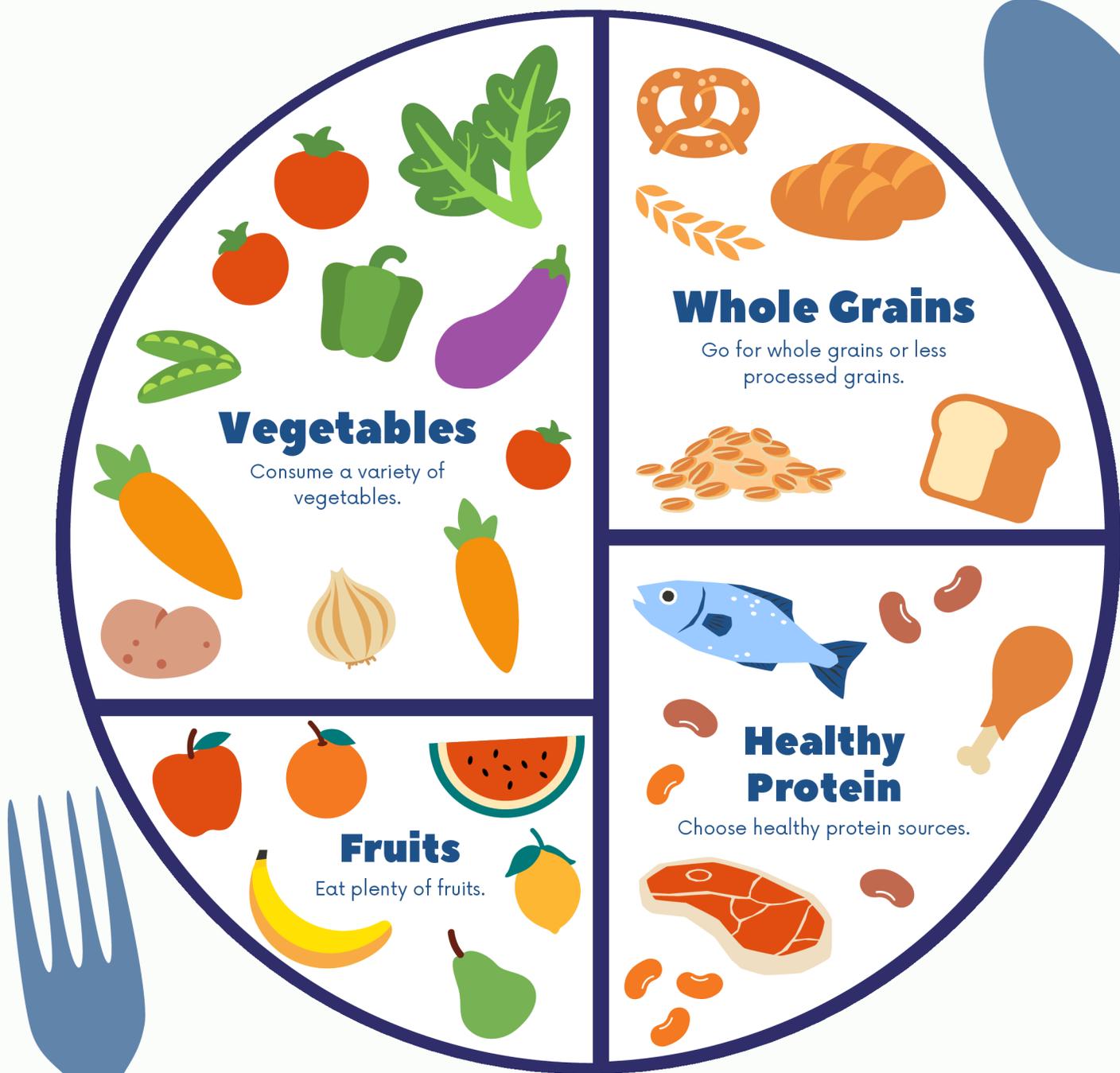


Portion Control

- Focusing on portion sizes supports weight loss and prevents overeating.

Building a Balanced

MEAL PLAN



Drink water instead of sugary drinks.

Consume healthy plant oils moderately.



