The best painkiller

How My Patients Lost Weight, Reduced Their Pain, and Transformed Their Health

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Author: **The best painkiller**

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Cover design: Wouter van Wijhe

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1 Acknowledgements

This book would not have been possible without the inspiration, courage and tenacity of a number of people who had the courage to swim against the tide.

After hearing a podcast interviewing Wim Tilburgs, I was inspired to take charge of my own health. His personal story and his work with " *Your Lifestyle as Medicine"* touched me and inspired me to delve deeper into fat metabolism, insulin, and the underlying causes of chronic disease.

In addition, there are the pioneers in the field of lifestyle, metabolism and patient-centered medicine: Gary Fettke, Tim Noakes, Paul Mason, Peter Brukner and Jason Fung.

Gary Fettke is an Australian orthopedic surgeon who, with simple lifestyle changes, managed to reverse type 2 diabetes in many of his patients. He was subsequently sued by the food industry and nearly disbarred, claiming he was not qualified to speak out about nutrition.

Peter Brukner and Paul Mason, both Australian physicians, co-founded the organization Defeat Diabetes. This highly effective and practical approach empowers overweight and diabetic individuals to take control of their own lives. It explains in clear terms what insulin resistance is, how it develops, and how to reverse it. The organization also offers a concrete step-by-step plan that patients can start using immediately.

Jason Fung is an American internist known for his book, *The Obesity Code* . His work made it clear to me how important it is to focus on hormones instead of calories, and how effective fasting can be in lowering insulin levels and thus restoring metabolic health. His insights have forever changed the way millions of people view nutrition, obesity, and chronic disease.

Their knowledge, courage and tenacity have not only influenced this book but are changing lives worldwide.

Finally, I want to thank all my patients. They are the true driving force behind this work. Their dedication, motivation, and impressive transformations have shown me how powerfully the body can recover when given the right conditions.

This book is dedicated to anyone determined to take back control of their own health.

2 Foreword

In my work as an orthopedic surgeon, I replace hip and knee joints with prostheses. These are generally very successful, safe procedures that benefit my patients. Approximately 95% of my hip and knee patients are overweight.

Some patients are so overweight that the surgical risks and risk of complications are significantly increased. Sometimes the risks are so great that I refuse to operate because I don't consider it safe. Not for my patients, and not for myself. As a surgeon, I want to achieve good results with as few complications as possible.

Until about two years ago, I had little to offer these severely overweight patients. I didn't want to operate on them, and at the same time, there wasn't a real agency they could turn to. For gastric bypass surgery, they had to go elsewhere. I was also often frustrated and frequently entertained angry thoughts: how can you complain about knee or back pain when you're fifty kilos overweight?

My posture changed after I gained weight. At one point, I weighed 105 kilograms (221 pounds), felt tired, and had nagging back pain. I was 45 at the time. I'm tall, but 105 kilograms (221 pounds) was a lot for me. I tried to lose weight by eating less and exercising more, and that didn't work at all. Was I even trying hard enough? That question occurred to me too. If you really wanted it, it should work! Was I a wimp?

It was very frustrating, but I also felt more sympathy for my patients who, of course, had the same problem. Why didn't this work?

After hearing an interview with Wim Tilburgs, founder of *"Your Lifestyle as Medicine* ," I delved into fat metabolism. Tilburgs had lost weight and even completely reversed his type 2 diabetes. He had also regained his energy. What became clear to me after studying fat metabolism is that it all revolves around the hormone insulin.

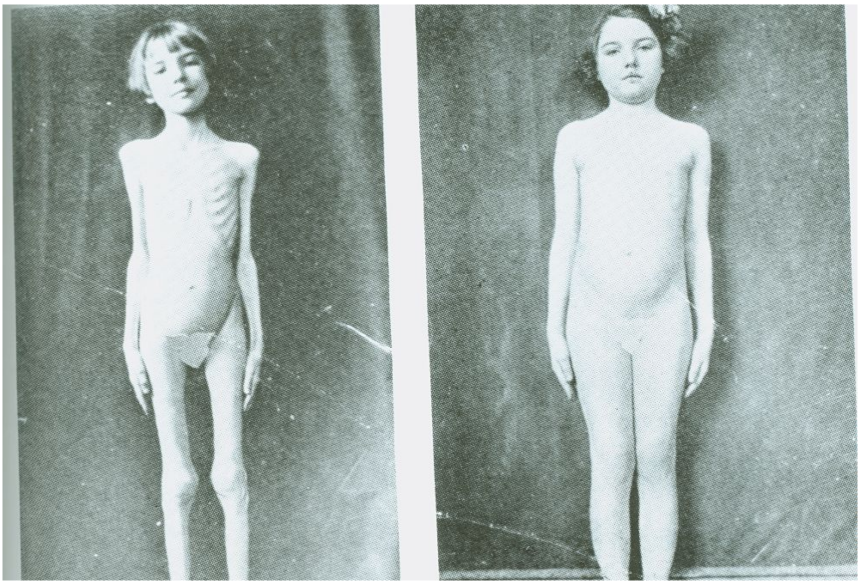
By focusing on lowering my insulin levels, I effortlessly lost fifteen kilograms in just a few months. It was spectacular, not difficult, and I even felt like exercising again. Afterward, I saw my patients with joint pain differently.

I've now developed a plan for all my severely overweight patients, and the results have been so astonishing that I want to share them with everyone. For those patients who grasped and implemented it, the pounds flew off, and some became completely pain-free, so they no longer wanted surgery, despite the fact that they had significant wear and tear. Many of my obese patients were extremely motivated, and it's incredibly beautiful and rewarding to see how they regain their lives once they finally get it.

I'm going to explain to you exactly what I explain to my patients, and then you can choose what to do with this information.

3 Insulin

By far the most important thing to understand is this: much of what you've heard about weight loss is contradictory and confusing. That's why we're putting calories, diets, and workout plans aside for a moment. We're going to focus on the hormone insulin. There isn't a single fat cell in the human body that can grow without insulin. Insulin is the key to fat storage.



These photos were taken in the 1920s. You see a girl with type 1 diabetes (a disease in which the body produces too little insulin) before and after being treated with insulin. Without insulin, we cannot store fat.

The photo shows a girl with type 1 diabetes, a disease in which the body produces almost no insulin. The photo on the left was taken before she received treatment. Due to the lack of insulin, she could barely store any energy. Before insulin became available as a medication, most people with type 1 diabetes died within a few years: their blood sugar levels skyrocketed while they literally starved.

The photo on the right shows the same girl after receiving insulin . From that point on, her body was able to store fat again, her blood sugar levels normalized, and she gained weight.

Interesting fact:

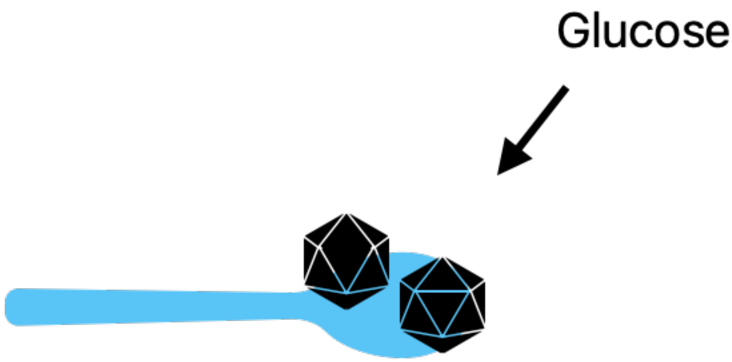
Dr. Frederick Banting, who was the first to isolate insulin (from a dog) and received the Nobel Prize for this in 1923, was also an orthopedic surgeon.

