

DEEP RESEARCH / DOWNLOADABLE EXAMPLE

GLP-1 therapies. Nutritional support.

Protein, lean mass and micronutrients: reading the evidence and identifying open questions.

An example of AI-assisted deep research. Original sources, critical reading and a document for R&D and scientific marketing.

THE QUESTION

What human evidence supports nutrition during GLP-1-based treatment, and which conclusions still need dedicated studies?

8 PAGES / 10 REFERENCES / IT + EN

A targeted editorial synthesis. Research and checks: 24 October 2026. The selection demonstrates a working method; it is neither a systematic review nor guidance for individual treatment.

01 / SYNTHESIS

Weight is a starting point.

The nutraceutical question concerns what happens while weight falls: body composition, actual food intake and individual needs. Answering it means keeping each finding attached to the question its study actually addressed.

01 Lean mass needs a precise reading.

Weight, fat mass and lean mass all fell in the SURMOUNT-1 DXA substudy. They are different measures, each relative to its own baseline. DXA does not measure muscle alone, and the trial does not test a protein supplement. [S01]

02 The intervention context matters.

A trial combining exercise and liraglutide supports studying combined programmes. Its findings belong to that medicine, training programme and population; they do not establish the effect of a nutraceutical formulation. [S02]

03 New questions have dedicated studies.

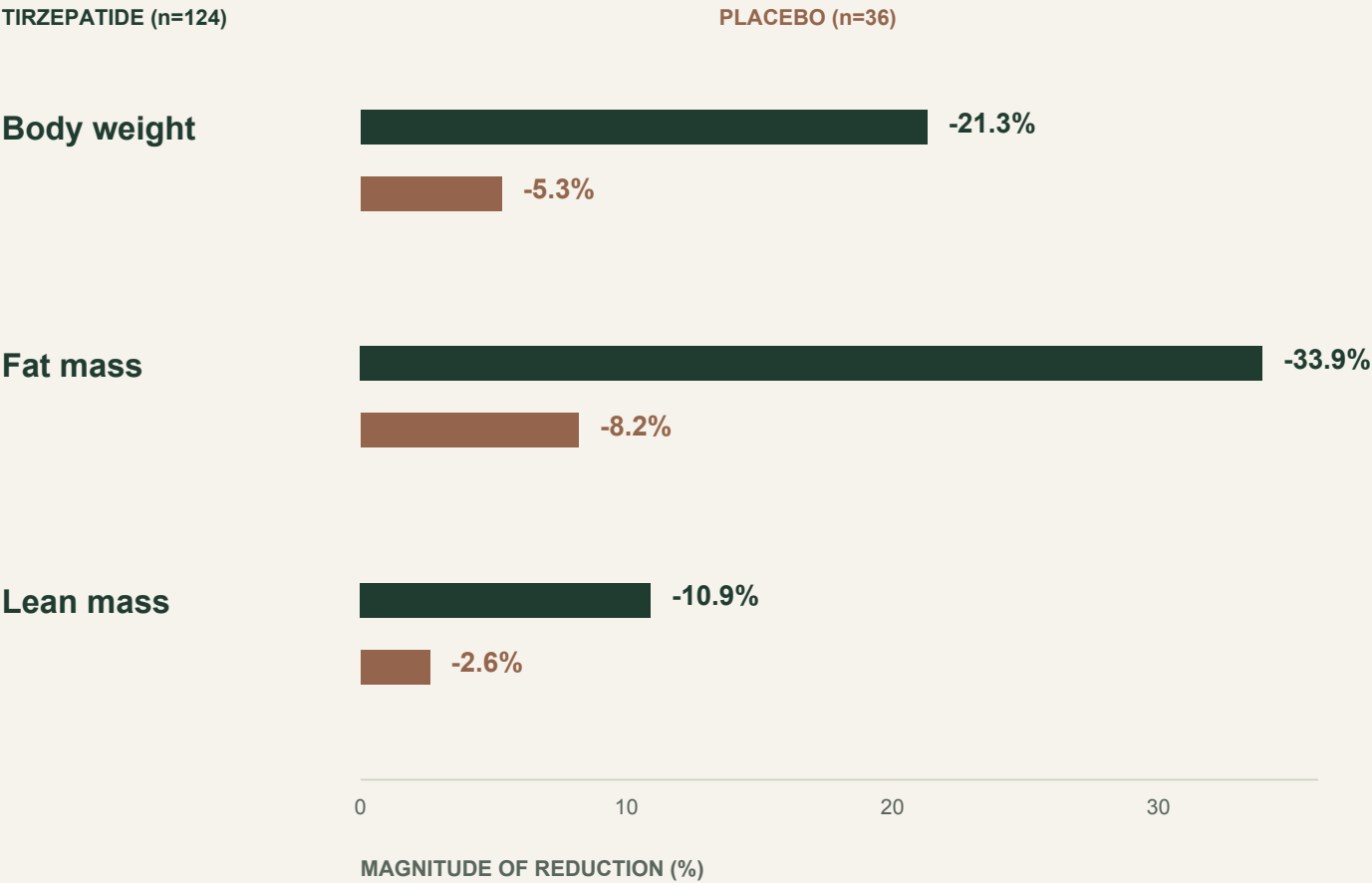
LEAN-PREP plans to study protein and exercise; VITAGLP a multivitamin. In the documents consulted, the former is a protocol and the latter a registration with no posted results. Design, planned enrolment and observed outcomes must remain distinct. [S04, S05]