Understanding Portion Sizes

Here's a simple guide to recommended daily servings for each food group, along with easy portion visuals to help you understand what each serving looks like:

Protein: 3-4 Servings Per Day

What a Portion Looks Like:

Meat, Poultry, or Fish: About the size of your palm or a deck of cards (3-4 ounces per serving).

Eggs: Two eggs make up one serving.

Greek Yogurt or Cottage Cheese: $\frac{3}{4}$ cup or about the size of a tennis ball.

Beans or Lentils: $\frac{1}{2}$ cup, roughly the size of a small fist.

Vegetables: 4-5 Servings Per Day

What a Portion Looks Like:

Leafy Greens (Spinach, Kale): 1 cup (about two handfuls) counts as one serving.

Other Veggies (Carrots, Broccoli): $\frac{1}{2}$ cup cooked or a small handful of raw vegetables, like baby carrots.

Tip:

Aim for a variety of colors for a wide range of nutrients.

Dairy (or Alternatives): 2-3 Servings Per Day

What a Portion Looks Like:

Milk: 1 cup (about the size of a closed fist).

Cheese: 1.5 ounces, roughly the size of two dice or a small thumb-sized portion.

Yogurt: $\frac{3}{4}$ cup, or about the size of a tennis ball.

Whole Grains: 3-4 Servings Per Day

What a Portion Looks Like:

Cooked Rice, Quinoa, or Pasta: $\frac{1}{2}$ cup, about the size of a light bulb.

Whole Grain Bread: 1 slice (choose whole grain for fiber and nutrients).

Oats: $\frac{1}{2}$ cup cooked, about a small handful.

Healthy Fats: 2-3 Servings Per Day

What a Portion Looks Like:

Nuts or Seeds: 1 ounce (about a small handful or $\frac{1}{4}$ cup).

Avocado: $\frac{1}{4}$ of a medium avocado (roughly two tablespoons).

Olive Oil: 1 tablespoon (about the size of your thumb).

Fruits: 2-3 Servings Per Day

What a Portion Looks Like:

Fresh Fruit: 1 medium apple or banana (about the size of your fist).

Berries or Chopped Fruit: $\frac{1}{2}$ cup, or a small handful.

Dried Fruit: $\frac{1}{4}$ cup, or roughly a small handful (be mindful, as dried fruit is calorie-dense).

Foods to Avoid

Alcohol

Dehydrates/
Empty Calories



Spicy Foods

Causes
Heartburn



Sugary Foods & Refined Carbs

Spikes blood
sugar,
Excess calories



High-Sodium Foods

Increases
Swelling &
Bloating



Gas-Producing Foods

Creates Bloating &
discomfort



Beans, Lentils, Onions
Broccoli, Cabbage,
Carbonated Beverages.

Fried & Greasy Foods

Excess Calories,
Heartburn,
Indigestion



7. Hydration and Its Impact on Appetite and Wellness

Staying Hydrated

Dehydration is often mistaken for hunger, so drink water throughout the day.

Hydration Tips

Carry a water bottle, add lemon or cucumber for flavor, and set reminders to drink water.

8. Healthy Lifestyle Habits

Incorporating Physical Activity

Aim for at least 150 minutes (30 minutes 5 times per/week) of moderate exercise weekly. Brisk walking, yoga, and swimming are all great options to support weight loss and improve mood.

Sleep and Stress Management

Quality sleep and low stress improve energy and reduce emotional eating. Set a consistent sleep schedule and practice stress-relieving activities. Aim for at least 6 hours of restful sleep per night.

Setting Realistic Goals

Weight loss takes time, and setting small, achievable goals helps keep you motivated. Celebrate every milestone along the way.

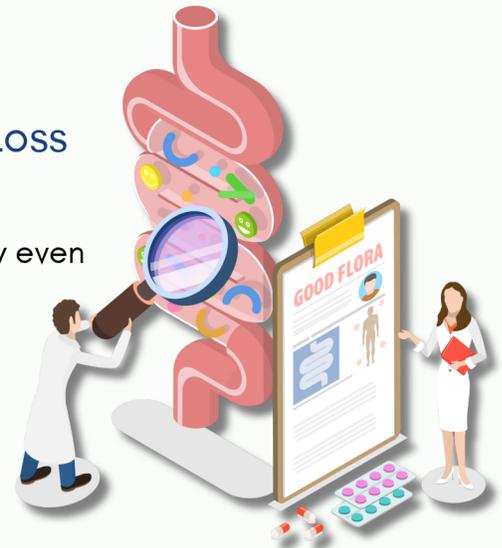
9. Gut Health and Its Connection to Weight Loss

The Gut Microbiome

A balanced gut microbiome aids digestion, immunity, and may even impact cravings. Good gut health can help improve nutrient absorption and may reduce inflammation.