The woman in the picture has Cushing's disease, a condition in which her body produces too much of the hormone cortisol, and therefore also too much insulin.

People who produce too much insulin become overweight, regardless of what they eat. Think of patients with an insulin-producing tumor or people with Cushing's disease. In Cushing's disease, excess cortisol indirectly leads to high insulin levels. The woman in the picture has this disease.

4 How does insulin actually work?

Insulin is produced in response to a rise in blood glucose. A normal blood sugar level is between 4 and 6 mmol per liter. This is equivalent to about one teaspoon of glucose in your entire bloodstream.



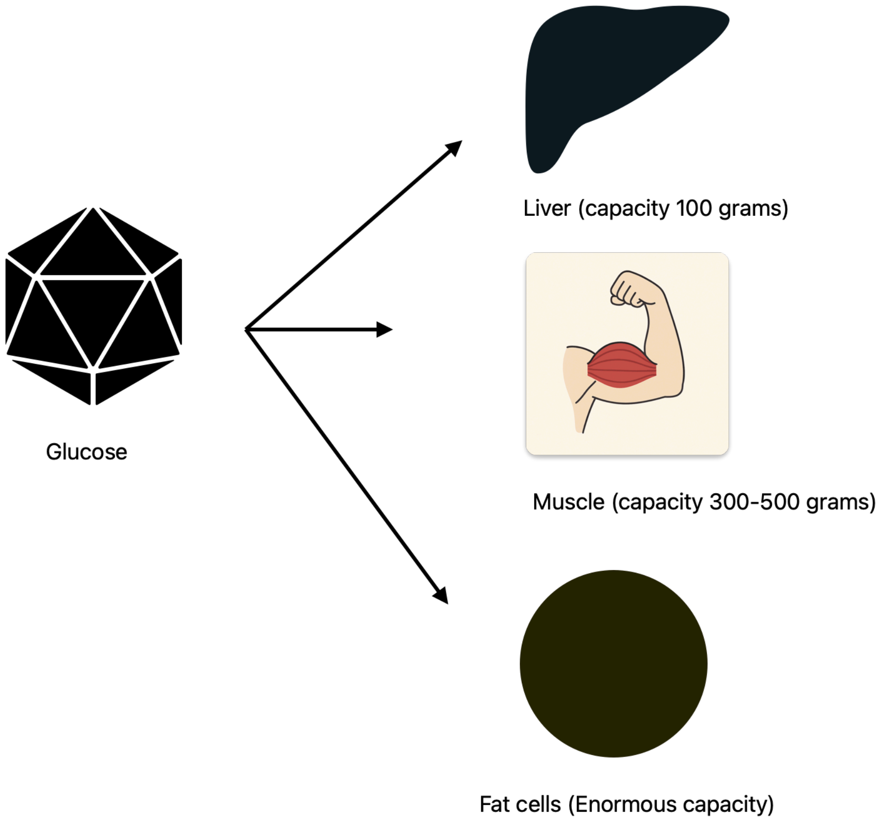
1 teaspoon of glucose is circulating through the bloodstream normally

This glucose is a direct fuel source for all our cells. If glucose levels drop too low, the liver produces new glucose through a process called glukoneogenesis.

When we eat something and more than a teaspoon of glucose enters the bloodstream, the pancreas produces insulin. Insulin ensures that glucose leaves the bloodstream and is used or stored.

Glucose is first stored as glycogen in the liver (approximately 100 grams of glycogen). Then, it's stored in the muscles (approximately

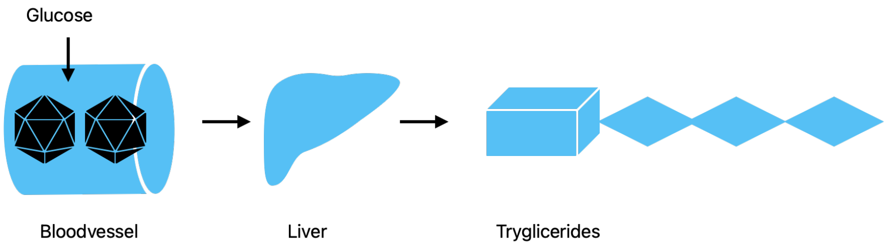
500 grams). Once these stores are full, the remainder is stored as fat. Without insulin, we can't store fat.



The illustration shows how glucose can be stored in the liver, muscles or in fat tissue.

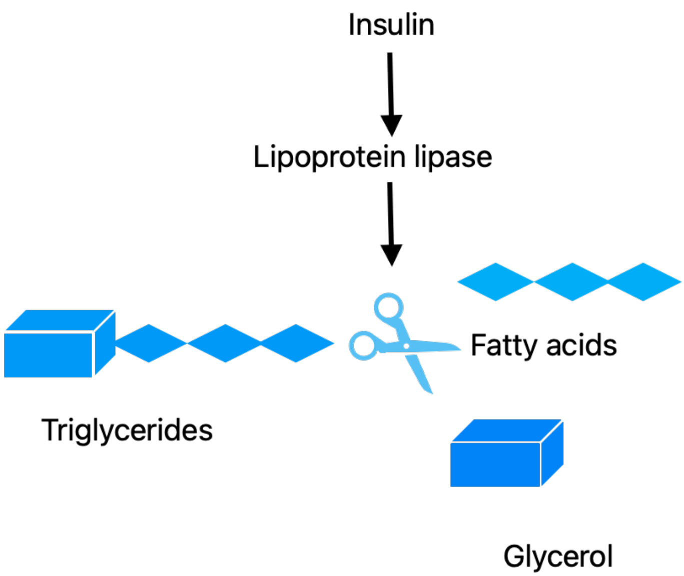
5 How is fat stored?

Excess glucose is converted in the liver into fatty acids, which, together with glycerol, form triglycerides. These triglycerides are transported in the blood and end up throughout the body.



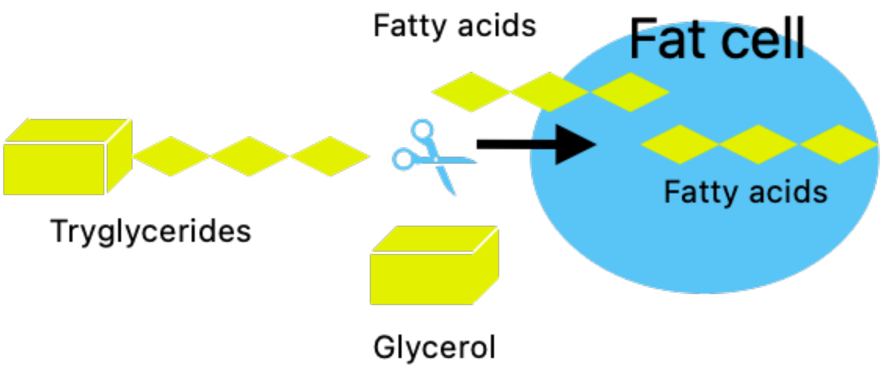
In the liver, glucose is converted into fatty acids that ultimately form triglycerides.

But triglycerides are too large to enter a fat cell directly. Under the influence of insulin and the enzyme lipoprotein lipase, they are broken down into fatty acids and glycerol.