For a product team, the useful next step is to define the need, intended population and outcome to measure. A nutritional need can guide research; the product's effect requires its own assessment.

02 / THE DATA

What changes at 72 weeks.

SURMOUNT-1 · mean percentage change from baseline in the DXA substudy.



160 participants in the analysis: 124 in pooled tirzepatide groups (5, 10 and 15 mg), 36 on placebo; 255 entered the DXA substudy. Source: Look et al., 2025. [S01]

Each percentage uses the baseline of its own measure. DXA lean mass includes non-fat tissues and excludes bone mineral: it is not isolated muscle mass. The bars must not be added together.

Eli Lilly funded the work and participated in its methodological stages. The substudy does not isolate diet, activity or supplement effects. The Figure 4 correction concerns the kg unit; the percentage values selected here from the text/Figure 1 remain as published. Original GMA chart. [S01, S10]

03 / PROTEIN AND MOVEMENT

Protein and exercise: isolating the question.

An intervention may include diet, a medicine, physical activity and professional support. Understanding one component's contribution needs a comparison that makes it identifiable.

A trial combining two interventions

After an initial low-calorie diet, 195 adults with obesity were randomised for one year to exercise, liraglutide, their combination or placebo. The combination reduced body-fat percentage more than either intervention alone. This was not a trial of protein supplementation. [S02]

Follow-up changes the time frame

In the period without treatment, 109 of the 166 people who had completed the active year attended the final visit. Attrition, discontinued treatment and multiple statistical comparisons limit conclusions: this follow-up does not show that a supplement maintains the outcome. [S03]

A study designed for protein and exercise

The 2026 LEAN-PREP protocol plans 232 adults in four groups, with protein, resistance exercise, both or control during GLP-1-based treatment. Planned assessment includes MRI measurement of quadriceps cross-sectional area at six months. It is the design of a test, rather than its result. [S04]

Reading a future trial will require the actual preparation and amount, total diet, adherence, training, comparator and measures of function. These are questions for designing or assessing a study, rather than established properties of a product.

04 / DIET QUALITY

Micronutrients and tolerability: start with the need.

A smaller appetite changes how much food fits into a day. The question is whether the remaining diet meets individual needs, taking baseline circumstances and tolerability into account.

From clinical priorities to research questions

The 2025 joint advisory considers diet quality, potentially inadequate intakes and individual support. It describes care priorities; it does not establish efficacy for a specific multivitamin or blend. It should be read with its 2026 correction. [S06, S07]

The role of consensus

The Delphi document published online in November 2025 and in the March 2026 issue collects the views of 15 experts. It addresses gaps using indirect evidence and clinical experience; its recommendations are not new experimental outcomes. Nestlé Health Science supported the work. [S08]

A registration makes the open test visible

VITAGLP, NCT07234916, plans a comparison of a multivitamin with placebo. The consulted record reports an estimated 246 participants and no posted results. A planned number is not an analysed sample, and background publications listed in the registration are not results from this study. [S05]

Fibre, format and serving size can enter a development brief alongside tolerability and nutrient density. The evidence to seek concerns the actual preparation and intended population. Nutritional management and treatment remain individualised within healthcare. [S08, S09]

05 / THE MATRIX

One source, one question, one boundary.

This matrix makes sources comparable without assigning an efficacy score or adding together their samples and findings.

SOURCE / SAMPLE	QUESTION AND SCOPE
S01 / SURMOUNT-1 DXA 160 analysed · 72 weeks	Weight and body compartments during tirzepatide. It isolates neither muscle nor the effect of nutritional support.
S02 / Lundgren 2021 195 randomised · 1 year	Exercise, liraglutide, both and placebo after an initial diet. Findings concern the programme actually tested.
S03 / Jensen 2024 109 at the final visit	Outcomes after treatment ends. Follow-up participation and multiple comparisons require caution.
S04 / LEAN-PREP 232 planned · protocol	Planned protein and exercise study, including muscle measurements. The consulted protocol contains no outcomes.
S05 / VITAGLP 246 estimated · registration	Multivitamin versus placebo. No results posted in the record consulted on 24 October 2026.

