A SCIENCE JOURNAL FOR EVERYONE

# The Abyss

Below the headlines, into the evidence.

Volume 1, Number 1 · October 2026



AB-0101 Are peptides the real future of longevity?

AB-0102 Are you really what you eat?

# From the Editor

Both articles in this first issue start from the same place: something you can buy today, backed by a claim that sounds like science. Peptides promise faster healing and slower aging; ultra-processed food is said to be quietly damaging our brains. In each case the headlines run well ahead of the studies, and the studies themselves are a mix of strong trials, small pilots and work that has never left the lab. The point of The Abyss is to sort one from the other, plainly, with every claim traced back to its source, so that the next time one of these stories crosses your feed you know how much weight it can bear.

TJ, Editor

## About the cover

Crystals of insulin, the first peptide to become a medicine and the standard against which the peptides in this issue's Evidence Check are measured. A new kind of insulin can modify its activity in response to glucose levels in the blood. Credit: Antonio Romero / Science Photo Library.

# Table of Contents

The Abyss · October 2026 · Vol. 1, No. 1

**Evidence Check**

## Are peptides the real future of longevity?

TJ · AB-0101 · October 9, 2026

https://theabyssos.com/articles/are-peptides-the-real-future-of-longevity

**Explainer**

## Are you really what you eat?

TJ · AB-0102 · October 23, 2026

https://theabyssos.com/articles/are-you-really-what-you-eat

The Abyss

Vol. 1 | No. 1 · October 2026

EVIDENCE CHECK

# Are peptides the real future of longevity?

*What the published research shows about BPC-157, TB-500, CJC-1295, ipamorelin, GHK-Cu and collagen, and how they are regulated.*

TJ · Published October 9, 2026 · AB-0101 · 14 min read

## At a glance

**Background**

Peptides are short chains of amino acids that act as signals in the body. A handful of lab-made peptides, such as insulin and the GLP-1 drugs for diabetes and obesity, are among the most successful medicines of the past century. In recent years, a different group of peptides has been marketed directly to consumers online and on social media, promising faster healing, better skin and slower aging.

**Purpose**

To summarize, for a general reader, what the published research shows about the most popular of these products and how they are regulated.

**What the evidence shows**

BPC-157 has a large body of animal research, but its human evidence is limited to small studies without a comparison group. TB-500 has never been tested in people. CJC-1295 raised hormone levels in one human trial before its development was stopped, and ipamorelin failed to beat placebo in its only clinical trial. Injectable GHK-Cu has no clinical trials, although GHK-Cu skin creams have some supporting data. Collagen peptides taken by mouth have the strongest human evidence, mainly for skin, while a widely reported claim that they reduce biological age rests on a single study without a placebo group. Products bought online may not contain what their labels state.

**What this means for you**

Several of these peptides show promise in the laboratory. For the injectables, however, the right uses, doses, frequency and length of treatment remain unknown, and their long-term safety has not been studied. Rigorous human trials are needed before any of them can be recommended.

# What are peptides?

A peptide is a short chain of amino acids, the same building blocks that make up proteins, only shorter and simpler. The body makes many of them and uses them as messengers. Insulin, produced by the pancreas, controls blood sugar. Endorphins, released by the nervous system, dampen pain. Growth hormone-releasing hormone tells the pituitary gland, at the base of the brain, when to release growth hormone. Because each peptide fits only certain receptors on cells, like a key in a lock, they can be very precise.

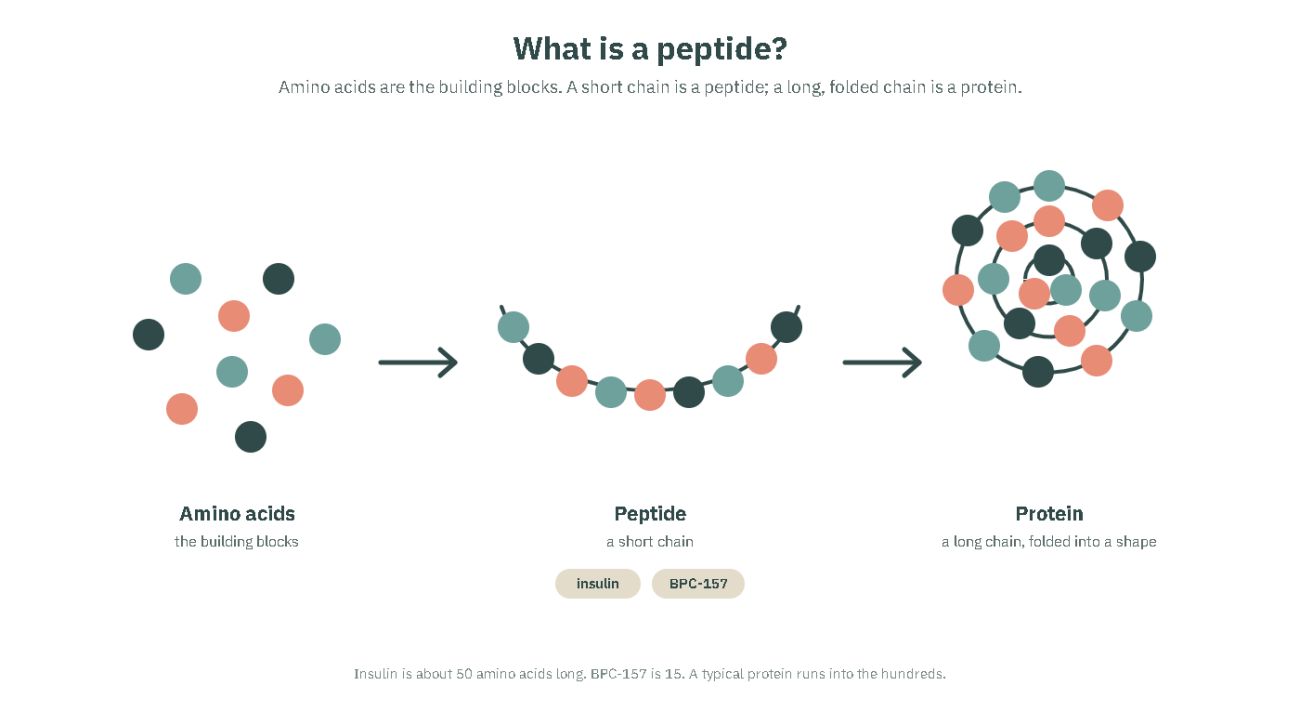



**Figure 1. What is a peptide?** Figure 1. What is a peptide? Amino acids are the body's building blocks. String a few dozen together and you have a peptide; insulin and the GLP-1 drugs are peptides. String hundreds together and fold the chain into a shape and you have a protein.

Lab-made peptides have played a huge part in modern medicine, from manufactured insulin to the weight-loss and diabetes drugs semaglutide (Ozempic, Wegovy) and tirzepatide (Mounjaro, Zepbound), known as GLP-1 drugs. Tirzepatide shows the standard a peptide drug must meet. Its safety was established in more than 7,700 participants across its Phase 3 trials, in which people lost about 15% to 21% of their body weight over 72 weeks. The most common side effects were digestive, mainly nausea, diarrhea and vomiting, usually mild to moderate and easing with continued use. The FDA (Food and Drug Administration) approved it for type 2 diabetes in 2022, obesity in 2023 and sleep apnea in 2024. The FDA approved 26 new peptides between 2016 and 2022, and the global market, valued at $37.8 billion in 2022, is projected to reach $85.9 billion by 2031.