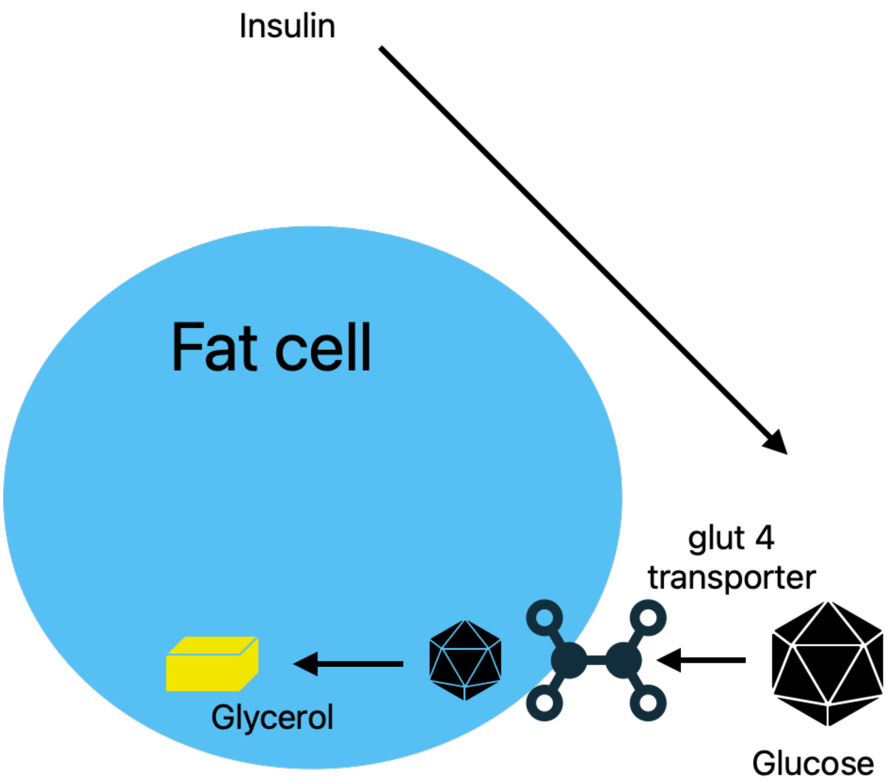
Triglycerides are broken down into fatty acids and glycerol by the enzyme lipoprotein lipase, under the influence of insulin.

These fatty acids can enter the fat cell.



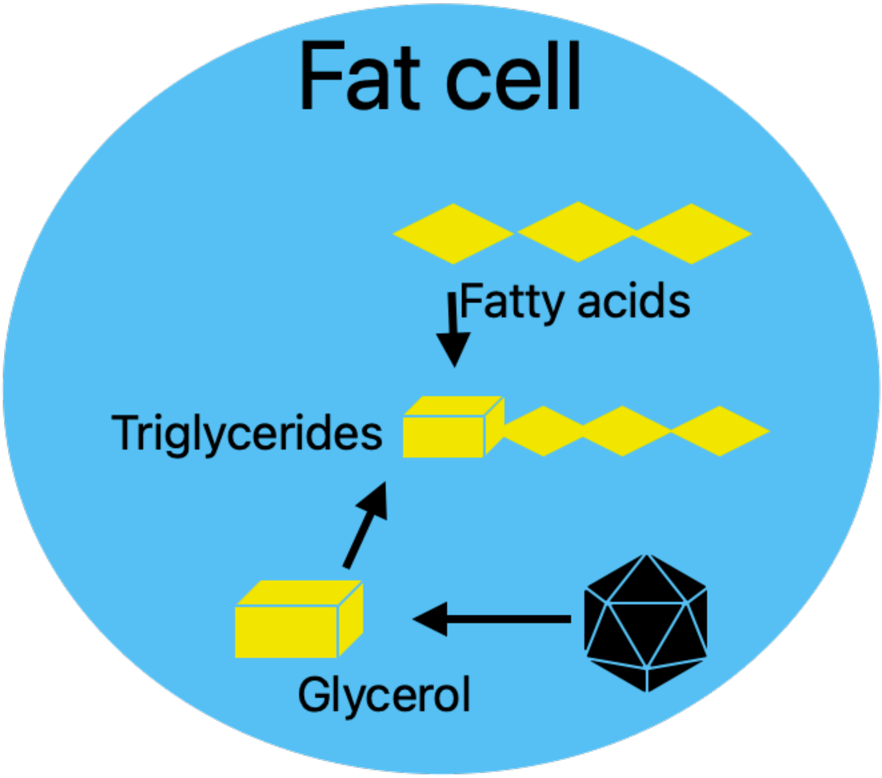
After triglycerides are broken down into fatty acids and glycerol, the fatty acids can enter the fat cell.

At the same time, glucose can also enter the fat cell thanks to insulin and the GLUT4 transporter. In the fat cell, glucose is converted into glycerol.



Glucose can enter the fat cell under the influence of insulin via the Glut4 transporter. Once inside the fat cell, glucose is converted into glycerol.

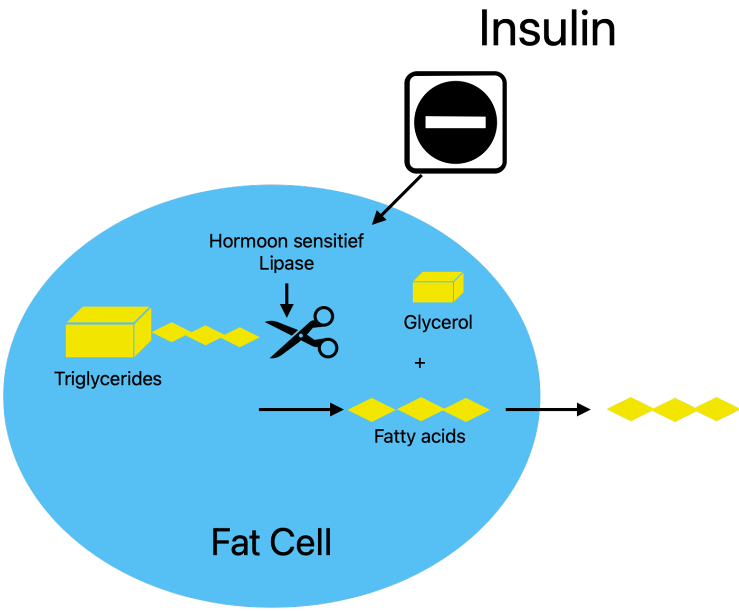
In the fat cell, the fatty acids combine with glycerol to form a triglyceride. This is how the fat cell grows.



In fat cells, fatty acids and glycerol combine to form triglycerides, which is how a fat cell grows.

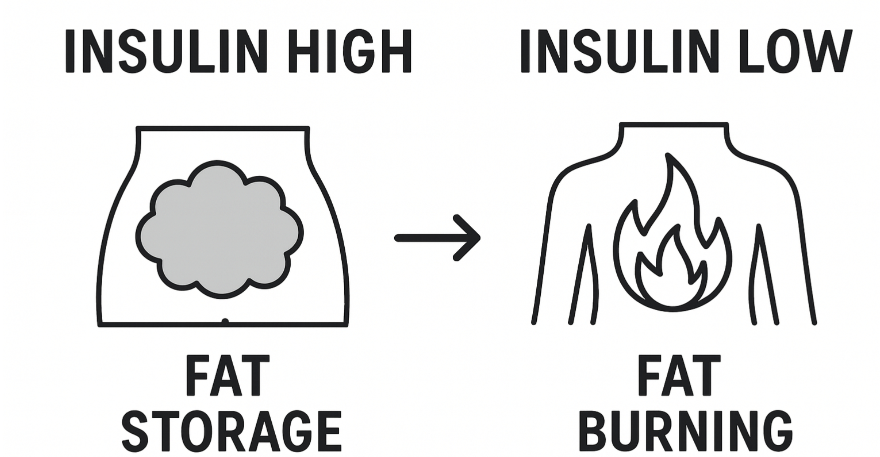
All cells in our body can use glucose or fatty acids as fuel (and proteins, but only in starvation mode).