Foods for a Healthy Gut

Include probiotics (like yogurt, kefir) and prebiotic-rich foods (bananas, onions, garlic) to support gut bacteria.



10. Emotional Eating and Healthier Coping Mechanisms

Recognizing Emotional Triggers

- Emotional hunger can lead to overeating. Identify triggers such as stress, boredom, or sadness.

Alternatives to Emotional Eating

- Find other ways to cope with emotions, such as exercise, meditation, hobbies, or social support.

11. Mindful Eating Techniques

Practicing Mindfulness at Meals

- Mindful eating involves paying full attention to the meal—its flavors, textures, and the sensation of fullness. This practice helps patients better recognize hunger and satiety.

Simple Techniques

- Chew slowly, avoid distractions, and take breaks to check for fullness during meals.



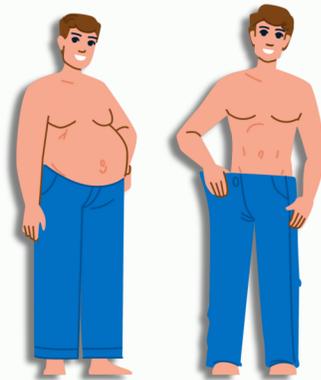
12. Tracking and Celebrating Progress

Using Journals or Apps

- Tracking food, exercise, and weight can help identify what works and where to adjust.

Celebrate Non-Scale Victories

- Focus on improvements in energy, clothing fit, or fitness achievements to stay motivated.



13. Frequently Asked Questions (FAQs)

How Long Will I Need This Medication?

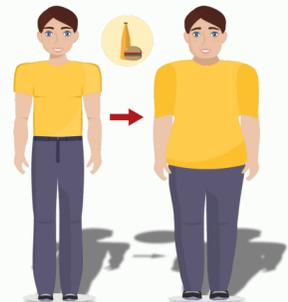
- Duration varies by patient, based on health goals and response to treatment.

Will This Interact with My Other Medications?

- GLP-1 medications can interact with certain drugs, so inform your healthcare provider of all medications and supplements.

Is Weight Loss Permanent?

- Maintaining weight loss requires ongoing healthy habits. GLP-1 medications are a tool, but lifestyle changes support lasting results.



14. Long-Term Lifestyle Changes and Maintenance

Maintaining Weight Loss Post-Treatment

- Building healthy habits is crucial for maintaining weight after stopping GLP-1 therapy. Regular exercise, balanced eating, and portion control are essential.

Preventing Weight Regain

- Regain is common without lifestyle adjustments. Ongoing tracking, consistent activity, and support can help maintain progress.

15. Potential Benefits and Risks of Long-Term GLP-1 Use

Long-Term Benefits

For some patients, ongoing GLP-1 therapy may support sustained weight loss and metabolic health improvements.

Potential Risks and Monitoring

Regular check-ins help monitor any risks, such as gastrointestinal issues, and ensure the medication is working safely.

16. Seeking Support and Resources

Role of the Healthcare Team

Regular communication with your healthcare provider is essential for adjusting doses, managing side effects, and celebrating milestones. Feel free to reach us at 407-703-3300 with any questions.

Additional Resources

Consider support groups, dietitian services, or online resources to stay informed and motivated. Connecting with others can be beneficial for practical advice and encouragement.



MEASUREMENT TRACKER

Name: _____

GLP-1: _____

Start Date: _____

	DOSE	WEIGHT	CHEST	WAIST	HIPS
WEEK 1					
WEEK 2					
WEEK 3					
WEEK 4					
WEEK 5					
WEEK 6					
WEEK 7					
WEEK 8					
WEEK 9					
WEEK 10					
WEEK 11					
WEEK 12					