Alongside these approved medicines, a second market has grown. Peptides such as BPC-157, TB-500, CJC-1295, ipamorelin and GHK-Cu are promoted on social media and sold online for injury recovery, muscle growth, fat loss, skin health and anti-aging. None of them is approved by the FDA, and they are often sold through "gray market" websites labeled "for research purposes only." Harvard's Dr. Pieter Cohen, who studies supplements, has described the health claims made for them as "divorced from data."

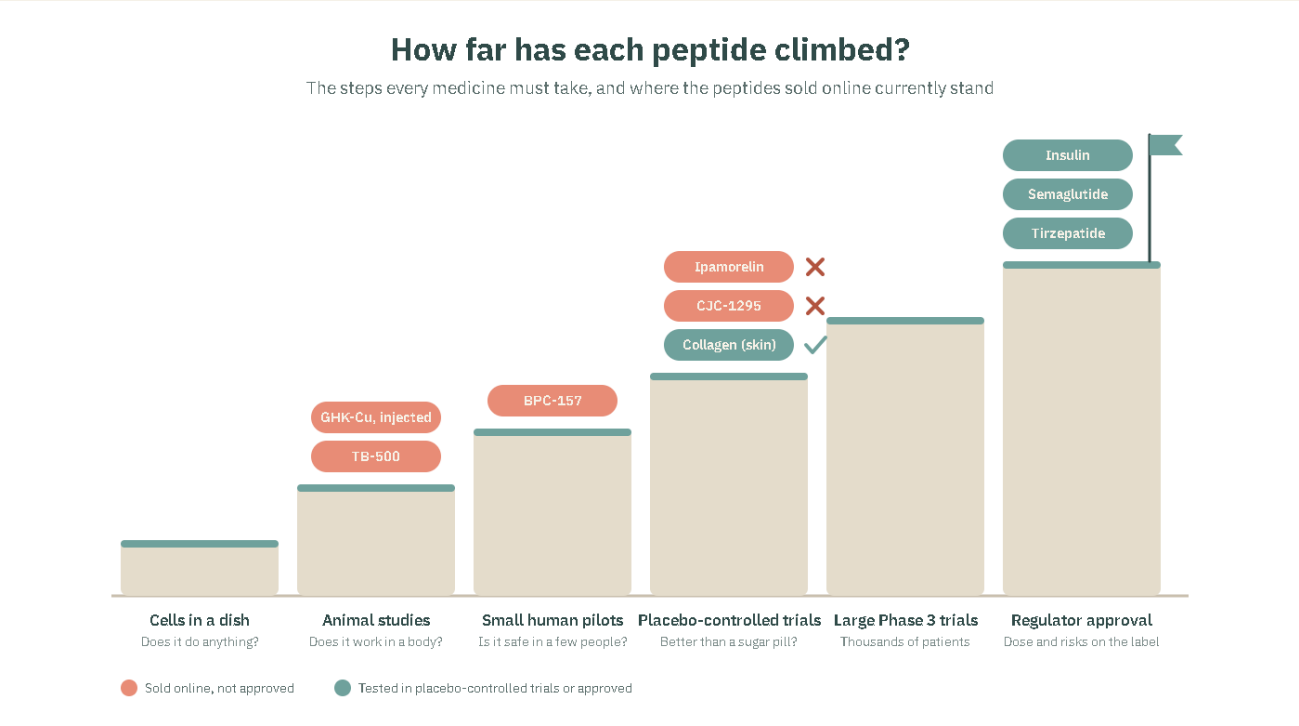



**Figure 2. How far has each peptide climbed?** Figure 2. How far has each peptide climbed? Every medicine has to climb the same steps: cells in a dish, animals, small human pilots, placebo-controlled trials, large trials, and finally approval. Insulin and the GLP-1 drugs made it to the top. Of the peptides sold online, only collagen has shown a benefit in placebo-controlled trials, mainly for skin. The rest are still on the lower steps.

This article examines the most popular of these peptides, together with collagen peptides, which are widely sold as supplements. For each, it summarizes where the peptide came from, what it is claimed to do, what laboratory and animal studies show, what human studies show, and what remains unknown. It then turns to how these products are regulated and what testing has found inside them.

# BPC-157: the healing peptide

BPC-157 (Body Protection Compound-157) is the best-known of the experimental healing peptides. It was first reported in 1991 by Predrag Sikiri and colleagues at the University of Zagreb, Croatia. It is promoted online for gut healing, recovery from tendon and muscle injuries, reduced inflammation and general anti-aging.

Researchers believe BPC-157 protects the cells lining blood vessels, encourages new blood vessel growth, raises levels of growth factors involved in repair and lowers levels of inflammatory signals. A 2020 lab study from Taiwan found that it relaxes and widens blood vessels, in rat tissue and in human cells, but this has not been tested in people.

In animals, BPC-157 has helped torn knee ligaments, injured tendons, damaged muscles and broken bones heal faster or stronger. A 2023 study also found it protected rats' organs and blood pressure after a severe abdominal injury, though with only six animals per group.

No trial comparing BPC-157 with a placebo has been carried out in people. The available human evidence consists of small studies without a comparison group, summarized in Figure 3.

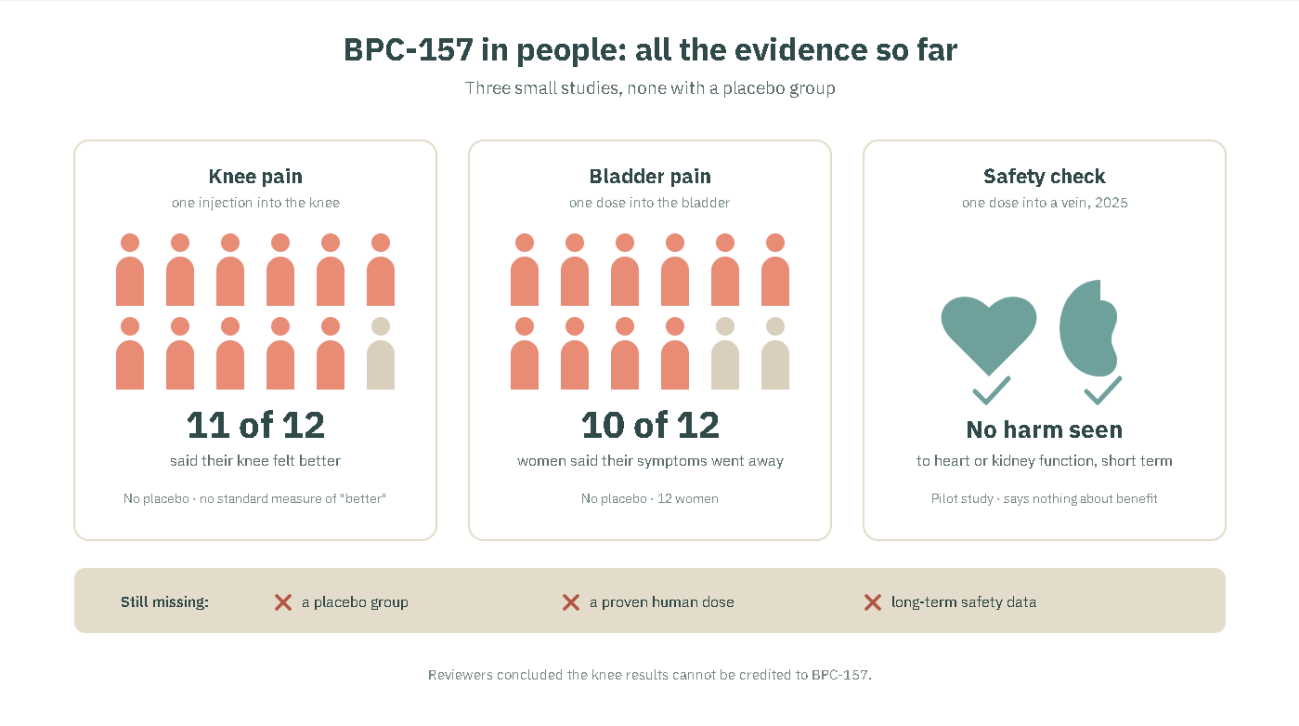



**Figure 3. BPC-157 in people: all the evidence so far** Figure 3. BPC-157 in people: all the evidence so far. Three small studies, and none had a placebo group. Most people said they felt better, but with nobody to compare them to, no one can say the peptide did it.

