LONGEVITY SCIENCE · PLAIN-ENGLISH GUIDE · 2026 EDITION

Retatrutide: the three-signal weight-loss peptide.

Retatrutide is a once-weekly injectable peptide from the same family as the weekly weight-loss injections you have heard of, but it sends three signals to your metabolism instead of one or two. In its large trials it produced the biggest average weight loss ever recorded for a medication, and the most dramatic drop in liver fat. It is still in late-stage trials and not yet approved anywhere, which is why **how** you use it matters as much as whether you use it.

THINK OF IT LIKE THIS

Your body has a thermostat for body fat, and dieting is like opening a window in winter. The thermostat notices and fights back: hunger goes up, your metabolism goes down, and eventually the room warms back to where it was. This class of medicine does not fight the thermostat. It talks to it, in the hormone language it already understands, and asks it to settle at a lower setting.

This may be for you if...

- You have a meaningful amount of weight to lose, roughly a BMI of 27 or more
- You have tried diet and exercise and your body keeps pulling you back to the same weight
- You have fatty liver, prediabetes, or a doctor has mentioned metabolic syndrome
- You are comfortable with a small weekly injection and a slow, patient ramp-up

This probably is not for you if...

- You are within ten or fifteen pounds of your goal, or want to lose weight for an event
- You are pregnant, breastfeeding, or planning to be
- You or a close family member has had medullary thyroid cancer or MEN2
- You have had pancreatitis, or you are not willing to track how you feel and go slowly

EVIDENCE AT A GLANCE

LAB DISH · ANIMALS · SMALL HUMAN STUDIES · LARGE HUMAN TRIALS · APPROVED

Large randomised trials in over 2,300 people, with results published in top journals. Not yet approved by any regulator; the manufacturer plans to file in 2027.

INSIDE · WHAT IT IS P.2 · WHAT THE STUDIES SHOW P.3 · TYPICAL CYCLES AND DOSING P.4 · WARNINGS P.5 · SOURCES AND ALTERNATIVES P.6 · PRINTABLE TRACKER P.7

A hormone message your body already understands, sent three ways at once.

After you eat, your gut releases hormones that radio ahead to the rest of your body: *food is coming, get ready.* They tell your pancreas to release insulin early, tell your brain you are filling up, and slow your stomach. In people who struggle with weight, that messaging is often quieter than it should be.

Retatrutide is a single engineered peptide, made by Eli Lilly, that mimics three of those messengers at the same time. The one-signal weekly injection you have seen advertised mimics one of them. The two-signal version mimics two. This one mimics three.

THE THREE SIGNALS, AND WHAT EACH ONE DOES

SIGNAL 1 · GLP-1

The fullness signal

Quiets appetite and the constant background chatter about food. Slows the stomach. This is also where most of the nausea comes from.

SIGNAL 2 · GIP

The fuel-handling signal

Helps your body deal with the fat and sugar from a meal, and seems to take the edge off the nausea from signal 1.

SIGNAL 3 · GLUCAGON

The stored-fuel signal

Tells the liver to use what it has stored. Unique to retatrutide, and the likely reason liver fat falls so dramatically.

WHY THREE IS DIFFERENT FROM ONE

Picture a house with three thermostats: kitchen, living room, bedroom. The one-signal injection adjusts one. The two-signal injection adjusts two. Retatrutide adjusts all three at once, which is why it moves the whole house further. It is also why the ramp-up has to be gentle: you are changing three settings, not one.

THREE THINGS WORTH KNOWING

- **One injection lasts a week.** A fatty-acid tail makes the peptide cling to a protein in your blood, so it is released slowly over about six days.
- **It has to be injected.** It is a large molecule; swallowed, your stomach would digest it like any other protein.
- **It is not approved anywhere yet.** The trials are finished or finishing, and Lilly has said it plans to file with the FDA in early 2027.

