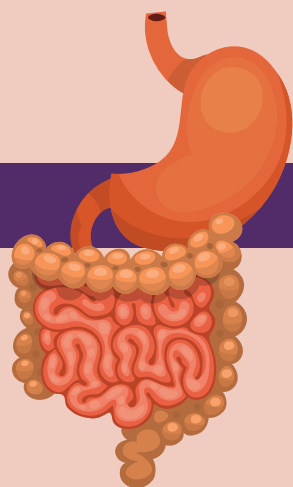


# Managing Common GLP 1-Receptor Agonist Side Effects

Glucagon-like peptide-1 receptor agonists (GLP-1 RAs) have become an essential part of the obesity management medication tool kit. Side effects are, however, common and are more likely to occur in the first few weeks after initiation of therapy and with dose escalations. The most common side effects are gastrointestinal (GI) and include nausea, diarrhea, vomiting, constipation, and, less frequently, abdominal pain. Nutritional deficiencies may occur, and there is a risk of muscle and bone loss with rapid weight loss. Ways to help mitigate these effects involve a combination of dosing strategies, nutritional interventions, and lifestyle modifications.

The occurrence of side effects can contribute to treatment discontinuation, dissatisfaction, and suboptimal long-term outcomes. Thus, prior to initiating GLP-1 RA therapies, clinicians should counsel patients on their risk for side effects, strategies to reduce their risk, and advise patients to contact their provider early for medical assistance should side effects occur.



## Managing GI Side Effects

GLP-1 RA mechanisms thought to contribute to GI side effects include delayed gastric emptying; their effects on brain regions that regulate weight, appetite, and nausea; and effects on intestinal motility or secretions with higher dosages increasing the risk of adverse symptoms, indicating a dose-dependent relationship.

### Prevention

#### Dose Titration

- Start low, increase slowly to build tolerance

#### Eating Habits

- Small portions, eat slowly
- Increase meal frequency to manage appetite and side effects
- Avoid lying down after meals
- Keep a food diary to spot triggers

#### Food Choices

- Avoid high-fat, spicy, sugary, or canned foods
- Increase fiber intake to prevent constipation
- Increase fluid intake but take small sips
- Consume foods with high water content (soups, yogurt) and clear liquids

### Symptom Relief

#### Nausea

- Eat foods that ease symptoms (eg, crackers, apples, mint, ginger root/drinks)
- Eat 30 min after a dose of a GLP-1 RA
- Avoid strong odors

#### Constipation

- Encourage physical activity
- Ensure ample hydration and fiber in the diet

#### Diarrhea

- Ensure generous hydration
- Avoid isotonic sports drinks, dairy products, laxative juices or meals, coffee, alcoholic drinks, soft drinks, products with "ol" sweeteners (sorbitol, mannitol, xylitol, maltitol)
- Temporarily reduce intake of high-fiber foods

#### Vomiting

- Reduce meal size
- Prioritize hydration

# Strategies to Preserve Muscle and Lean Mass



Rapid weight reduction, like that seen with use of a GLP-1 medication or bariatric surgery, leads not only to loss of body fat, but may also lead to loss of lean muscle mass and potentially bone density. Moreover, the large and rapid reduction in appetite can lead to insufficient intake of essential vitamins and minerals such as iron, calcium, and magnesium. Strategies to mitigate these effects include ensuring adequate protein intake and resistance/strength training.

## Adequate Protein and Nutritional Intake

### Prior to GLP-1 RA initiation

- Perform a comprehensive nutritional screening and dietary assessment
- Assess for medical conditions or behaviors that may influence nutritional needs

### Ensure adequate intake and absorption of high-quality protein and micronutrients

### Consume protein-rich foods first in a meal

### Balance nutritional intake with sufficient protein

- Complete amino acid profile
- Consider optimal protein intake timing

### Oral supplements may be necessary if reduced appetite limits dietary intake

## Preserving Lean Muscle Mass and Bone Strength

### Increased protein intake alone is not sufficient to preserve lean muscle mass

### Resistance/strength training is essential

- Supervised resistance training reduces loss of lean body mass during calorie restriction
- Mixed training (resistance and aerobic) preserves lean mass during weight loss
- General physical activity (ie, 150 min of walking per wk) or aerobic activity alone may not prevent loss of lean mass

# Expert Guidelines: Nutritional Priorities and Monitoring



The American College of Lifestyle Medicine, the American Society for Nutrition, the Obesity Medicine Association, and the Obesity Society emphasize the critical role of nutritional and medical management in preserving muscle and bone mass through appropriate diet and resistance training during GLP-1 medication use.

Monitor body composition, physical function, and signs of malnutrition or micronutrient deficiencies (eg, hair loss, fatigue).

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Developed by Paradigm Medical Communications, LLC in collaboration with Obesity Medicine Association and supported by an independent medical education grant from Novo Nordisk.

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