Because BPC-157 promotes blood vessel growth, reviewers have raised a theoretical concern that it could also support tumor growth, which has not been studied in people, although animal studies have not shown more cancer. BPC-157 is banned in competitive sport by the World Anti-Doping Agency (WADA).

## TB-500: the recovery peptide

TB-500 is a synthetic, seven-amino-acid fragment of thymosin beta-4 (TB-4), a natural protein found throughout the body. It is sold online to promote tissue repair and muscle growth, and it originated in veterinary medicine, where it was used by trainers in the horse-racing industry.

Most of the research is on the full TB-4 protein, not TB-500. In animals, TB-4 helped heal heart muscle, leg muscle and a knee ligament. TB-500 itself has barely been studied: in the one rat wound-healing study, it did no better than no treatment. Whether TB-4 raises or lowers cancer risk is also disputed.

No study has tested TB-500 in people. The only human safety data come from early trials of the full TB-4 protein. Because TB-500 is a different molecule, these results cannot simply be applied to it. No clinical trial has tested either TB-4 or TB-500 for muscle, tendon or joint conditions. Both are banned by WADA.

## CJC-1295 and ipamorelin: the growth-hormone boosters

Growth hormone secretion declines by roughly 14% per decade after age 30, a change linked to less muscle, more abdominal fat, thinner bones and slower recovery. CJC-1295 and ipamorelin are marketed, usually together, as a way to raise the body's own growth hormone.

CJC-1295 is a lab-made, long-acting version of the signal the brain uses to tell the pituitary gland to release growth hormone. Ipamorelin works on a different receptor, the one for ghrelin, the "hunger

Neither has been tested for muscle, tendon or joint conditions, alone or together, and neither has an established dose. The long-term effects of raising growth hormone, including on the heart, blood sugar and cancer risk, remain unknown.

## GHK-Cu: the skin peptide

GHK-Cu is a three-amino-acid peptide bound to a copper atom. It was discovered in 1973 by Loren Pickart. The body releases GHK-Cu after tissue injury, and its blood levels fall by more than half between the ages of 20 and 60. It is sold for firmer skin, collagen production, hair growth and anti-aging, increasingly as an injection.

In laboratory and animal studies, GHK-Cu increased collagen and elastin production, stimulated the growth of blood vessels and nerves, and had antioxidant and anti-inflammatory effects. It improved wound healing in rabbits and rats. Researchers have estimated that GHK affects about 31% of human genes, many of them involved in repair. A 2026 review notes that what these changes mean in a living body has yet to be shown in controlled human studies.

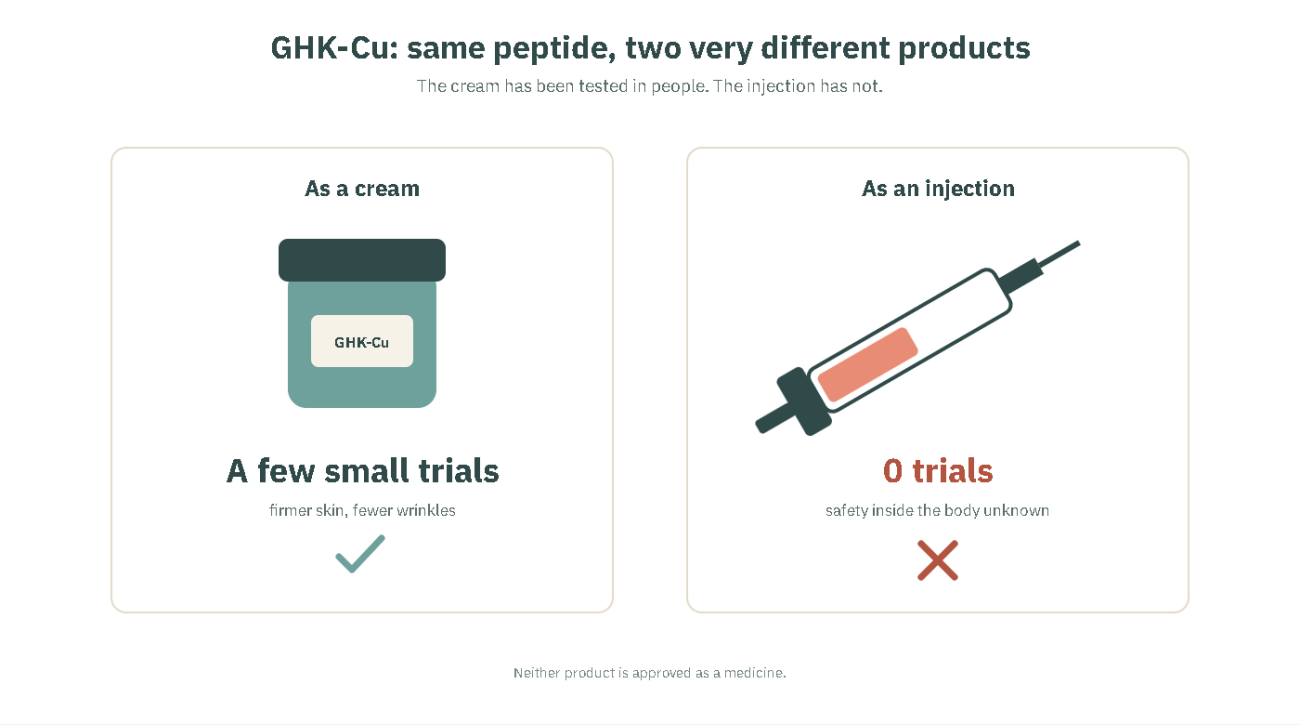



**Figure 4. GHK-Cu: same peptide, two very different products** Figure 4. Same peptide, two very different products. The cream has a few small trials behind it. The injection has none, and nobody knows how safe it is inside the body.

As a cream, GHK-Cu has some human evidence (Figure 4): a few small trials, two of them against a placebo or a plain cream, found thicker skin, fewer fine lines and smaller wrinkles. Several of these results were presented only as conference abstracts, and the review that collects them was written by two authors affiliated with a company called Skin Biology.

# Collagen peptides: the best-studied of the group

Collagen peptides are fragments of collagen protein, usually taken by mouth as a powder and sold as a dietary supplement. After digestion, small fragments of it appear in the blood, which offers a plausible route by which they could affect tissues. They are promoted for skin, joints and tendons, recovery and, more recently, slower biological aging.