HOW IT COMPARES TO THE INJECTIONS YOU HAVE HEARD OF

	THE ONE-SIGNAL WEEKLY INJECTION	THE TWO-SIGNAL WEEKLY INJECTION	RETATRUTIDE
Signals it sends	One	Two	Three
Average loss at about a year	Around 15%	Around 20%	Around 24%
Status	Approved	Approved	Late-stage trials, not approved

PLAIN-ENGLISH NOTE

Insulin is a peptide, and so is the hormone that makes you feel satisfied after dinner. This is your body's own signalling language, copied and tuned. That is why it works so well, and why you turn the dial slowly.

The biggest numbers ever seen, and the small print that goes with them.

Retatrutide has been through a phase 2 trial of 338 adults and a phase 3 programme of more than 2,300. These are the results that matter most, in plain terms.

24%

average weight loss at 48 weeks

Phase 2, at the 12 mg dose. The placebo group lost 2 percent. The highest figure ever recorded for a medication at the time.

28%

at 80 weeks in phase 3

Among people who stayed on the top dose. About 25 percent counting everyone who started, which is the fairer number.

82%

reduction in liver fat

At 24 weeks, in people who began with fatty liver. Most of them reached a normal liver. Placebo: no change.

3×

the nausea when started too high

Starting at 4 mg instead of 2 mg tripled the nausea rate, at the same final dose. The ramp is the whole game.

What we know

- Weight loss keeps going well past a year. The curves had not flattened when the trials stopped
- Liver fat, blood pressure, triglycerides and an inflammation marker (hsCRP) all improved
- The side effects are the same family as the weekly weight-loss injections: nausea, constipation, loose stools, mostly early and mostly around dose increases
- Heart rate rises a little, about 6 to 7 beats per minute at higher doses, peaking around six months in

What we are still learning

- How much of the loss is muscle. One small substudy suggests it is similar to the other drugs in the class, which means a real portion, so protein and strength work matter
- Whether the “burns more calories” story is true in humans. Nobody has measured it yet
- What happens when you stop. With the older drugs, most people regain within a year unless they have a plan
- Anything beyond two years

PHASE 2 TRIAL: WEIGHT LOST AT 48 WEEKS, BY WEEKLY DOSE

WEEKLY DOSE	AVERAGE WEIGHT LOST	IN PLAIN TERMS
Placebo	2%	What diet advice alone did over the same year
4 mg	17%	For a 200 lb person, about 34 lb
8 mg	23%	About 46 lb, with most side-effect dropouts happening at this step
12 mg	24%	About 48 lb. The highest dose ever studied; there is no 24 mg

MY HONEST TAKE

This is the most effective weight-loss compound ever tested in people, and the evidence for that is strong. The evidence for *how* to use it well is also strong: start low, go slow, hold each step for four weeks. What we do not have is long-term data or an approved, pharmacy-grade product. That is why pages 5 and 6 are not optional reading.

Three ways to run it, from a four-week trial to a full six months.

In every trial, people started at 2 mg once a week and moved up one step every four weeks. That slow ramp is not a suggestion; it is the difference between an 18 percent nausea rate and a 60 percent one. The courses below are built from that schedule. Vial counts assume 10 mg vials; if yours are 20 mg, halve them.

COURSE	DOSE	WHAT YOU NEED	WHAT TO EXPECT
Starter 4 weeks	2 mg once a week	**1 × 10 mg vial**	Appetite quiets and the body adjusts. Weight loss is small at this dose, and that is expected. This is the first four weeks of every longer course, so you lose nothing by starting here.
Standard 12 weeks	2 mg → 4 mg → 8 mg, four weeks at each step	**6 × 10 mg vials** (56 mg)	The zone where the trials saw the real effect begin. People were typically down 7 to 10 percent of their body weight by week 12.
Full 24 weeks	The same ramp, then 8 mg weekly for 12 more weeks	**16 × 10 mg vials** (152 mg)	Around 17 percent average loss at 24 weeks in phase 2. Many people never need 12 mg. Use the lowest dose that is still working.

Which one? Honestly, start with the Starter course. It is the same four weeks whichever path you take, and by week 3 you will know whether you tolerate it. Just order the next course before week 4 so the ramp is not waiting on a parcel.

HOW TO TAKE IT, IN FOUR STEPS

01 **Mix.** Add 1 mL of bacteriostatic water for every 10 mg in the vial. Run it slowly down the inside of the glass, do not shake, and let it clear.