When we want to burn fat, triglycerides must first be broken down into individual fatty acids. This happens via hormone-sensitive lipase. However, insulin blocks this enzyme.



Insulin blocks the enzyme hormone-sensitive lipase, which breaks down triglycerides into fatty acids and glycerol. This prevents stored triglycerides from leaving the fat cell at high insulin levels.

When insulin is high, we store fat and block fat burning.

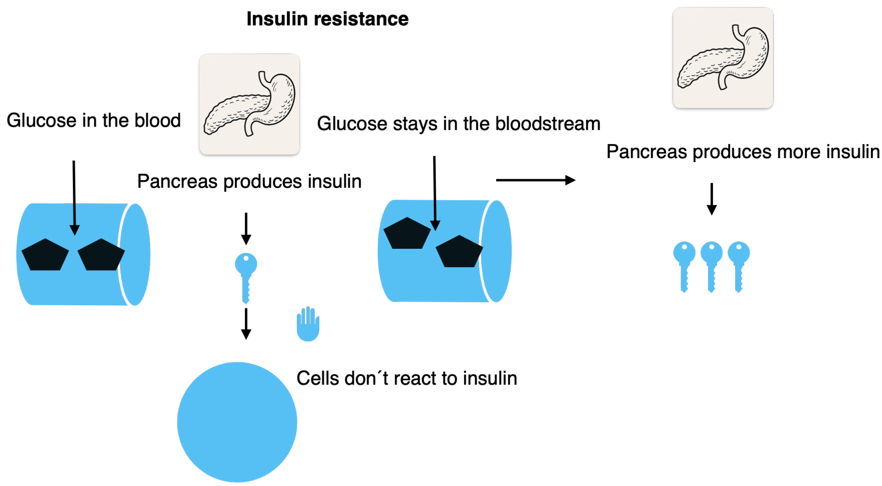


6 Why do many people not lose weight, despite exertion?

Many overweight people don't eat excessively and sometimes exercise intensively, but they don't lose weight. The reason: their insulin levels don't drop.

Exercise and calorie restriction hardly lower insulin levels. If you have high insulin levels for long periods of time, like almost everyone who is overweight, your body is in a constant state of fat storage, even if you eat less.

With insulin resistance, cells no longer respond properly to insulin. The body then produces even more insulin, causing insulin levels to rise further. And the higher the insulin: the more fat is stored, the more fat burning is blocked, the more difficult it becomes to lose weight.



With insulin resistance, cells don't respond properly to insulin. Glucose isn't stored in the liver, muscles, or fat tissue but remains in the bloodstream. In response to the elevated glucose level, the pancreas produces even more insulin, allowing the glucose to escape from the bloodstream and be stored.

Losing weight will therefore only succeed when your insulin level drops, not when you simply eat less or exercise more.

7 Insulin resistance

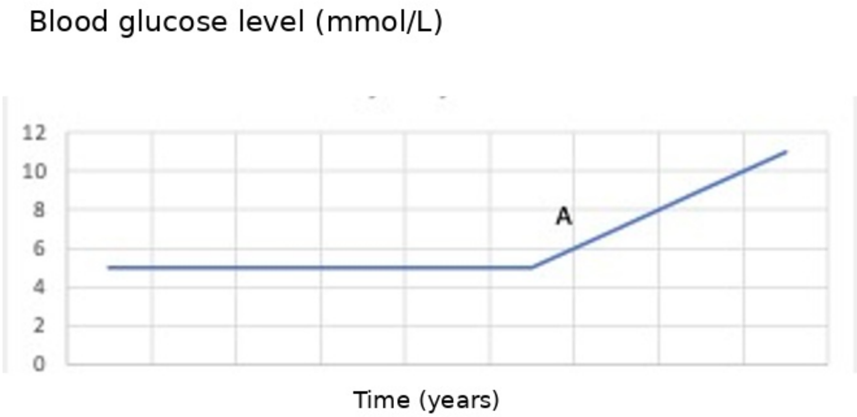
How do we actually become insulin resistant? A significant part of it has to do with prolonged elevated insulin levels. Just as you get used to a constant sound or smell, the body also gets used to high insulin levels. The cells respond less and less effectively to the signal.

To understand this, it's helpful to look at how people ultimately develop type 2 diabetes, also known as age-related diabetes. About five percent of the Dutch population now has it, while the condition was very rare a century ago. Type 2 diabetes is essentially insulin resistance in its most pronounced form.

Imagine you're 30 and healthy. You eat a meal, your blood sugar rises, and your pancreas produces insulin to store the excess glucose. A few hours later, your blood sugar returns to normal. Ten years later, the same thing happens. And ten years after that, again. As long as your blood sugar remains within normal limits, we say you don't have diabetes.

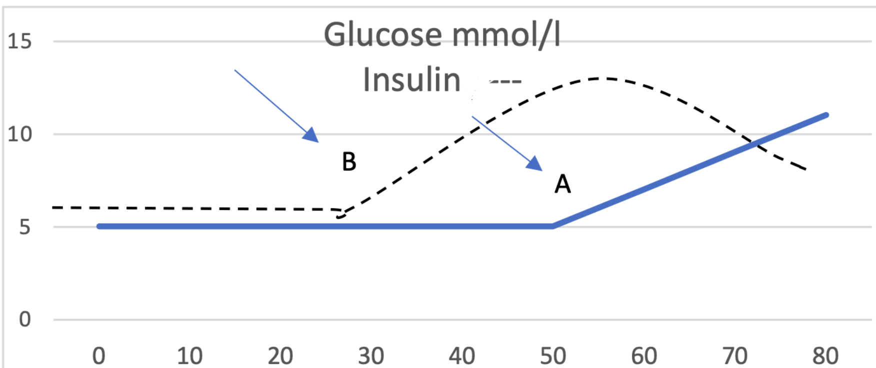
Only when fasting blood sugar consistently exceeds 7 mmol/l do we diagnose type 2 diabetes. This usually occurs around the age of sixty.

Graphed into this image, this process would look like this.



The graph shows glucose levels over time. When the fasting glucose level rises above 7 mmol/liter, type 2 diabetes is diagnosed. This occurs around the age of sixty.

But if we also showed the insulin level in the same graph, it would become clear what was really happening.

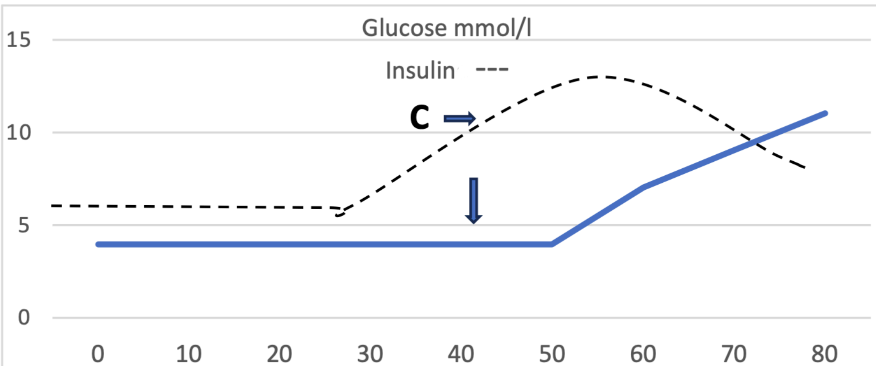


In the graph, we see how the glucose level begins to rise at point A. This isn't something that happens by chance or suddenly. It's the result of years of insulin resistance that began at point B. The insulin level rises until the pancreas reaches its maximum capacity. If we can no longer produce additional insulin and still consume glucose, the glucose level will rise as in point A.