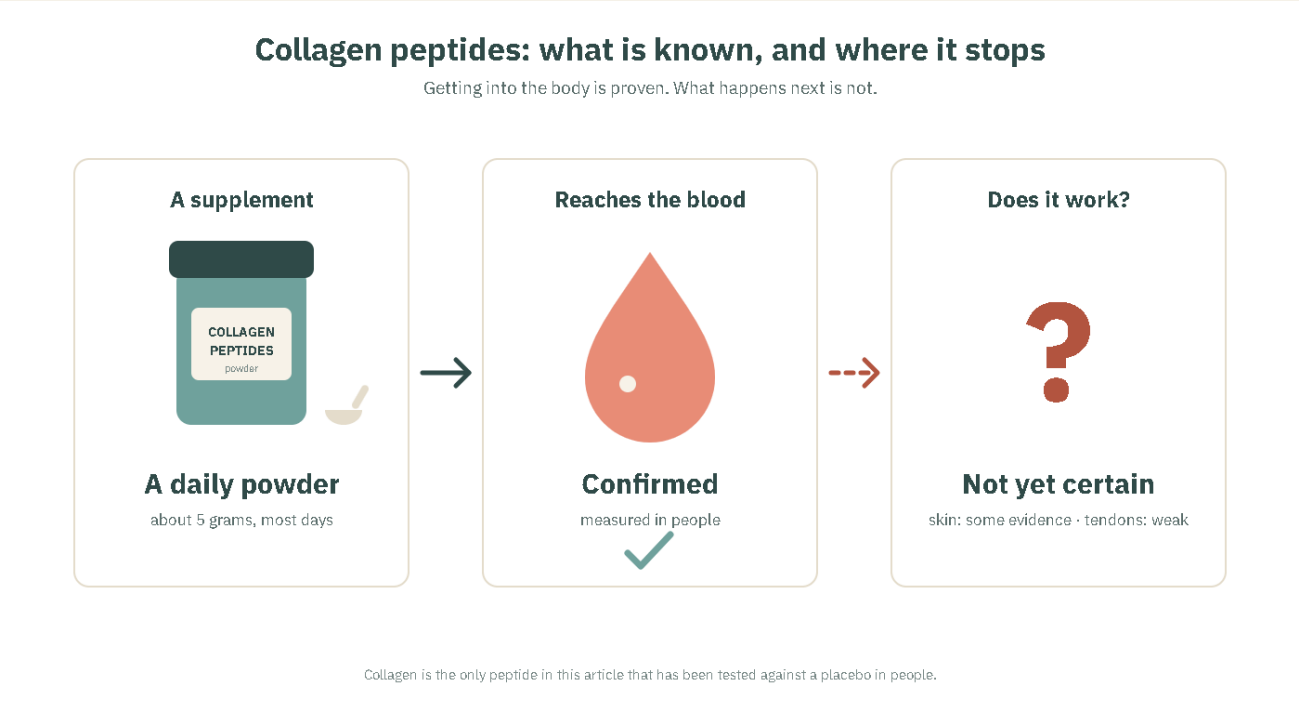



**Figure 5. Collagen peptides: what is known, and where it stops** Figure 5. What is known about collagen peptides, and where it stops.

For skin, the evidence is the strongest of any product in this article: four separate placebo-controlled trials found better hydration and elasticity within 12 weeks, and some reported fewer wrinkles. For tendons and ligaments it is weaker (Figure 5). A 2026 review found six small studies pointing the same way, toward less pain and better function, but most mixed collagen with other ingredients and only two used a placebo. The reviewers concluded that collagen may help alongside rehabilitation, not as a treatment on its own.

In 2025, a study in npj Aging reported that a collagen-based drink reduced participants' biological age by 1.4 years over six months. The human part of the study had important limitations. All 66 participants received the product; there was no placebo group, and 45 completed the biological-age test. Wrinkles did not improve significantly. The trial was funded by the company that sells the product and holds its patent; the company's co-founder and an employee are among the authors.

Collagen supplements are sold on claims about muscle, recovery and joint health that remain unproven, and like other dietary peptides they are largely unregulated. Some benefit for skin is plausible. Anything more is, for now, a promise rather than a finding.

# Why regulation matters

None of the injectable peptides discussed above is approved by the FDA for any use. Approved drugs are made under manufacturing standards that check purity, sterility and dose, and their side effects are tracked after approval. Products bought outside this system carry no such assurances.

A 2024 study from Hungary measured what that can mean in practice. Researchers searched Google and Bing as a buyer would and found dozens of illegal sellers, some of them peptide dealers, whose busiest sites drew millions of visits in three months. They then ordered semaglutide, the active ingredient in Ozempic, from six of them. None asked for a prescription. The vials that arrived were labeled "research use only" and 99% pure. The lab tests told a different story (Figure 6). If an extensively studied drug fared this way, there is little reason to expect better from peptides with far less oversight.

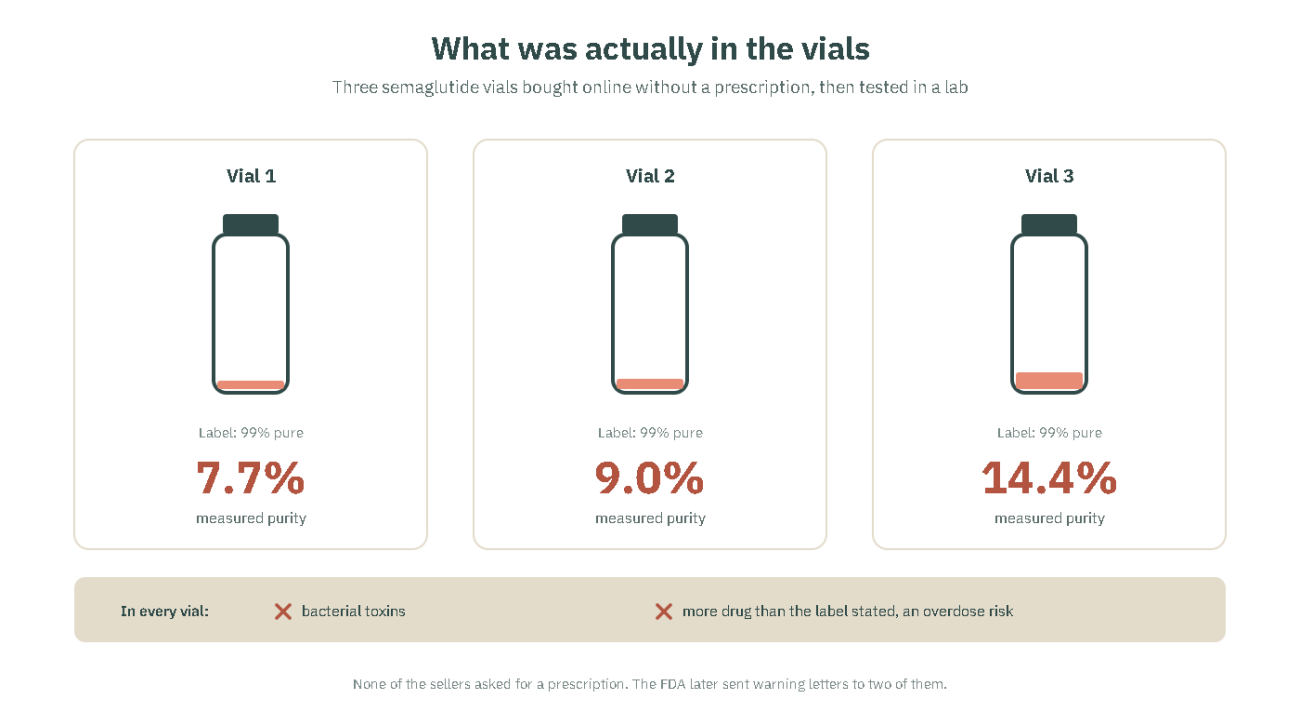



**Figure 6. What was actually in the vials** Figure 6. What was actually in the vials. Three vials of semaglutide bought online without a prescription and tested in a laboratory. Every label claimed 99% purity; the measured purity was 7.7%, 9.0% and 14.4%. All three contained bacterial toxins and more drug than the label stated, an overdose risk.