02 **Draw.** At that strength every milligram is 10 units on a standard insulin syringe, so 2 mg is 20 units.

03 **Inject.** Under the skin of the belly, two inches from the navel, or the front of the thigh. Rotate spots. Same day every week.

04 **Store.** The mixed vial lives in the fridge, in the dark, and is used within 28 days. Unmixed vials keep for months in the freezer.

DOSE TO UNITS

WEEKLY DOSE	DRAW
2 mg	**20 units**
4 mg	**40 units**
8 mg	**80 units**
12 mg	**120 units**

At 10 mg per mL. A 20 mg vial mixed with 2 mL gives the same numbers. Missed a dose by under 3 days? Take it. Longer? Skip it and carry on. Never double up.

COMMON QUESTIONS

Can I drink alcohol?

Small amounts, but expect it to hit harder and upset your stomach more. Many people simply lose the taste for it.

Does the time of day matter?

No. Same day each week matters; time of day does not.

Do I need to change how I eat?

In one way, yes: protein first, at every meal. You will eat less overall, so what you do eat has to protect your muscle.

Doses and schedules reflect the published phase 2 and phase 3 trials and standard pharmacy practice. They are not a prescription. Talk to your doctor before starting, especially if you take other medicines.

Read this page before you order anything.

Most people tolerate this class of medicine well, and most side effects are mild and early. But there is a short list of situations where it is genuinely not safe, and a longer list where you want a doctor in the loop first. Read both lists honestly.

Do not use this if...

- You or a close relative has had medullary thyroid cancer, or MEN2, a rare glandular syndrome
- You are pregnant, breastfeeding, or trying to conceive
- You have had pancreatitis
- You have type 1 diabetes
- You are under 18, or you have a history of an eating disorder

Be cautious, and talk to your doctor first, if...

- You take insulin or a sulfonylurea such as gliclazide or glipizide; low blood sugar becomes possible
- You have had gallstones, or you have kidney disease
- You have severe reflux or slow stomach emptying
- You take medicines where timing matters, such as thyroid tablets or the contraceptive pill; a slower stomach changes absorption
- You have surgery coming up; most anaesthetists want this class stopped a week before
- You have a history of depression or thoughts of self-harm; the class carries a monitoring note

Stop and get medical help if...

- Severe stomach pain, especially spreading through to your back
- Vomiting to the point you cannot keep fluids down
- Pain under your right ribs after eating
- A racing or pounding heart that does not settle
- Swelling of the face or throat, hives, or trouble breathing
- A new low mood, or any thoughts of self-harm

Common, and usually mild

- Nausea, mostly in the days after a dose increase. Smaller meals, less fat and slower eating all help
- Constipation or loose stools. Fibre, water, and give it a week
- Burping, reflux, feeling full quickly
- Tiredness in the first few weeks
- A red or itchy spot where you injected. Rotate sites
- Odd skin sensations such as tingling or sensitivity were reported specifically with this compound. Mention it to your doctor

BEFORE YOU START

- ☐ Tell your doctor, especially if you take diabetes, thyroid or blood pressure medicines
- ☐ Get a baseline: weight, waist, resting heart rate, photos, and if you can, fasting glucose, HbA1c and lipids
- ☐ Have bacteriostatic water, insulin syringes and a sharps container ready before the vials arrive
- ☐ Plan for nausea week: small meals, low fat, ginger, and no big dinners out right after a dose increase
- ☐ Know the six stop signs on this page by heart

These lists are drawn from the trial safety data and the labelling of approved medicines in the same class. They are not complete, and they are not a substitute for a conversation with your own doctor, who knows your history.

Where I source it, and how to check any vendor.

There is no pharmacy version of retatrutide yet, so everything on the market is research-grade, and quality varies enormously between vendors that look identical online. I use one vendor because I could match their published certificates to the lot number on a vial in my hand.

DIRECT LINK · RETATRUTIDE HA

Limitless Life · Retatrutide HA

limitlesslifenootropics.com/product/retatrutide-ha

Use code **PEPTIDESCIENCE** at checkout for 15 percent off. The catalogue is behind a free account, so the listing appears once you have signed in. Shipping runs three to five business days.

