Promoting Muscle Health During GLP-1 Therapy Through Nutrition

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GLP-1 Agonists Associated Lean Muscle Mass Loss

AHEC Topic: Current and Emerging Health Issues

Problem Identified:

- In the United States, approximately 1 in 8 adults report using a GLP-1 agonist for weight loss or chronic disease management.[1]
- Some studies have shown that individuals on GLP-1 agonists experience substantial muscle loss during treatment, with some patients losing as much as 40-60% of total weight as lean muscle mass.[2]
- Reduced food intake associated with these medications may lead to micronutrient deficiencies further comprising muscle health.[3]

Impact in Clinic Population and their Needs:

- With increased prescribing of GLP-1s, providers at Evergreen have observed a growing number of patients seeking nutrition guidance while on the therapy.
- There has been a rising demand for educational materials to help patients understand dietary guidelines and structure their diets to support their health.

Public Health Cost

- Vermont Medicaid currently covers GLP-1 medications for the treatment of type 2 diabetes and for reducing major adverse cardiovascular events. but not for obesity.[4]
- Diabetes drugs, including GLP-1 agonists, cost Vermont $520 million annually.[5]
- Nationwide, Medicaid spending on GLP-1 medications has risen significantly, with total expenditures exceeding $3.5 billion.[4] The average annual cost per patient for a GLP-1 agonist is approximately $12,000.[6]
- Decreased muscle mass leads to numerous complications, each with its own associated costs
  - Cardiovascular Disease: In 2024, Vermont spent over $2 billion dollars on healthcare costs related to chronic diseases like cardiovascular disease.[7]
  - Non-Fatal Falls: Direct medical costs related to fall injuries in Vermont are estimated at $110 million annually.[8]

Community Perspective

Valerie Goldberg, RD, CD

Dietician at Evergreen Health

“With more and more people being started on GLP-1 agonists, it is crucial for us to think about how our nutrition can play a role in preserving muscle mass and preventing future complications such as osteoporosis and fractures.”

Lauren Bode, PharmD, BCPS, BC-ADM

Pharmacist at UVMMC

“ Because GLP-1s have a protective effect on cardiovascular and renal health, many will remain on the medication for life as long as they can tolerate it. It is essential to support them in maintaining a healthy diet and engaging in physical activity that prevents significant lean muscle mass loss”

Methodology & Intervention

- Through discussions with patients and providers at Evergreen Health, it was decided to build upon existing educational material
- I partnered with the clinic dietitian to review dietary recommendations and develop a comprehensive sample weekly meal plan handout for patients prescribed GLP-1 medications, with goal of helping preserve lean muscle mass
- Features of the sample meal plan
  - A starting point from which patients can customize their meals based on their individual preferences and dietary needs
  - Emphasizes affordable, low-cost meals to promote accessibility for all patients
  - Guides patients in making informed food choices to support long-term success
- Patients will have the option to access the handout either by scanning a QR code or using a physical copy

Results & Reflections

Implementation and Effect

- Both physical handouts and the QR code will be available to patients at Evergreen's Williston and Essex locations.
- The handout will be provided to patients when GLP-1 therapy is initiated, encouraging them to try the recipes and begin thinking planning their nutrition goals
- Effectiveness will be measured two-fold:
  - Tracking through QR code downloads
  - Gathering provider and patient feedback on the usefulness of the handout in follow-up appointments

Limitations

- The meal plan serves as a basic foundation but does not offer ongoing support for long-term behavior change
- Download data will only reflect access to the material, not actual implementation or sustained use of the meal plan

Future Directions

- Develop additional specialized meal plans tailored for patients with specific dietary restrictions or health conditions
- Expand meal plan options to include culturally diverse recipes that celebrate various food traditions
- Enhance resources by offering cooking demonstrations or video tutorials accessible through the QR code.

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