In recent years the FDA flagged BPC-157, CJC-1295, ipamorelin and injectable GHK-Cu as raising significant safety risks for pharmacy use. That was not a ban, and it did not stop online sales labeled as research chemicals. By May 2026 those listings had been withdrawn, and only the cream form of GHK-Cu remains under review. In the United Kingdom, these peptides are classed as unlicensed medicines, not legal for human consumption, and are typically sold online as research chemicals.

| Substance | FDA status, May 2026 |
|---|---|
| GHK-Cu, cream or other non-injected forms | Under evaluation; an FDA expert committee will review it by February 2027 |
| GHK-Cu, injectable | Not listed |
| BPC-157 | Not listed |
| CJC-1295 | Not listed |

| | |
|---|---|
| Ipamorelin | Not listed |

Source: FDA, 503A bulk drug substance categories, May 14, 2026.

## So, are peptides the future of longevity?

Peptides are a proven class of medicine. Insulin and the GLP-1 drugs show what peptides can achieve once they have been tested in large, controlled trials. The peptides now marketed for healing and longevity are, for the most part, at a much earlier stage. The table below sums up where each one stands. One note on the last column: collagen is sold as a dietary supplement, and supplements never go through FDA approval.

| Peptide | Tested in people? | Placebo-controlled? | Established dose? | FDA status, May 2026 |
|---|---|---|---|---|
| BPC-157 | Small case series and pilots | No | No | Not listed |
| TB-500 | No | No | No | Not listed |
| CJC-1295 | One hormone-level trial; development stopped | Yes, for hormone levels only | No | Not listed |
| Ipamorelin | One trial, unrelated use; no benefit over placebo | Yes, unrelated use | No | Not listed |
| GHK-Cu, injected | No | No | No | Not listed |
| GHK-Cu, cream | Several small trials | Some | Product-specific | Under evaluation |
| Collagen peptides | Multiple trials, skin and tendons | Yes, for skin | About 5 g/day studied | Sold as a supplement |

Several of these peptides may have real therapeutic potential. However, for the injectable peptides, the right uses, doses, frequency and length of treatment remain unknown, and long-term safety has not been studied. Products bought online may also differ from what their labels state.




**Figure 7. The advice that already has the evidence** Figure 7. The advice that already has the evidence. What Harvard's Dr. Pieter Cohen recommends instead of a vial: train properly and regularly, eat well most days, get enough sleep, and skip alcohol and nicotine. None of these needs a trial, a prescription or an order from a website.

Harvard's Dr. Cohen advises against injecting these peptides and recommends the basics instead (Figure 7). Before any of these peptides can be recommended, well-designed, placebo-controlled human trials will be needed to establish whether they work and whether they are safe.

This article is for information only and is not medical advice.

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This article explains published research for a general audience. It is not medical advice.

Corrections and updates: https://theabyssos.com/corrections

The Abyss

Vol. 1 | No. 1 · October 2026

**EXPLAINER**

# Are you really what you eat?

*How ultra-processed food may reach your brain through your gut, and what scientists know so far about the route.*

TJ · Published October 23, 2026 · AB-0102 · 10 min read

## At a glance

**Background**

Ultra-processed foods are industrial products made mostly from refined ingredients and additives. They supply more than half of the calories eaten in the United States and the United Kingdom. Large studies have linked them to faster decline in memory and thinking, a higher risk of dementia, and early signs of damage on brain scans. People have long said "you are what you eat". Research on the gut and the brain now gives that saying a physical meaning.

**Purpose**

To explain, for a general audience, why the health of your gut matters to your brain, and how ultra-processed food can harm both.

**What the evidence shows**

Studies in people point the same way. In Brazil, adults who ate the most ultra-processed food declined faster on memory and thinking tests over eight years. In the United Kingdom, heavy consumers had a higher risk of dementia and of Parkinson's disease. A Canadian scan study found early damage to the brain's small blood vessels in middle age, before any symptoms. Swapping some ultra-processed food for minimally processed food went with a lower risk.

**What this means for you**

Whether the processing itself is to blame, or the sugar, salt, fat and missing fiber that come with it, is not yet settled. Either way the answer is the same. Eating mostly whole foods has never failed anyone, and the earlier the habit starts, the better.

## What "ultra-processed" means

Almost nothing we eat is raw. Pasteurizing milk is processing, and it kills germs. Turning corn into a sweetened breakfast cereal is processing too, and it leaves little of the corn behind. Processing in itself is not the problem. The question is how far a food has traveled from the thing it started as, and why.

Think of the difference between a tomato, a can of tomatoes and a tomato-flavored corn snack. The can

Carlos Monteiro, a nutrition researcher in Brazil, introduced the NOVA scale in 2009 as a research tool for identifying how heavily a food has been processed. NOVA sorts every food into four groups by the nature, extent and purpose of its processing.

• Group 1: unprocessed or minimally processed. Fruit, vegetables, grains, beans, eggs, meat, fish, plain milk and plain yogurt. They may be dried, frozen, ground or pasteurized, but nothing is added.

• Group 2: culinary ingredients. Salt, sugar, butter and oils. These come from group 1 foods and are used for cooking, rarely eaten alone.

• Group 3: processed foods. Group 1 foods with salt, sugar or oil added, usually two or three ingredients. Canned vegetables, salted nuts, cheese, cured meat and freshly baked bread.

• Group 4: ultra-processed foods. Industrial formulations, often with five or more ingredients, built from refined parts of foods rather than the foods themselves, such as protein isolates, hydrogenated oils, emulsifiers (which keep oil and water from separating), flavorings, colorings and sweeteners. They are made to be convenient, long-lasting and hard to stop eating.

There is a simple test you can use in the store. Turn the package over and read the ingredient list. If it names things you would not easily find in a home kitchen, most of the time the product belongs in group 4 and is ultra-processed. Soft drinks, packaged snacks, sweetened breakfast cereals, flavored yogurts, mass-produced bread, sausages and nuggets, and ready-to-heat meals all belong there.

These foods now make up a large part of what people eat. Ultra-processed food, or UPF for short, supplies about 58% of calories in the United States, 57% in the United Kingdom, 48% in Canada and 30% in Brazil. Among adolescents, estimates run from 29% to 68% of daily calorie intake.

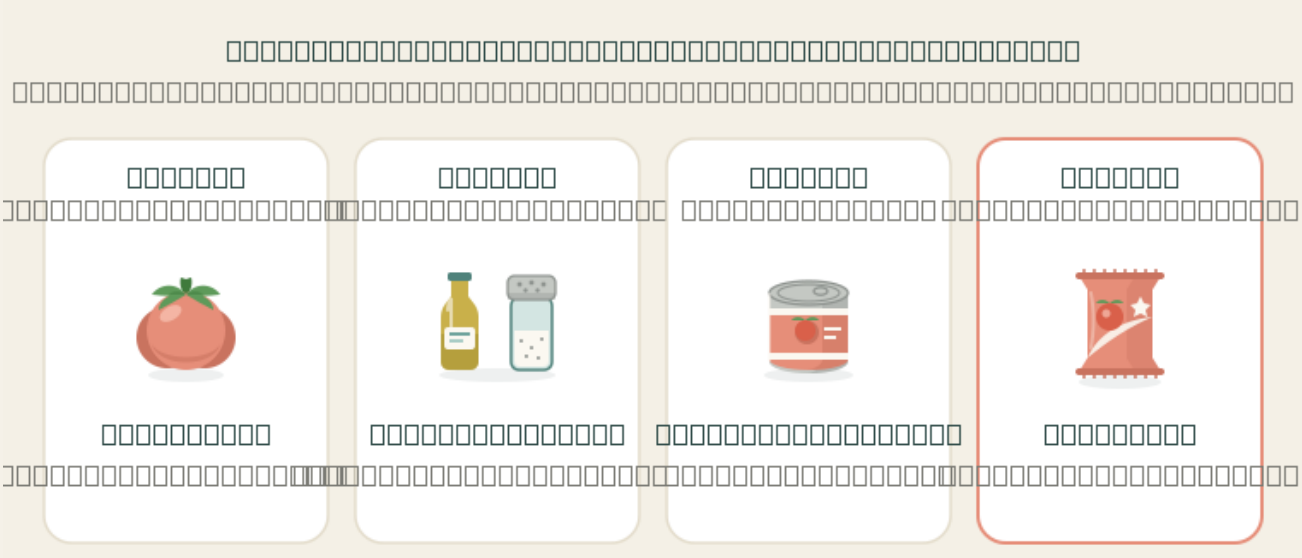


**Figure 1. From tomato to tomato snack.** The four NOVA groups shown as a row, with everyday examples in each: a tomato, a bottle of oil, a can of tomatoes, a tomato-flavored snack.

# What it does to your body

One of the most familiar UPFs on an American breakfast table is sweetened cereal. It is high in refined sugar, unhealthy fats and salt, and low in fiber. It also carries additives such as emulsifiers, colorings and flavorings, and the high-heat processing it goes through creates compounds that can damage nerve cells. Each of these features acts on the body in its own way. Together they set off a chain reaction that can reach the brain.

The chain has four links. UPFs are easy to overeat, and the sugar and fat in them disturb blood sugar and blood fats, meaning the cholesterol and triglycerides that circulate in the bloodstream. The missing fiber and the additives change the microbes living in the gut. A weakened gut lining then lets fragments of those microbes leak into the blood, where the immune system treats them as intruders and stays switched on. That constant low-level inflammation reaches the brain, and the brain's own immune cells react to it.

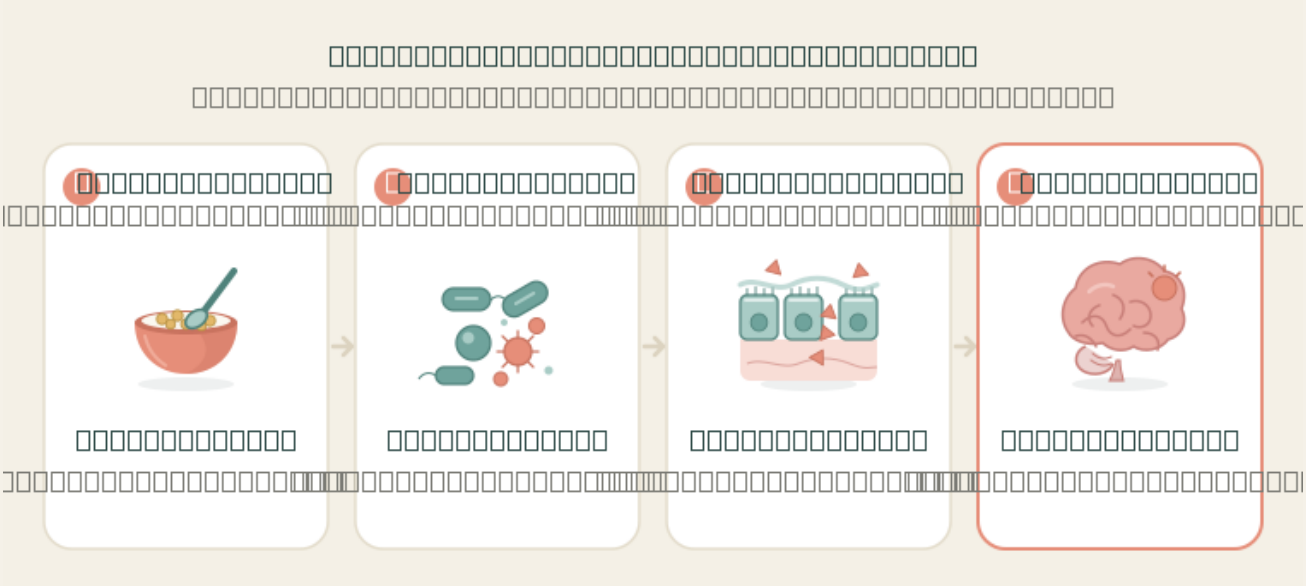


**Figure 2. The chain in four links.** Overeating, a shift in gut microbes, a leaking gut lining and the brain's response, drawn left to right with what happens at each step.

## Step 1: sugar, fat and the overeating problem

Most people know the feeling of finishing a bag of chips without deciding to. UPFs are usually soft, so they go down fast, often before the brain's "full" signal arrives. Their mix of fat and sugar also gives the brain's reward system an unusually strong nudge to keep going. This is the one link that has been tested in a controlled experiment. Kevin Hall and colleagues at the US National Institutes of Health gave volunteers a UPF diet and a minimally processed diet, one after the other. On the UPF diet they ate faster, ate more calories and gained weight.

Refined sugar does a second thing. Because UPFs are easy to digest, their sugar reaches the blood quickly. Laurel Cherian, a stroke specialist at Rush University Medical Center in Chicago, describes what follows. Blood sugar spikes and then crashes, and the crash triggers hunger "even when sufficient calories have already been consumed". Over years, repeated spikes push the body toward insulin resistance, the first step on the road to type 2 diabetes. Saturated and hydrogenated fats raise LDL cholesterol, the kind that builds up in artery walls.

In a study of 33,654 adults from the UK Biobank, a long-running British health study, people who ate

## Step 2: the gut's garden goes out of balance

Your gut is home to trillions of microbes, mostly bacteria, together called the gut microbiome. Think of it as a garden. The plants in it depend on what you water them with, and what grows there shapes the soil for everything else. Many of these microbes live on dietary fiber, which your own digestion cannot break down but the bacteria can. As they ferment it, they release short-chain fatty acids (small molecules that feed the cells lining the gut and calm inflammation). These are the gut's good bacteria.

UPFs are low in fiber, so those bacteria go hungry, and the garden shifts toward species that thrive on sugar and fat instead. The result is an imbalance in the gut's community (dysbiosis). A review from the Catholic University of the Sacred Heart in Rome describes a Spanish study of 186 adults. The 90 who ate more than five servings of UPF a day had fewer of the bacteria that make short-chain fatty acids.

Some additives act on the garden directly. Emulsifiers are the most studied. Two common ones are carboxymethylcellulose, a thickener made from plant fiber, and polysorbate 80, a detergent-like additive that stops oil and water separating. Benoit Chassaing and Andrew Gewirtz at Georgia State University found that, in mice, both thinned the gut's protective mucus layer and shifted the bacteria toward types linked with inflammation. The same group later ran a small randomized trial in people: 16 healthy adults ate a controlled diet for 11 days, with or without carboxymethylcellulose. Those who ate the emulsifier lost some helpful bacteria and made fewer short-chain fatty acids.