Open Retatrutide HA with 15% off →

01 Open the link or scan the code, and create the free account.

02 Search “Retatrutide HA” and add the vials for your course from the table below.

03 Enter the code at checkout. When the parcel arrives, match the lot number on the vial to the certificate on the site before you mix anything.

limitlesslifenootropics.com

CODE PEPTIDESCIENCE · 15% OFF

Scan to open the listing with the code applied

WHAT TO ORDER FOR EACH COURSE

COURSE	ADD TO CART
Starter, 4 weeks	1 × 10 mg vial · 2 mL bacteriostatic water · 6 insulin syringes (31G, 1 mL) · alcohol swabs
Standard, 12 weeks	6 × 10 mg vials · 6 mL bacteriostatic water · 15 insulin syringes · swabs · a sharps container
Full, 24 weeks	16 × 10 mg vials · 16 mL bacteriostatic water · 30 insulin syringes · swabs · sharps container

AN APPROVED ALTERNATIVE WORTH KNOWING ABOUT

The two-signal weekly injection

Hits two of the three signals, is close behind on results, and comes with pharmacy-grade quality control and a doctor watching. If you can get it prescribed, that is the safer route.

EVIDENCE: APPROVED · LARGE TRIALS

Ask your doctor or a telehealth clinic.

HOW TO CHECK ANY VENDOR, IN FIVE POINTS

- ☐ **A certificate for your exact batch**, with a lot number you can match to the vial in your hand. “We test” is not a certificate.
- ☐ **A named, independent lab.** Janoshik and MZ Biolabs are the ones the community trusts. An unnamed in-house lab is a red flag.
- ☐ **The right tests:** identity (is it the right molecule), quantity (how much is really in the vial), and endotoxin (is it clean). Purity alone is not enough.
- ☐ **Sensible pricing.** Far below market usually means the corner was cut inside the vial.
- ☐ **A reputation you checked yourself**, on the big peptide forums and on finnrick.com, an independent site that publishes test results and sells nothing.

06 RETATRUTIDE · 12-WEEK TRACKER

See it working. Do not just feel it.

Weigh on the same morning each week, after the bathroom and before food. Waist at the navel, tape snug but not tight. Resting heart rate first thing, before you stand up. **Nausea:** 0 none · 1 mild · 2 changes what you eat · 3 vomiting. **Two weeks at 2 or 3 means you do not step up yet.** Print this, or screenshot it and mark it up on your phone.

Before week 1

Weight, waist, resting heart rate, a front and side photo. If you can: fasting glucose, HbA1c, lipids, liver enzymes.

Weeks 1–4

A tolerance step, not a results step. The headline numbers took a year. Judge nothing before week 8.

Week 8

First honest checkpoint. Compare the four-week averages, not the days.

Week 12

Repeat the photos and any labs. Decide on the Full course with data, not with a feeling.

WK	DATE	DOSE	UNITS	WEIGHT	WAIST	REST HR	NAUSEA 0–3	NOTES
1		2 mg	20					
2		2 mg	20					
3		2 mg	20					↻ *Order the next course now so week 5 is not waiting on a parcel.*
4		2 mg	20					*Step-up check: nausea 0 or 1 for two weeks?*
5		4 mg	40					
6		4 mg	40					
7		4 mg	40					
8		4 mg	40					*Step-up check. Compare week 5–8 average to weeks 1–4.*
9		8 mg	80					
10		8 mg	80					
11		8 mg	80					↻ *Reorder if continuing to the Full course.*
12		8 mg	80					*Photos and labs. Decide the next 12 weeks.*

NOTES, AND HOW IT FELT THIS MONTH

limitlesslifenootropics.com
CODE PEPTIDESCIENCE · 15% OFF
Reorder without breaking the schedule

Doses shown are the trial ramp. Units assume 10 mg per mL (page 4). If you stayed at a lower dose, write the real one over the printed one. For the Full course, print a second sheet and carry on from week 13 at 8 mg.