



Introduction to Weight Control and the Functioning of GLP-1

Key Factors, Involved Hormones, and Innovative Solutions.

Key Factors in Weight Control

Energy Balance

Caloric intake vs. energy expenditure:

Positive Balance: Calories consumed $>$ calories burned
→ weight gain.

Negative Balance: Calories consumed $<$ calories burned
→ weight loss.

Components of Energy Expenditure:

Basal Metabolism (60-70%)

Physical Activity (20-30%)

Thermic Effect of Food (10%)

Key Hormones in Weight Control



Leptin

Satiety Signal in obesity:
resistance to leptin.



Ghrelin

Hunger Hormone
Increases before eating..



CCK (Cholecystokinin)

Promotes satiety after
digesting fats and proteins.



GLP-1

Key hormone that controls
gastric emptying and
regulates hunger.



Other Factors That Impact Weight



Chronic Stress

Increases cortisol → greater accumulation of abdominal fat.



Poor Sleep

Increases ghrelin, reduces leptin → More hunger and cravings.



Gut Microbiome

Influences metabolism, inflammation, and fat storage.

Improves: Consumption of fermented foods and fiber.



Current Market Needs

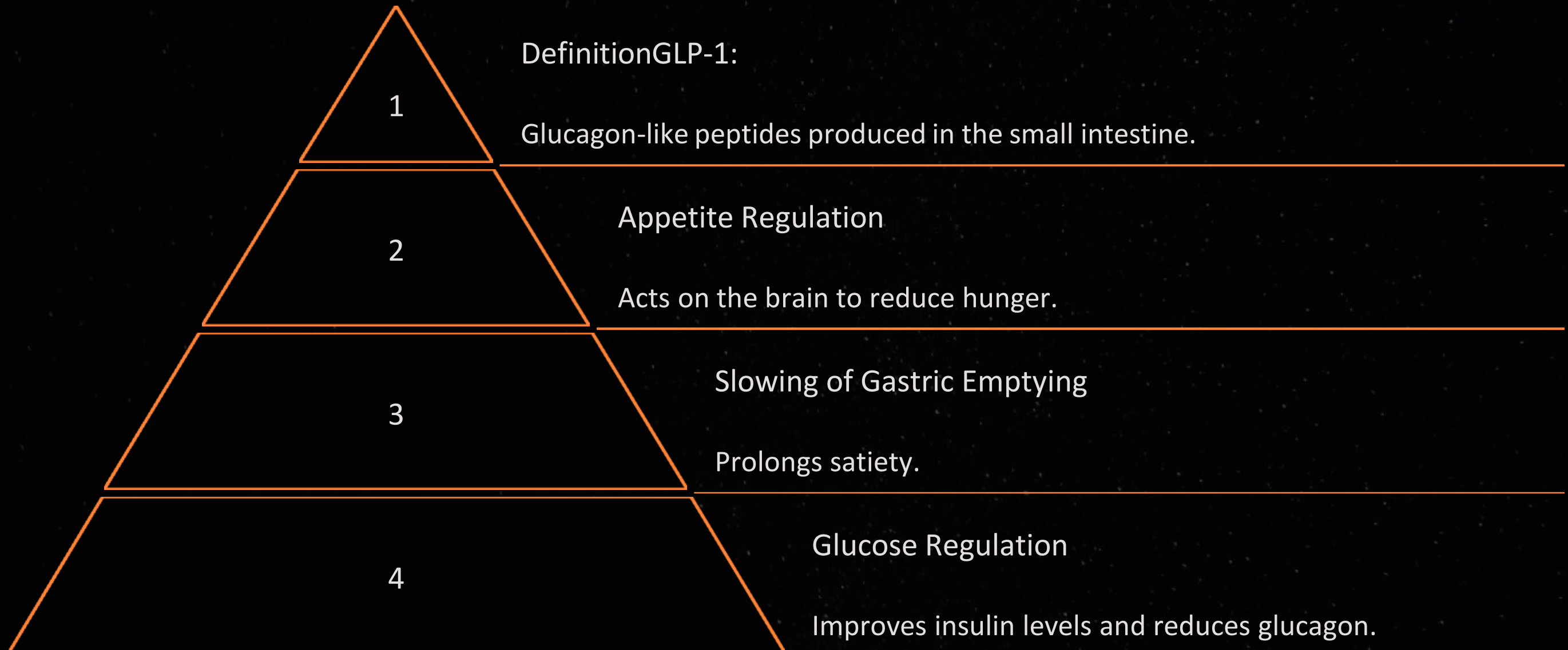
Current Solutions and Gaps

Growing interest:
Non-invasive,
accessible solutions
with fewer side
effects.