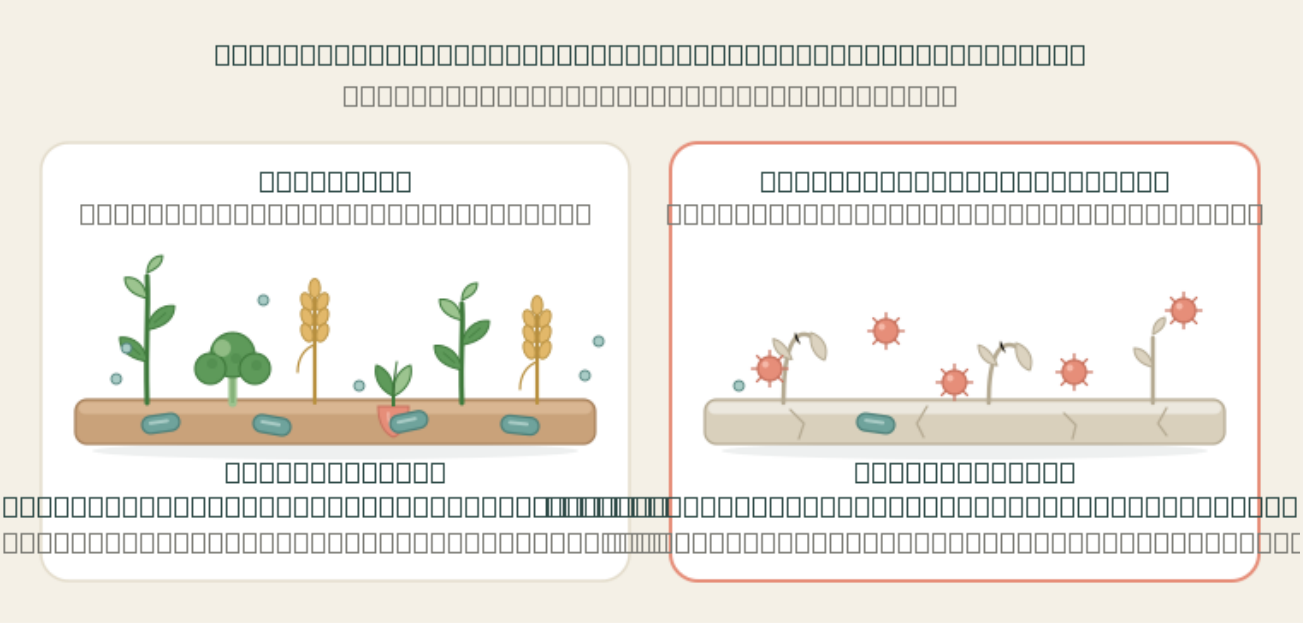


**Figure 3. Your gut's garden.** Two gardens side by side. One is fed fiber and grows a varied crop that produces short-chain fatty acids. The other is fed UPF and grows fewer, less varied plants.

## Step 3: the gut lining, a barrier, starts to leak

The lining of your gut acts as a barrier, and it has a job on both sides. It lets nutrients through into the blood and keeps bacteria out. It does this with a single layer of cells, joined tightly to each other, covered by mucus and patrolled by immune cells underneath. Short-chain fatty acids from the gut's microbes maintain that barrier. They feed the lining cells, encourage mucus and keep the joins tight. When the microbes that make them are starved of fiber, and when additives thin the mucus, the barrier weakens. The medical term is increased intestinal permeability. Most people know it as "leaky gut". What leaks through is not whole bacteria but fragments of them. The most studied is lipopolysaccharide, a piece of the outer coat of certain bacteria.

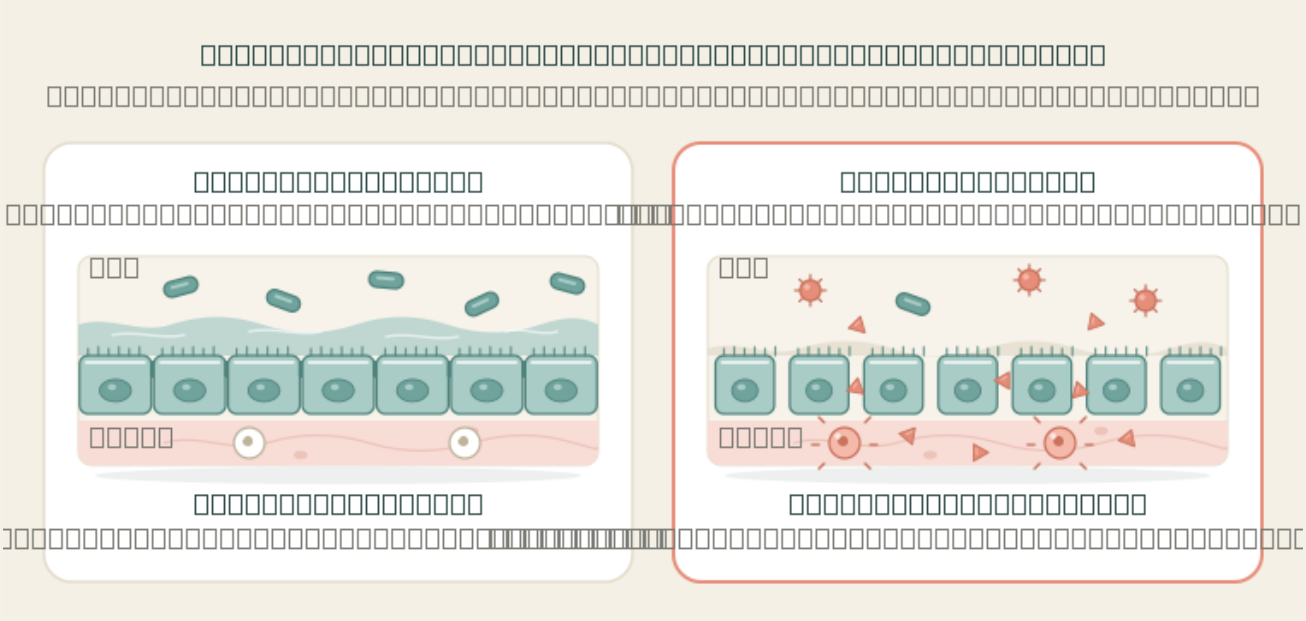


**Figure 4. When the barrier leaks.** The gut wall in cross-section, with the gut above and the blood below. On the left, a healthy barrier with thick mucus, cells joined tightly and bacteria kept out. On the right, a leaky barrier with thin mucus, loose joins and fragments of bacteria slipping through into the blood, where immune cells react.

## Step 4: the immune system stays on alert

Your immune system treats a bacterial fragment in the blood as a sign of invasion and responds with inflammation. Normally that response does its job and switches off. When fragments keep arriving in small amounts, meal after meal, it never fully does. The result is a mild, constant inflammation throughout the body (systemic low-grade inflammation). This is the same state that underlies heart disease and type 2 diabetes, which is one reason those conditions so often travel together with cognitive decline.

## Step 5: the brain joins in

The gut and the brain talk to each other all the time. They do it through nerves, through molecules carried in the blood, and through the immune system. Scientists call this the gut–brain axis.

The brain has its own immune cells, called microglia. In a healthy brain they clear away waste, remove dead or damaged cells and keep the brain clean. When inflammatory signals arrive from the blood, they switch into a defensive mode and release their own inflammatory molecules, a state called neuroinflammation. Cells whose job is to protect nerve cells start to harm them instead, releasing reactive oxygen and nitrogen species (unstable, highly reactive molecules made to destroy microbes) that damage the nerve cells nearby. If this persists, the damage builds up over time, and it is a feature of

Glycotoxins, also known as advanced glycation end-products, are compounds that form when food is cooked at high temperatures, as in industrial frying and the browning that gives many UPFs their color and flavor. The body also makes more of them when blood sugar is high. They are hard to break down and they accumulate. They promote oxidative stress (chemical damage from reactive molecules) and inflammation in the brain, and they damage the small blood vessels that feed it. A related compound, acrolein, forms in fried food and has been found at raised levels in the brains of people with Alzheimer's disease. In one study, adults with higher blood levels of these compounds scored lower on tests of memory and attention.

## How this connects to memory, thinking and brain disease

Scientists have now looked at this question in large groups of people, following tens of thousands of adults for years and testing their memory and thinking, or scanning their brains. The pattern is consistent. People who eat the most UPF decline faster on thinking tests and have a higher risk of dementia, about 44% higher than the lowest consumers when ten studies are pooled. In middle age, before any difference in thinking scores, their brain scans already show more damage to small blood vessels. Replacing some UPF with minimally processed food goes with a lower risk. All of these are observational studies. They show a link, not proof that UPF is the cause. The link is weaker in people whose diet is otherwise healthy.

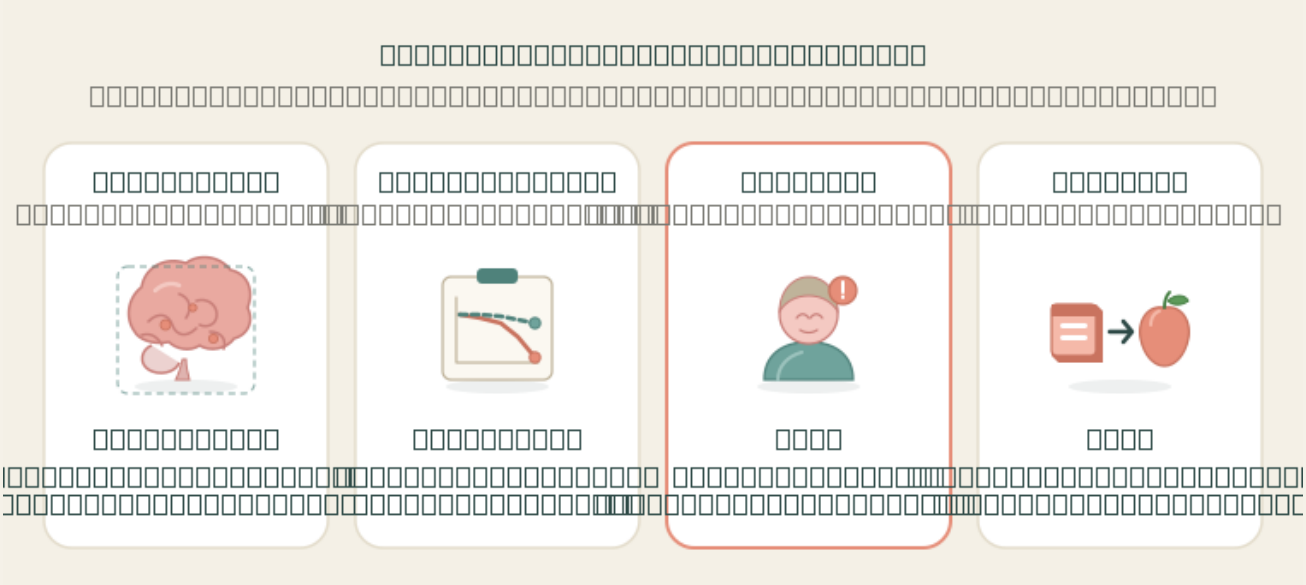


**Figure 5. What the studies in people found.** Four cards, one per kind of study: brain scans, thinking tests, dementia risk, and what swapping UPF for minimally processed food goes with.

## What you can do

None of the scientists quoted in this article tells people to cut UPF out entirely. Laurel Cherian of Rush University Medical Center puts it this way. "It may not be realistic to completely eliminate ultra-processed foods, but the goal should be a diet focused on whole foods that are prepared fresh," along the lines of the Mediterranean diet, which is built on vegetables, fruit, beans, whole grains, olive oil and fish. Russell de Souza of McMaster University in Canada, who led the brain-scan study, suggests one question to ask at the store. "Am I choosing foods that look more like what comes from nature, or foods that have

Dietary fiber from beans, lentils, oats, nuts, fruit and vegetables feeds the bacteria that keep the gut barrier intact. Not every UPF is equally suspect, so the label for added sugar, salt and saturated fat matters as much as the ingredient list. And the earlier the habit starts, the more years of protection it gives. The Brazilian study found its link in people under 60, and the brain is most open to influence early in life.

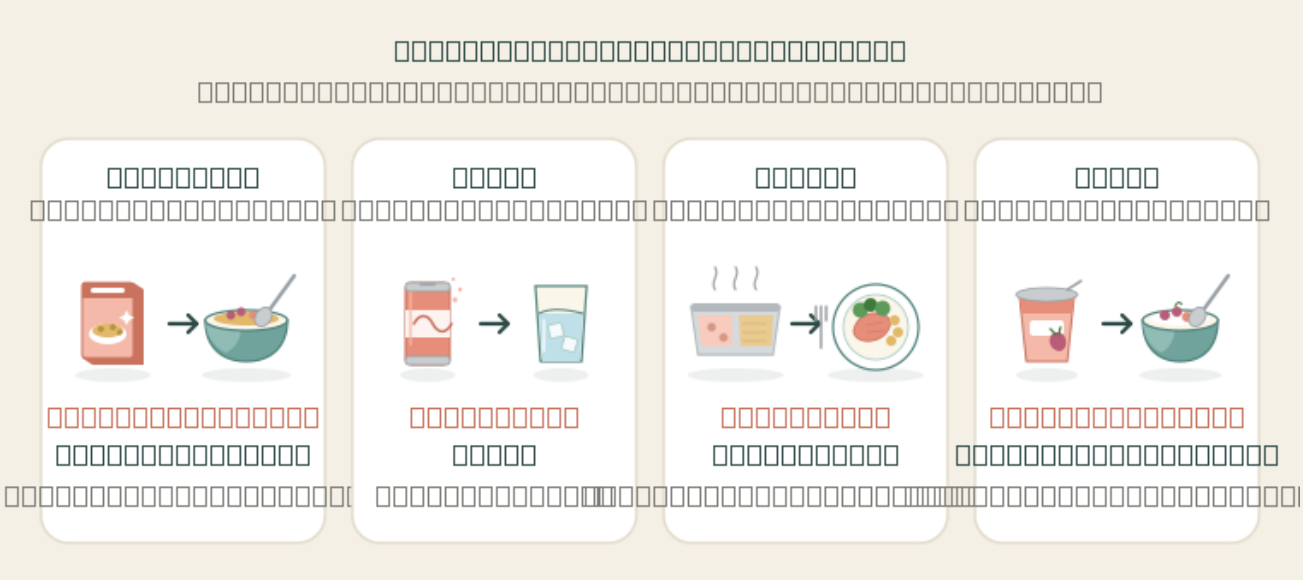


**Figure 6. The swaps the studies point to.** Common UPFs beside a minimally processed alternative: sweetened cereal and oats, a soft drink and water, a ready meal and a home-cooked one, flavored yogurt and plain yogurt with fruit.

## So, are you really what you eat?

Yes, and more literally than the saying intends. The microbes in your gut live on what you feed them. Fed fiber, they keep the gut barrier intact and the immune system quiet. Fed mostly UPF, they are starved, the barrier leaks, and inflammation reaches the brain. According to large studies in Brazil (https://doi.org/10.1001/jamaneurol.2022.4397), the United States (https://doi.org/10.2105/AJPH.2026.308505) and the United Kingdom (https://doi.org/10.1016/j.jnha.2025.100644), the more UPF someone eats, the faster their thinking declines and the higher their risk of dementia.

None of this yet proves that UPF is the cause. The human studies show a link, and the experiment that would settle it has not been done. But every study so far points the same way, and the scientists who ran them give the same advice. Eat more of what looks like it came from a farm, and less of what came from a factory.

This article is for information only and is not medical advice.

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