At point A, blood sugar begins to rise. But the process began years earlier, at point B, when insulin levels slowly began to rise. The body produced more and more insulin to keep blood sugar levels normal. This upward trend continues until the pancreas reaches its maximum production capacity. At that point, the body can no longer produce any more insulin. The glucose level then rises anyway, and from that point on, we say a person has type 2 diabetes.

The reality is: someone has had insulin resistance for decades.

If we then look at point C, we see that the blood glucose is still normal, but the insulin level is already significantly increased.



The graph shows that point C represents an elevated insulin level and a normal glucose level. Most overweight people are located here. Because insulin promotes fat storage and blocks fat burning, losing weight generally only succeeds if they manage to lower their insulin levels. Eating less and exercising more isn't an effective strategy for achieving this.

And what does insulin do? It promotes fat storage and blocks fat burning. At point C, the body is already in permanent fat storage mode, regardless of how much someone exercises or eats less. At this point, people are often already overweight, and losing weight becomes difficult.

Many people who want to lose weight do so by eating fewer calories and exercising more. This sounds logical, but it's not an effective way to lower insulin levels. If you exercise with high insulin levels, you burn glucose, but not fat. This causes most people to feel hungry, eat more carbohydrates, and their insulin levels rise again, perpetuating the vicious cycle.

Insulin resistance isn't just a problem of high blood sugar, but primarily a problem of consuming too much insulin, too long, and too often. The body no longer responds properly to insulin, requiring increasingly more insulin. The result is fat storage, hunger, energy dips, and ultimately type 2 diabetes.

8 How does insulin resistance develop?

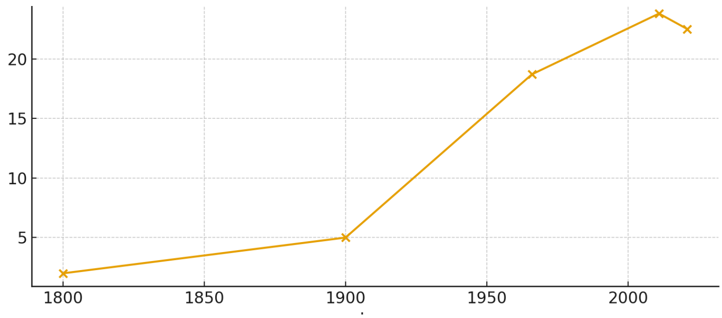
Many factors can contribute to insulin resistance: chronic stress, lack of sleep, certain medications, and genetic predisposition. But the most important causes are the factors you can already influence today. These explain why insulin resistance is so common in our modern society.

The first and biggest culprit is sugar. Sugar, also known as sucrose, is made up of 50 percent glucose and 50 percent fructose. Glucose can be used by all our cells, but fructose can only be processed in the liver. In the liver, fructose is converted into fat. If we consume too much, fatty liver disease develops.

The liver is located directly adjacent to the pancreas. When the pancreas releases insulin, the hormone first enters the liver via the portal vein. A fatty liver responds less well to insulin. As a result, the pancreas has to produce even more insulin to process the same amount of glucose. A fatty liver and insulin resistance are therefore strongly linked.

Global sugar consumption has exploded over the past two hundred years: from about one kilogram per person per year to an average of 22 kilograms today. In the United States, it's even around 33 kilograms per person per year.

Estimated worldwide sugar consumption in kg, per person, per year



The graph shows global sugar consumption rising from about 1 kg per person per year two hundred years ago to an average of 23 kg per person per year now.

In nature, fructose is only found in ripe fruit, just before winter sets in. Animals need to eat as much as possible during this period to store fat for the winter months. Fructose bypasses their satiety system, allowing them to keep eating, store fat, and survive. In humans, fructose works the same way: it inhibits our sense of satiety and makes us hungry. The food industry is well aware of this. Added sugar is found in virtually all processed products: from salad dressing to pizza, from soft drinks to granola bars and pasta sauces.

Fructose isn't necessary for any essential process in our bodies. If we want to lose weight, sugar is enemy number one. The fructose portion makes us insulin resistant. The glucose portion raises our insulin levels.

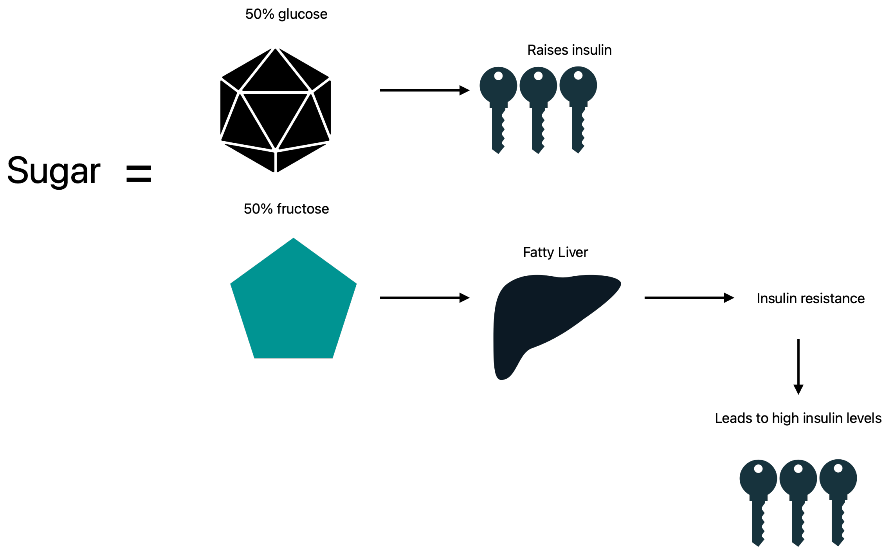
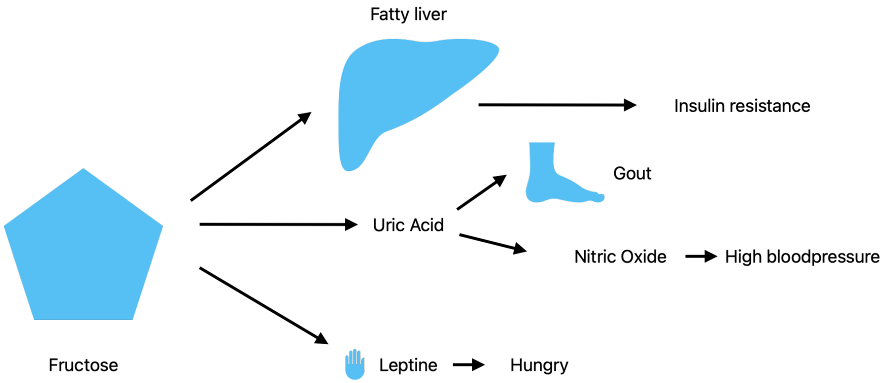


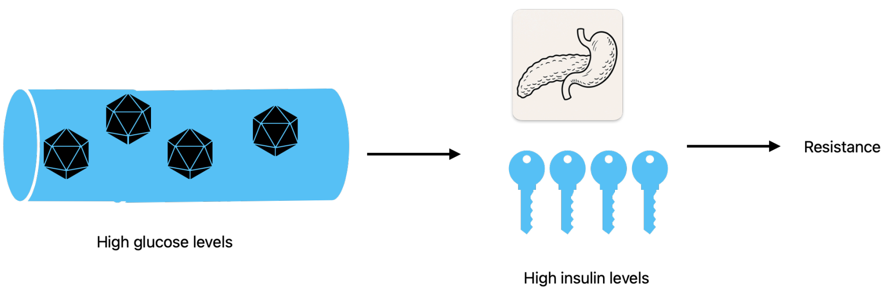
Table sugar is made up of half glucose, which can be used by all cells in our body and immediately raises insulin levels. The other half is fructose, which can only be processed by the liver and, if consumed in large quantities, leads to fatty liver disease. Fatty liver disease leads to insulin resistance.