Gaps in Current Treatments:

- Dependence on Costly Injections. Side Effects: Nausea, vomiting, fatigue. Rebound Effect and Muscle Loss: When treatments are discontinued.

What Are GLP-1s?



Impact of GLP-1 on Weight Control

1

Appetite Reduction

Lower daily caloric intake.

2

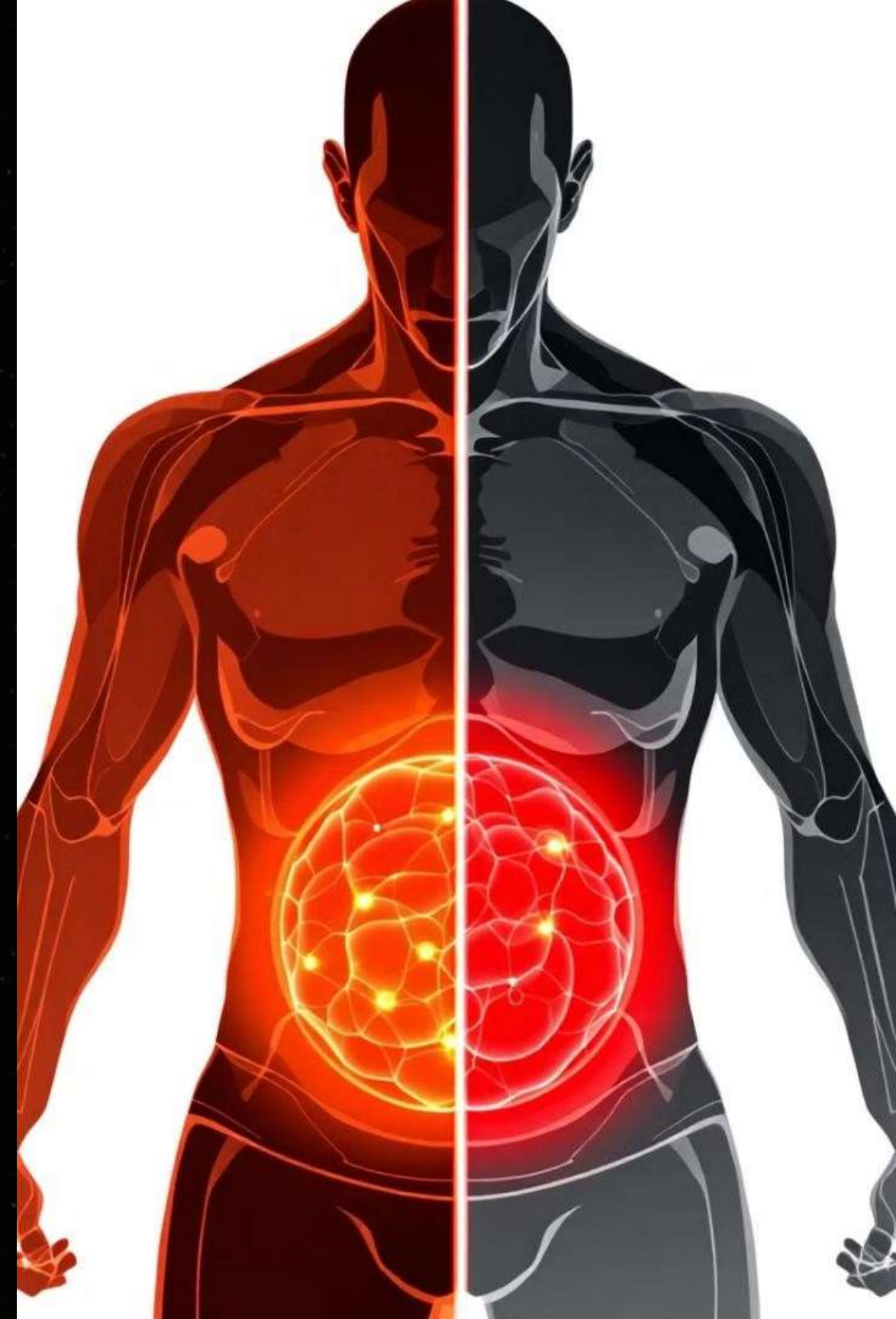
Increased Satiety

Less need to snack between meals.

3

Glucose Regulation

Prevents sugar spikes and excessive fat storage.



Examples of Available GLP-1 Treatments

Injections (Semaglutide, Liraglutide):

Advantages: High efficacy in weight loss.

Limitations: Frequent administration, high costs, nausea.

Associated Risks:

- Rebound Effect upon Discontinuation.
- Muscle Loss without proper exercise.
- Adverse Effects, some of which are serious.