A protocol can show how to address a question. A completed trial can answer only for the interventions and outcomes it actually assessed.

Funding: S01 Eli Lilly (involved in the work); S02 Novo Nordisk Foundation and others; S03 Helsefonden and Novo Nordisk Foundation; S04 DDI/KFAS; S05 sponsor Erasmus MC, collaborator weightworks Clinic.

06 / THE METHOD

The method stays in the document.

Deep research here means AI-assisted research across multiple sources: defining the question, iterative searching, reading accessible originals, extraction and review. Tool used: Codex, with web research and consultation of the original websites.

01 / Scope

Adults with overweight or obesity; GLP-1-based therapies, including tirzepatide; nutrition, body composition and exercise. Selected sources from 2021-2026, checked on 24 October 2026.

02 / Search

Targeted queries on body composition, protein supplementation, micronutrients and trial protocols, alongside GLP-1, liraglutide, semaglutide and tirzepatide. References rechecked on PubMed, PMC, publisher, ClinicalTrials.gov and institutional websites.

03 / Checks

Full texts and abstracts actually read distinguished; planned and analysed samples separated; DXA measures kept distinct from muscle, and outcomes from recommendations. Sources and relevant funding retained beside claims.

A real check: the comparator changes. The advisory's correction of 23 April 2026 clarifies that one comparison concerns a calorie-restricted diet with counselling versus liraglutide alone. The earlier text described a different comparison, with counselling added to the medicine. Retaining that wording would assign a different question to the study. This synthesis uses the corrected description. [S07]

Targeted editorial selection, without exhaustive systematic screening, meta-analysis or formal risk-of-bias assessment. AI assisted research, organisation and drafting; the checks described are editorial and do not constitute independent clinical validation. No patient data or confidential company documents were used.

07 / THE SOURCES

References you can reopen.

Sources consulted on 24 October 2026. Dates below belong to the sources; the GMA research date is separate.

S01 / Look et al. / SURMOUNT-1 DXA / 2025

Body composition changes during weight reduction with tirzepatide in the SURMOUNT-1 study of adults with obesity or overweight
10.1111/dom.16275

S02 / Lundgren et al. / exercise and liraglutide / 2021

Healthy Weight Loss Maintenance with Exercise, Liraglutide, or Both Combined
10.1056/NEJMoa2028198

S03 / Jensen et al. / post-treatment follow-up / 2024

Healthy weight loss maintenance with exercise, GLP-1 receptor agonist, or both combined followed by one year without treatment: a post-treatment analysis of a randomised placebo-controlled trial
10.1016/j.eclinm.2024.102475

S04 / LEAN-PREP / protocol / 2026

LEAN mass Preservation with Resistance Exercise and Protein during semaglutide and tirzepatide therapy (LEAN-PREP study): a protocol for a randomised controlled trial
10.1136/bmjopen-2026-116911

S05 / VITAGLP / NCT07234916 / 2025; checked 2026

Multivitamin Impact on Micronutrient Status in GLP-1 Users: A Randomized Trial (VITAGLP)
NCT07234916 / ClinicalTrials.gov

S06 / Mozaffarian et al. / joint advisory / 2025; with 2026 corrigendum

Nutritional priorities to support GLP-1 therapy for obesity: joint advisory
10.1002/oby.24336

S07 / Obesity / corrigendum / 23 April 2026

Corrigendum to Nutritional priorities to support GLP-1 therapy for obesity
10.1002/oby.70222

S08 / Sievenpiper et al. / Delphi consensus / online 11 November 2025; March 2026 issue

Nutritional and lifestyle supportive care recommendations for management of obesity with GLP-1-based therapies
10.1016/j.obpill.2025.100228

S09 / WHO / obesity and GLP-1 therapies / 1 December 2025

WHO issues global guideline on the use of GLP-1 medicines in treating obesity
WHO / official publication

S10 / SURMOUNT-1 / figure correction / 20 August 2025

Correction to Body composition changes during weight reduction with tirzepatide in the SURMOUNT-1 study
10.1111/dom.70050

Information for nutraceutical professionals. This document prescribes neither treatment nor supplements and establishes no finished-product claims. Original text and charts by GMA Food Intelligence; data attributed to their sources.