Some of the fructose is converted into uric acid in the liver. Too much uric acid can cause gout, but it also reduces nitric oxide production in the blood vessels. This leads to stiff blood vessels and high blood pressure. Fructose has another important effect: it inhibits the satiety hormone leptin. This keeps us hungry, even when we've eaten enough.



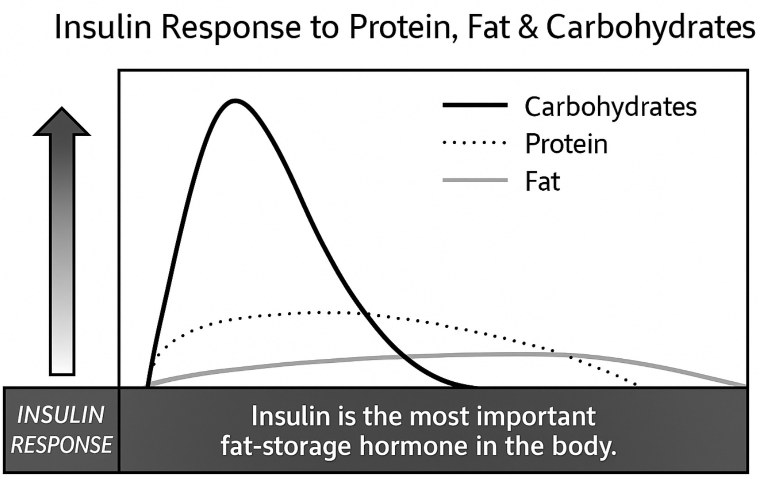
Fructose leads to fatty liver disease, gout, high blood pressure and inhibits our feeling of satiety via the hormone leptin.

The second major cause of insulin resistance is persistently elevated blood glucose levels. When we eat carbohydrates throughout the day, glucose levels continue to rise. And every time glucose rises, the pancreas has to release insulin. This constant strain makes the body increasingly insensitive to insulin.



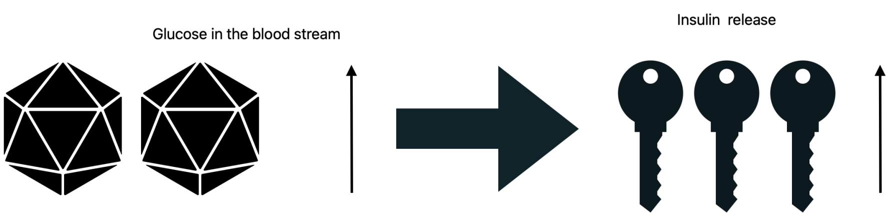
Constantly elevated glucose levels lead to constantly elevated insulin levels and can thus lead to insulin resistance.

When we look at which type of food elicits which insulin response, the problem becomes clear.



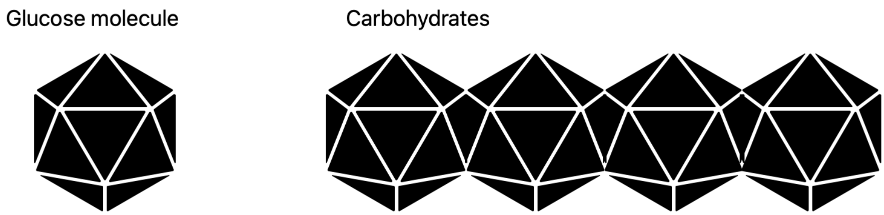
The figure shows that carbohydrates trigger a massive insulin response. Insulin levels respond very little to fat intake and only slightly to protein intake.

Food consists of three macronutrients: fat, protein, and carbohydrates. Fat has virtually no effect on insulin levels. Protein has a limited effect. Carbohydrates cause by far the greatest increase in insulin. And that makes sense: carbohydrates consist of long chains of glucose molecules. Once these enter the bloodstream, the pancreas must produce insulin to clear the glucose.



When blood glucose levels rise, insulin levels rise.

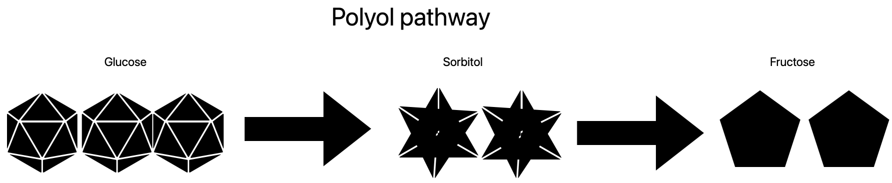
Bread, flour, pizza, potatoes, noodles, pasta, and rice consist almost entirely of glucose molecules. Refined carbohydrates are low in fiber and are absorbed quickly, causing a sharp rise in insulin. Whole-grain products contain fiber, fat, and protein that slow absorption, but even 100 percent whole-wheat bread is still 40 to 45 percent carbohydrates. If you factor in the water, it's even 70 to 80 percent carbohydrates. The fiber dampens the spike, but it still represents a significant glucose burden.



Carbohydrates consist of long chains of glucose molecules.

Refined carbohydrates are low in fiber and are absorbed quickly, causing insulin levels to rise rapidly. Whole-grain products contain fiber, fat, and protein, which slow absorption, but even 100 percent whole-wheat bread is still 40 to 45 percent carbohydrates. If you exclude the water, it's even 70 to 80 percent carbohydrates, and therefore glucose molecules. The fiber dampens the spike, but it still places a significant glucose burden.

Some of the carbohydrates we consume are converted by the body into sorbitol and then fructose via the so-called "polyol pathway."

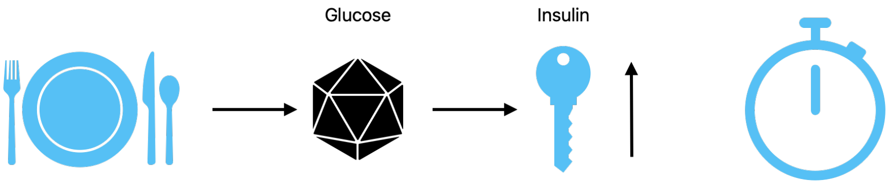


Especially with a high carbohydrate intake and insulin resistance, part of the glucose is converted into sorbitol and subsequently into fructose.

At high glucose levels, this conversion increases. This occurs primarily in tissues that can utilize glucose even without insulin, such as the lens of the eye, the nerves, the kidneys, and the blood vessel wall. In the short term, this is a protective mechanism; in the long term, it causes damage to these tissues, especially in people with insulin resistance.

Insulin promotes fat storage and blocks fat burning. High insulin levels result in significant fat storage. Low insulin levels allow fat burning.

After a meal, insulin levels rise and fall after two to three hours, depending on the amount of carbohydrates, proteins, and fats present in the meal. In people who are insulin resistant, the insulin response lasts longer. During this period, fat burning is halted.



After a meal, blood glucose levels rise. Insulin levels also rise proportionally, depending on the amount of carbohydrates, proteins, and fats in the meal. Insulin levels then drop after 2-3 hours (this takes longer in the case of insulin resistance). During this time, fat burning is inhibited.