Gaps and Opportunities in the Market

1

Need for Alternatives

More accessible, convenient, and safe.

2

Oral GLP-1 Sprays

Easy and non-invasive administration.

3

Cost and Side Effect Reduction

4

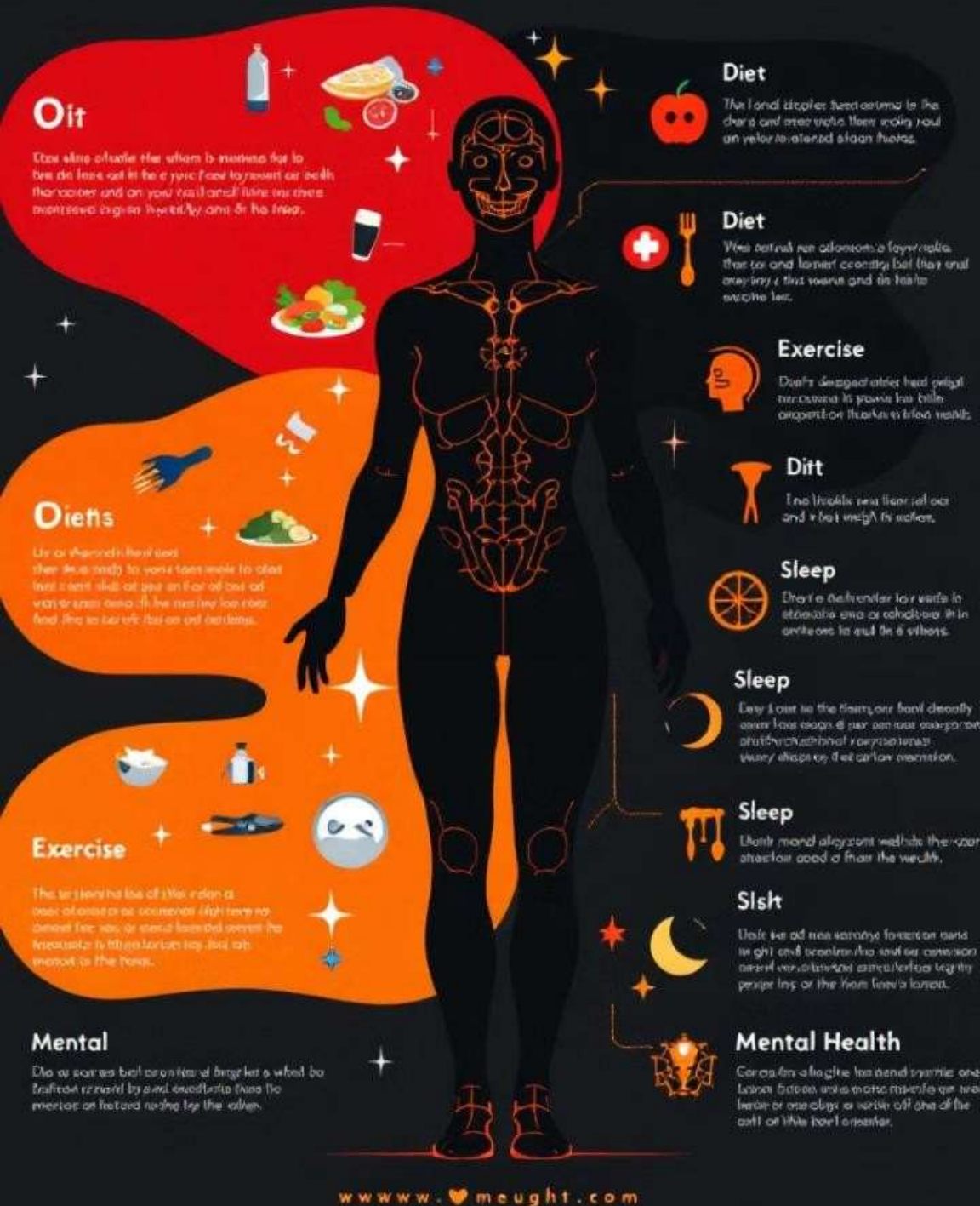
Comprehensive Approach

Integrate nutrition, exercise, and microbiome.

WEIGHTIC MANAGEMENT

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Conclusion and Reflection

○ Key Factors

Energy balance,
hormones, sleep, stress,
and microbiome.

Need for Personalized Approaches

Comprehensive Action on Key Factors of Overweight

Innovative approaches that
combine science, technology,
and healthy habits.

GLP-1 as a Scientific Tool

In weight loss, with advantages and limitations.

 Balanced Solutions

Need for solutions that do not seriously alter a balanced system.