How Weight-Loss Injections Work

Appetite, fullness, digestion and blood glucose

The short explanation

Medicines such as semaglutide, liraglutide and tirzepatide copy or strengthen signals naturally involved in appetite and blood-glucose regulation. They can help the brain register fullness, reduce hunger and slow the rate at which food leaves the stomach. Tirzepatide acts on two signalling pathways, GIP and GLP-1; semaglutide and liraglutide act mainly on GLP-1.

A four-part pathway

APPETITE Hunger and food thoughts may reduce.	FULLNESS Smaller amounts may feel satisfying.
DIGESTION Food may leave the stomach more slowly.	BLOOD GLUCOSE Insulin and glucagon responses may improve.

These effects can make eating less feel more manageable, but individual responses differ and the medicine does not replace nourishment, strength or emotional support.

The appetite and fullness signals

GLP-1 is a hormone released after eating. It helps communicate that food has arrived and contributes to fullness. GLP-1 medicines activate the same receptor for much longer than the body’s natural hormone. Tirzepatide also activates GIP receptors, which influence insulin response and energy regulation.

What someone may notice

• Hunger appears less often, feels less urgent or is easier to tolerate.

• Fullness arrives after a smaller amount of food and lasts longer.

• Cravings or persistent “food noise” may become quieter.

• Large, rich or rapidly eaten meals may feel uncomfortable.

• Hunger signals can become so quiet that regular eating has to be planned.

The brain is part of the process

Appetite is not simply a choice made through willpower. Brain regions involved in hunger, reward and fullness receive hormonal information from the gut and other tissues. Changing those signals can alter the drive to seek food. This helps explain why some people experience a profound reduction in food preoccupation.

> Important balance
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> Less hunger is not the same as needing no food. The body still needs energy, protein, fluids, fibre, vitamins and minerals. Very low intake can contribute to weakness, constipation, dehydration, nutritional deficiency and loss of muscle.

Digestion: why the stomach matters

These medicines can slow gastric emptying, particularly during early treatment and after dose increases. Food remains in the stomach longer, which contributes to fullness but may also produce nausea, reflux, bloating or discomfort.

Helpful responses to discuss with the care team

• Eating slowly and noticing early fullness rather than trying to finish a previous portion size.

• Using smaller, regular meals when large meals are uncomfortable.

• Maintaining fluids throughout the day, especially during nausea, vomiting or diarrhoea.

• Adjusting fibre gradually if constipation or bloating develops.

• Seeking individual advice when allergies, intolerances, reflux, gastroparesis, ARFID or a limited range of safe foods complicates eating.

Do not normalise severe symptoms

Persistent vomiting, inability to keep fluids down, signs of dehydration or severe and persistent abdominal pain are not simply signs that treatment is “working”. They require prompt clinical advice. Follow the medicine leaflet and the prescriber’s emergency instructions.

Dose increases

Doses are normally increased gradually to improve tolerability. A higher dose is not automatically more successful, and side effects are not a target. Never change the dose or combine medicines without the prescriber’s advice.

Blood glucose and metabolism

After food is eaten, GLP-1 and GIP signalling can increase insulin release when blood glucose is raised and reduce inappropriate glucagon release. This helps the body manage glucose more effectively. The action is glucose-dependent, but low blood glucose can still be a concern when these medicines are combined with insulin or certain diabetes tablets.

If you have diabetes

• Tell the prescriber about every diabetes medicine and how often you monitor glucose.

• Ask whether doses need adjusting as appetite, food intake and weight change.

• Know the symptoms and treatment of low blood glucose.

• Report repeated low readings, marked changes or difficulty eating.

• Continue agreed diabetes reviews; weight change does not remove the need for monitoring.

Why weight may change

Most weight reduction comes from lower energy intake because hunger is reduced and fullness arrives sooner. Changes in glucose regulation may also support metabolic health. The medicine does not directly “melt fat”. If intake falls, the body can lose both fat and lean tissue, which is why adequate protein and suitable strength-based activity matter.

> Look beyond the scales
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> Useful measures may include blood glucose, blood pressure, waist measurement, sleep, mobility, pain, stamina, strength and participation in everyday life.

Why experiences and results differ

There is no single guaranteed response. Biology, dose, tolerability, health conditions, other medicines, starting weight, sleep, stress, food access, movement and the length of treatment can all affect what happens.

A response can include

- Strong appetite reduction and substantial weight loss.
- Moderate changes that still improve health or daily functioning.
- Early side effects that settle as the body adjusts.
- Side effects that remain unacceptable despite support.
- A plateau after initial loss.
- Little meaningful benefit, even when the medicine is used correctly.

Myth and reality

MYTH	REALITY
Side effects prove it is working.	Benefit does not require suffering; severe symptoms need assessment.
Faster loss is always better.	Rapid loss can increase nutritional and muscle-loss concerns.
A plateau means failure.	Bodies adapt; review health progress and the whole plan.
The medicine fixes emotional eating.	It may reduce urges, but emotions and coping still deserve support.

Tracking your response

A short record can help you and the prescriber notice patterns without becoming consumed by numbers. Complete it at agreed intervals rather than constantly checking.

Date / dose	Appetite & intake	Symptoms	Questions / action

Include what matters

Consider hydration, bowel changes, nausea, reflux, energy, dizziness, food range, mood, strength and whether you can eat regularly. Record severe symptoms and seek help immediately rather than waiting for the next review.

My next review

Date: _____ Prescriber: _____

The most important change to discuss:

_____

Personal perspective and message from Maggie

> “The greatest change was not simply eating less. It was the quietening of the constant pull towards food. At first that felt freeing, but I then realised I could no longer rely on hunger to remind me to eat. Understanding how the medicine worked helped me stop treating nausea as an achievement and start protecting my nourishment and strength.”

A message from Maggie

Your experience may look different from somebody else’s, and that does not mean you are doing it wrong. These medicines influence powerful biological systems, but they are only one part of your health and your story.

Stay curious about what your body is communicating. Eat and drink deliberately when appetite is quiet, report symptoms honestly and ask for help when something does not feel right. Progress should support your life—not reduce it to a dose, a side effect or a number on the scales.

Clinical notes and sources

NHS: Overweight and obesity in adults. Describes GLP-1 and GIP medicines as reducing appetite and increasing fullness, used alongside nutrition and physical activity. Updated April 2026. https://www.nhs.uk/conditions/overweight-and-obesity/

NICE TA1026: Tirzepatide for managing overweight and obesity. UK appraisal guidance. https://www.nice.org.uk/guidance/ta1026

Electronic Medicines Compendium. UK patient information leaflets and summaries of product characteristics provide medicine-specific actions, adverse effects and precautions. https://www.medicines.org.uk/emc/

Important

This guide provides general education and does not replace personalised medical advice, the patient information leaflet, diagnosis or emergency care.