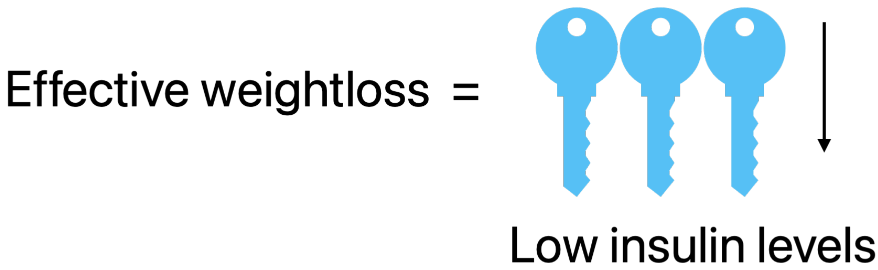
The more often we eat, the more often our insulin levels rise. Eating six times a day produces insulin six times a day, giving us virtually no chance to burn fat. Ideally, we should have a maximum of three meals a day and a longer period of fasting, for example, from 8 p.m. to 10 a.m. This gives the body the opportunity to burn fat. This is precisely why intermittent fasting is so effective: it creates guaranteed periods of low insulin levels.

There are indications that large amounts of highly unsaturated vegetable oils like sunflower, canola, and soybean oil can promote insulin resistance. Hard evidence is still lacking, but because these oils are found in virtually all processed foods, you automatically avoid them when you start eating whole foods.

These are the main causes of insulin resistance that you can directly influence yourself: sugar, refined carbohydrates and meal frequency.

9 Lose weight effectively

If we want to lose weight effectively, we need to burn fat. And to burn fat, insulin levels must be low. That's the key.



To lose weight effectively, insulin levels must be low because insulin blocks fat burning.

There are three ways to guarantee low insulin levels. Combined, they're the most effective way to lose weight.

1. Eliminate sugar.
Sugar is half glucose, which immediately raises insulin levels, and half fructose, which causes insulin resistance. By eliminating sugar, you've already won half the battle.

2. Limit carbohydrate intake to a minimum.
Carbohydrates are long chains of glucose molecules. They cause insulin levels to rise sharply. Fewer carbohydrates means less insulin and therefore more room for fat burning. To guarantee fat burning, a maximum of 50 grams per day is recommended.

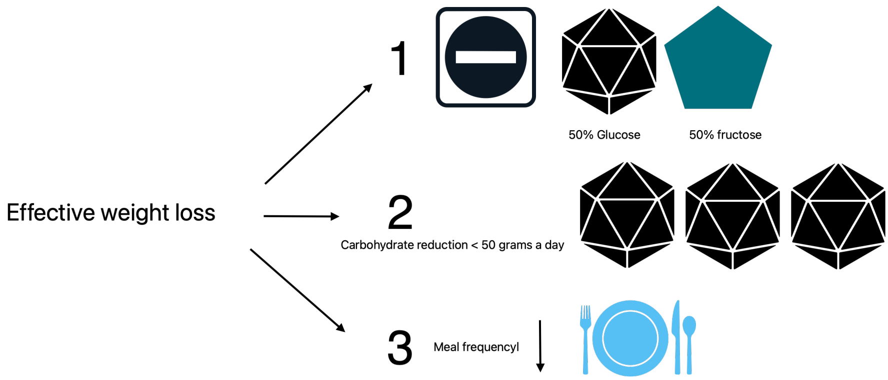
3. Reduce your eating frequency.

Every time you eat, your glucose levels rise, and with it, your insulin levels. If you eat ten times a day, your insulin levels rise ten times a day. This means there's literally no time to burn fat. As soon as insulin levels rise, the enzyme that enables fat burning (hormone-sensitive lipase) is blocked. If you eat once or twice a day, your insulin also rises once or twice a day. Your body can burn fat the rest of the day. You see where this goes: frequency is just as important as quantity.

It's actually surprising that more people don't decide to, for example, not eat at all for one day a week. A day of not eating means a whole day of low insulin levels. The body can't help but burn fat. In terms of calorie expenditure, a day of fasting is roughly equivalent to running a marathon. And a day of not eating does absolutely nothing. It's extremely effective.

Low-calorie diets usually don't work because the body downregulates its metabolism when calorie intake falls too low for a prolonged period. If you earn an average of one thousand euros a month and suddenly receive only five hundred euros, you automatically spend less. The body does exactly the same thing: with structural calorie restriction, the metabolism decreases. However, this doesn't happen with occasional fasting days; the body doesn't have time to adjust.

And that's the whole principle. These three interventions work because they're all aimed at lowering insulin levels. Combined, they form the most effective strategy I know. Most of my patients then don't want to go back to sugar and carbs because they make them tired and fat. And why would you? You don't need them!



The figure shows the three most effective ways to lower your insulin levels and thus lose weight. 1. Eliminate sugar. 2. Reduce carbohydrates to <50 grams per day. 3. Reduce meal frequency to 3 or fewer meals per day.

Many people, and even doctors, think you should lose weight by eating less and exercising more. That sounds logical, but it's not an effective way to lower insulin levels. If you exercise heavily while continuing to eat carbohydrates, the carbohydrates are broken down into glucose, which increases insulin levels. Fat burning is blocked. The glucose is burned and stored in muscle, liver and fat. A few hours later, you feel hungry again. And so the pattern repeats.

But what can you eat if you're not allowed any sugar and barely any carbohydrates?
The answer is simple: anything that grows, walks, swims, or flies around. Except for potatoes, corn, rice, and wheat products that consist almost entirely out of chains of glucose molecules. Unprocessed foods contain no refined carbohydrates or added sugars. So instead of reading labels, you can simply eat whole, unprocessed products.

In essence you replace carbohydrates with proteins and healthy fats.

10 The building blocks of our body.

Our bodies are made up of cells that are constantly broken down and rebuilt. Red blood cells, for example, are replaced every 120 days. The intestinal wall renews itself every three to five days. Bone and tendon tissue take longer. Looking at the composition of our cells, they are largely water. The remainder is 50 to 60 percent protein, 25 to 30 percent fat, and only 2 to 3 percent carbohydrates. Some minerals and trace elements are also present.

Our cells need proteins and fats. Dietary guidelines recommend consuming at least 40 percent of our diet from carbohydrates. From a cellular metabolism perspective, this is illogical. Food industry lobby groups in all countries have had a significant influence on the development of these guidelines.

Amid a growing global obesity epidemic, at the heart of which is insulin resistance, it is inexplicable why we should consume non-essential nutrients (sugars and carbohydrates), which constantly raise our insulin levels and make us fat. Why we recommend people with type 2 diabetes to eat carbohydrates is a mystery to me.

Even if we didn't eat carbohydrates, the liver itself produces glucose from non-carbohydrate sources. This is evident among the Inuit people in the far North, who ate almost exclusively fish and marine mammals until they gained access to modern food.

This is the simple message I give all my patients with joint pain and obesity; I explain the whole story about insulin. If someone has a BMI over 40 and their knee is severely worn down by osteoarthritis, I ask how long they think they need to get below a BMI of 35. We agree on a date for my return call. My colleagues regularly see me dancing in the hallway after a phone consultation. Some patients lose between ten and thirty kilos. Their knee pain halves or disappears completely. Their blood pressure normalizes. A few of them even manage to cure their type 2 diabetes. They are proud, and rightly so, because they did it all on their own. Many people never want to go back to their old eating habits. They are less tired, have more energy, and no longer experience hunger. Some even have so much less pain that they no longer want surgery, despite their worn-out joint. For those who still have complaints, I'm happy to operate. These patients are highly motivated, and their recovery is much easier once they've lost the excess weight.

Over the past year, I've seen spectacular results with these simple measures. Often, the pain disappears faster than the weight loss. I suspect this is because, as soon as people eat less sugar and carbohydrates, the process of glycation stops. This means that glucose molecules no longer attach to proteins in tendons, cartilage, and blood vessels. Glycation makes tissues stiffer, more brittle, and more vulnerable. When this process stops, the body can recover.

Another explanation is that belly fat is the first to disappear when people lose weight. Belly fat produces inflammatory factors such as cytokines, interleukins, and TNF-alpha. When the inflammation process diminishes, the pain often subsides quickly.

There's much more to tell. For example, how proteins and fats stimulate the satiety hormone GLP-1 (which many people are familiar with from modern weight-loss medications), how a high-fiber diet regulates the hunger hormone ghreline, and how sugar and too much glucose damage the body.

You can start with these today.

If you're looking for recipe inspiration, you can easily search the internet for low-carb or keto recipes.

I don't recommend artificial sweeteners. They provide no nutritional value and can exacerbate cravings by triggering a dopamine spike in the brain. Moreover, there are indications that they have a negative effect on our gut flora.

If you're concerned about saturated fat, watch a presentation by Dr. Paul Mason on YouTube or read The Big Fat Surprise by Nina Teicholz or The Great Cholesterol Con, by Malcolm Kendrick. That will put your mind at ease. Best of luck!

11 Warning about medication use

The information in this book can have significant benefits for your health. Many people experience the following within a few days to weeks:

- a rapid decrease in insulin resistance

- a reduction in blood glucose levels

- a normalization of blood pressure

- an improvement in cholesterol and triglyceride levels

- an increase in energy and a reduction in hunger

- an increase in autonomy

This is positive, but can be dangerous if you continue taking the same medication.

In particular, people taking medications for:

• Diabetes (such as insulin, metformin, sulfonylureas)

• high blood pressure

• high cholesterol

may experience problems if their dosage is not adjusted in time.

When you start eating healthier, consume fewer sugars and carbohydrates, and your insulin levels drop, your body changes faster than medication can keep up. This can lead to the following dangerous situations:

• Low blood glucose (hypoglycemia) (if you take insulin while your blood glucose is already normal)

• Low blood pressure (dizziness, fainting)

Therefore, it is essential that you:

- Inform your doctor before starting.

- Regularly measure your blood pressure and blood glucose during the first few weeks.

- Have your medication checked and adjusted if necessary.

- Do not stop or change medication without supervision.

For many people, adjusting their diet means a rapid recovery of their health. But this same speed makes it essential to proceed responsibly and under supervision. Your health is changing. Your medication may need to change along with you.

This advice is not a weight-loss diet, nor is there being sold expensive medication; it is sincere advice based on my experience with my patients.

12 What vegetarians should pay extra attention to.

A vegetarian diet can be very healthy, but it also has several nutritional considerations. By eliminating meat and fish, important sources of certain micronutrients disappear from the diet. Many plant foods do contain vitamins and minerals, but often in forms that the body is less able to absorb (such as plant-based iron or ALA omega-3). In addition, plants contain more phytates, substances that can further reduce the absorption of minerals like zinc and iron.

That's why we often see deficiencies in vegetarians, especially those following a low-carb or ketogenic diet, including vitamin B12, omega-3 fatty acids, iron, zinc, and iodine. These nutrients play a key role in energy production, immune function, hormone balance, and cell repair. However, with the right food choices and, where necessary, targeted supplements, vegetarians can easily obtain all the necessary micronutrients.

Here's a short list of the micronutrients that vegetarians should pay extra attention to (generally, but also on a low-carb diet):

Vitamin B12

How to take:

- Supplement (tablets, melt tablets or spray) → *recommended for all vegetarians*
- Dairy (yogurt, cheese)
- Eggs

Omega-3 (DHA/EPA)

How to take:

- Algal Oil Capsules (Best and Direct Source)
- Walnuts, chia seeds, linseed → provide ALA, but conversion to DHA/EPA is low

Iron

How to take:

- Green leafy vegetables (spinach, kale)
- Legumes (limited with keto)
- Pumpkin seeds
- Eggs
- Iron supplementation only if there is a proven deficiency

Zinc

How to take:

- Nuts (cashew, almond)
- Pumpkin seeds

- Cheese
- Eggs
- Possible low-dose supplement

Iodine

How to take:

- Seaweed (kelp, nori → be careful with high doses)
- Dairy products
- Eggs
- Iodized salt

Vitamin D

How to take:

- Sunlight
- Supplement (widely recommended in winter months in NL/NO)
- Full-fat dairy
- Eggs

Magnesium (optional)

How to take:

- Nuts (almonds, cashews)

- Dark green vegetables
- Dark chocolate (85–90%)
- Magnesium supplement *for cramps or increased needs*

13 Reading tips on this topic

The Obesity Code by Dr. Jason Fung:

One of the best-known books on insulin resistance and obesity. Fung explains how hormonal factors, especially chronically elevated insulin, cause weight gain. He combines scientific insights with practical advice such as intermittent fasting.

The Diabetes Code by Dr. Jason Fung.

The sequel to *The Obesity Code* , aimed at reversing type 2 diabetes. Fung demonstrates that medication treats the symptoms, while changes in diet and mealtimes can address the underlying cause—insulin resistance.

Pure, White, and Deadly John Yudkin.

A 1972 classic in which Yudkin warns of the harmful effects of sugar on health, weight, and cardiovascular disease. Ignored for decades, now once again relevant as early evidence against the sugar industry.

The Big Fat Surprise: Nina Teicholz

investigates how saturated fat has been wrongly declared the enemy. Teicholz demonstrates that many dietary guidelines are based on flawed science and that full-fat fats are less harmful than previously thought.

Why We Get Fat by Gary Taubes.

An accessible book that explains why obesity isn't simply "eating more than you burn." Taubes emphasizes the role of insulin, carbohydrates, and hormonal regulation.

Good Calories, Bad Calories by Gary Taubes.
A thorough analysis of the history of nutritional science. Taubes describes how misconceptions about fat, sugar, and cholesterol have influenced nutrition policy for decades.

Metabolic Dr. Robert Lustig
explains how ultra-processed foods and sugar disrupt metabolism. He describes how the food industry undermines health and what we can do about it.

Fat Chance by Dr. Robert Lustig:
A deeper dive into the biochemistry of fructose and metabolic disease. Lustig connects nutrition, behavior, hormones, and public health in an accessible way.

The Case for Keto by Gary Taubes.
An overview of why a ketogenic diet works for people with obesity and insulin resistance. Taubes combines scientific literature with patient case histories.

The Great Cholesterol Con by Malcom Kendrick

The book challenges decades of conventional wisdom about cholesterol and heart disease. Through a careful examination of scientific evidence, the book explores how insulin resistance, metabolic dysfunction, and modern dietary patterns drive cardiovascular risk. By combining research with real-world clinical observations, it argues that focusing on cholesterol alone distracts from the true root causes of chronic disease, and why low, carbohydrate and ketogenic approaches can be powerful tools for restoring metabolic health.

14 Research

If this book has helped you, I cordially invite you to scan the QR code below and complete a short questionnaire.

Your answers will remain completely anonymous, and by completing the questionnaire, you consent to the anonymized use of your data for research.

With sufficient results, I can further scientifically substantiate this method and hope to see it applied more widely in medicine.

Your contribution will therefore not only help you, but potentially many others as well.

Thank you very much for your time and support.

If you scan this QR code the link will open: