



# Reverse Diabetes Naturally

by Wendy Myers

You can reverse type 2 diabetes and will learn how in this article. Many don't realize that diabetes is caused in part by mineral deficiencies and heavy metal and chemical toxicities. I want to discuss some of these little known causes of diabetes.

Diabetes has grown to epidemic proportions and the latest statistics revealed by the *US Centers for Disease Control* (CDC) state that 29.1 million Americans have diabetes, or 9.3% of the population.

Twenty-five percent of the population is pre-diabetic, but they don't know it. Research from the ADA shows that 79 million Americans have pre-diabetes, which is 25% of the US population! You need to be

checking your blood sugar with a glucometer! You have a 1 in 4 chance of becoming a statistic.

But there's good news! In this article I will go over the exact steps you need to take to reverse type 2 diabetes naturally and improve type 1 diabetes. It can be done by eating the right diet, adopting better lifestyle habits, taking the right supplements and balancing your body chemistry so that you can reverse and prevent diabetes.

The deeper pathology of diabetes always includes low levels of chromium, manganese, zinc, and selenium. It may also include the accumulation of toxic metals like mercury, cadmium and excess iron in the pancreas, liver and elsewhere. Diabetes also has deep roots in an accumulation of excess calcium in the tissues, which prevents glucose from entering cells. The result is high blood sugar and diabetes.

I was asked to speak at the Diabetes Summit about the very issues I discuss in this article – how mineral deficiencies and metal toxicities contribute to diabetes.

The 41 powerful, expert sessions at The Diabetes World Summit will benefit anyone with type 1 or type 2 diabetes, pre-diabetes, metabolic syndrome, as well as those who want to avoid blood sugar problems and achieve optimal health.

Unfortunately, conventional medicine is far too prone to simply prescribing you pills for your ailments when there could possibly be a better path to health – it's on you to do your homework.

Fortunately, 41 world-renowned experts have gathered to give you their remedies in one place, online and for free!

## Types of Diabetes

Diabetes is divided into a few forms, including diabetes insipidus, which we are not discussing in this article.

**Type 1 Diabetes** is an autoimmune disease where the immune system attacks the insulin-producing beta cells in the pancreas. The damage to the pancreatic cells leads to reduced ability or complete inability to create insulin. Some of the common causes that trigger this autoimmune response may include a virus, GMO organisms, heavy metals, vaccines, or foods like wheat, cows milk, and soy.

**Type 1.5 Diabetes** is a form of diabetes sometimes called “double diabetes,” in which an adult has aspects of both Type 1 and Type 2 diabetes. This is not formally recognized in the medical literature but is an issue brought on by diabetes medications and other factors, which are discussed below.

**Type 2 diabetes** is the most common form of diabetes and is caused by insulin resistance. It is a metabolic disorder that is caused by high blood sugar. The body can keep up for a period of time by producing more insulin, but over time the insulin receptors sites get burned out.

**Type 3 diabetes** Some doctors also postulate a type 3 diabetes. This is insulin resistance in the brain, which can cause dementia, and will respond to taking MCT or medium chain triglycerides like [Dave Asprey's Brain Octane](#).

## Is the Problem of Diabetes Just Low Insulin?

Most health authorities still cling to the notion that diabetes is just due to low insulin. However, insulin deficiency is a far too simplistic explanation for diabetes. If the problem were just a lack of insulin, then insulin replacement therapy, which is a standard medical treatment, would entirely cure the condition. However, it does no such thing.

The medical community's approach to diabetes treatment is not getting anywhere. Treating type 2 diabetes with insulin is actually one of the *worst* things you can do...

People who take insulin are still prone to serious complications of diabetes such as peripheral neuropathy, kidney failure, ulcers that won't heal, blindness, heart disease and more. They are part of the deeper pathology of diabetes that simple insulin therapy will not entirely stop.

For example, Metformin or glucophage, a common anti-diabetic drug, inhibits gluconeogenesis. This is the process whereby the body converts some protein, starch or fats to glucose in the liver. It is a normal process of the body. By reducing it, the sugar level of a Type 2 diabetic may drop somewhat. However, the drug does nothing for one's underlying health condition. Meanwhile, most drugs upset the digestion and may deplete other minerals such as zinc, effectively making the underlying health of the patient worse.

Additionally, one may stimulate the insulin-producing cells until the cells 'burnout' nutritionally. Then the drugs stop working and one must take insulin. You do not need more insulin. You need to restore the sensitivity of your insulin receptors by keeping their levels low!

If you're still having trouble understanding why taking insulin is a terrible choice in type 2 diabetes consider this: when your blood sugar becomes elevated, insulin is released to direct the extra energy (sugar) into storage. A small amount is stored as a starch called glycogen, but the majority is stored as fat. Therefore, insulin's primary role is not to lower your blood sugar, but rather to store this extra energy as fat for future needs when food may not be available. The fact that insulin lowers your blood sugar is merely a "side effect" of this energy storage process. Taking more insulin just makes you fatter, further exacerbating diabetes.

Recent research published in the *Journal of Clinical Endocrinology & Metabolism* confirms that insulin treatment can provoke otherwise reversible type 2 diabetes to progress into type 1 insulin deficient and therefore insulin-dependent diabetes. (8) The study found that giving genetically engineered recombinant insulin to type 2 diabetics with certain genetic susceptibility can trigger their bodies to produce

antibodies that destroy their insulin producing cells (pancreatic islet cells). You may not realize that all insulin medications, the type typically used, is GMO or genetically modified which might be responsible for this autoimmune reaction.

Basically, it triggers an autoimmune disease response, producing a condition in which you have both type 1 and type 2 diabetes simultaneously. This is referred to as Type 1.5 diabetes. The average time of type 1 diabetes onset was 7.7 months. One study participant developed type 1 diabetes in just over one month! According to the authors, acute deterioration of blood glucose control after administering insulin is a warning sign of this problematic side effect. According to this study, the genes predisposing you to this autoimmune-type response to insulin are:

- Type 1 diabetes high risk HLA class II (IDDM1) is thought to play a role in about half of all type 1 diabetes cases
- VNTR genotype (IDDM2) is believed to predispose you to type 2 diabetes

You can learn your genetic fate by getting a [23andme.com](https://www.23andme.com) genetic test and then running it through [Sterling's App](#) to find out your genetic SNPs or single nucleotide polymorphisms and what they indicate for your health.

Once a patient has graduated to insulin, the drug does not always work as promised. Many take too much accidentally and have low blood sugar episodes that cause shaking, nausea and night waking. Even with large dosages of insulin, you may not be able to control blood sugar. Again, because medications do not address the underlying cause of the condition.

I am in no way saying that you should stop diabetes medication. These medications are life saving in the absence of any alternative or if the patient is unwilling to change their diet and lifestyle. Reducing or stopping diabetes medication should only be done under the supervision and advice of your physician. You must take blood sugar control

medication until you can heal your body with diet, lifestyle, supplement and detox measures before you will be prepared to wean of medication.

## True Causes of Diabetes

We know overeating carbs contributes to diabetes. But reducing carbs is not the complete answer. I want to talk about a few causes that are rarely talked about – heavy metal and chemical toxicity and mineral deficiency. There are several causes of diabetes, including:

- Adrenal Fatigue
- Heavy Metal Toxicity
- Mineral Deficiencies
- Dehydration
- Overeating Carbs and Fructose
- Cell glycation

## Adrenal Fatigue

Diabetes begins with adrenal fatigue. When under stress, the adrenal glands secrete more sugar into the blood and this requires more insulin to move it out of the blood and into the body's cells. This pattern of “flooring the accelerator” day in and day out, particularly with the addition of heavy coffee or caffeine usage to further stimulate the adrenals, eventually weakens the pancreas and depletes it of vital nutrients required for insulin production and secretion. Stress hormones like cortisol promote the development of diabetes.

Additionally, adrenal fatigue promotes the deposition of calcium into the tissues. This excess calcium that deposits in tissues where it doesn't belong reduces cell permeability. This prevents the entrance of glucose (and nutrients) into cells and promotes what is called insulin sensitivity. Thus, one will have higher blood sugar when they have high amounts of

calcium in their tissues that is reflected on a hair mineral analysis. In fact, the Calcium to magnesium ratio in a hair mineral analysis is referred to as the Blood Sugar Ratio. The higher this is on a hair test, the more people have issues with hypoglycemia and blood sugar control issues like diabetes. Adrenal fatigue is one link in the chain of events that leads to Type 2 diabetics.

## Metal Toxicity

Toxic metals such as cadmium, lead, arsenic, aluminum, iron, and other toxic metals in the body contribute to diabetes. (2) These metals actually interfere with vital minerals in the body that are essential for glucose metabolism.

Detox is essential for recovery from diabetes. My favorite and recommended form of detox to rid the body of heavy metals that contribute to diabetes is daily use of an [infrared sauna](#).

### **The main metals implicated in diabetes are:**

**Iron** replaces many minerals that can give rise to symptoms of diabetes. Iron replaces other vital minerals such as zinc, copper manganese, and many others in hundreds or even thousands of enzyme binding sites. This causes the enzymes to malfunction, leading to many physical symptoms.

The problem of mineral replacement is made worse by the fact that all minerals compete for absorption. Iron enjoys a selective advantage. That is, it is selectively absorbed because of its essential role in oxygen transfer. This mechanism of iron absorption definitely works against a person who is eating white flour, too much red meat, and smokes or drinks alcohol.

And guess what? Many diabetics and future diabetics are eating ‘enriched flour’ that is full of a form of iron that is toxic to our bodies

and blocks them minerals needed for proper glucose metabolism. It's not just the carbs in bread that lead to diabetes.

**Mercury** depletes zinc, which reduces insulin levels. Mercury also damages and even causes the death of pancreatic islet beta cells. (16) One new study found that higher levels of mercury exposure in young adults increased their risks for type 2 diabetes later in life by 65 percent. (25)

**Cadmium** inhibits insulin release and damages insulin receptors. Recent epidemiological studies suggest a positive association between exposure to the environmental pollutant cadmium and the incidence and severity of diabetes. (26) These studies also show that cadmium reduces insulin levels and has direct cytotoxic effects on the pancreas. Cadmium is primarily ingested via cigarette smoke but it is commonly found in the environment due to industrial dumping.

**Arsenic** causes insulin resistance and damages the body's ability to properly metabolize glucose. Arsenic is found in conventionally raised chickens and tap water.

Exposure to arsenic, typically through drinking water, is linked to diabetes, according a study published in the *Journal of the American Medical Association*. (27) Thirteen million Americans — and millions more worldwide — are exposed to drinking water contaminated with more inorganic arsenic than the Environmental Protection Agency has deemed safe. The EPA standard is 10 micrograms per liter.

Researchers, led by Ana Navas-Acien, MD, PhD, of the Johns Hopkins Bloomberg School of Health, studied 788 adults who had their urine tested for arsenic exposure in the 2003-2004 National Health and Nutrition Examination Survey. Participants with type 2 diabetes had a 26% higher level of total arsenic in their urine than those without the disease.



There are several reasons that arsenic may contribute to diabetes. Insulin-sensitive cells that are exposed to insulin and sodium arsenic appear to take in less glucose than cells exposed only to insulin. Arsenic could influence genetic factors that interfere with insulin sensitivity and other processes. Arsenic also may contribute to oxygen-related cell damage, inflammation, and cell death, all of which are linked to diabetes. (27)

## Chemical Toxicity

Along with the pancreas, insulin receptor sites are vulnerable to chemical poisoning like any other part of the body. Perhaps these aspects of human physiology are even more sensitive and that is why we are seeing exploding rates of diabetes. Organochlorine pesticides, BPAs and some PCBs, which are known endocrine disruptors, may act through increasing insulin resistance to heighten the risk of type 2 diabetes.

[Alonso-Magdalena et al.](#) reviewed the evidence that exposure to endocrine disrupting chemicals called obesogens can contribute to the development of type 2 diabetes. They argue that enough evidence exists to consider these chemicals that promote metabolic dysfunction as risk factors for type 2 diabetes development and other diseases related to insulin resistance (which may include gestational diabetes as well). Endocrine disrupting chemicals can lead to increased insulin resistance, as well as disrupt beta cell function. (24)

## Dehydration

Dehydration plays a major role in this type of diabetes. Alcohol, caffeine and sugars and not drinking sufficient water all contribute to dehydration. Sugar or glucose attracts water to it. Ever notice how you're very thirsty after eating sugar or carbs? Holding on to sugar in the blood is a way for the body to correct dehydration. The following sequence of events seems to occur with type 2 diabetes and metabolic syndrome:

1. There is a reduction of the normal elimination of sugar from the blood through the kidneys. This is one way to increase the sugar in the blood to avoid or reduce dehydration of the blood.
2. The body responds by raising the insulin level. This is an attempt to lower the blood sugar by sending it to the cells. However, it does not work well because once again the body holds on to sugar in the blood to prevent further dehydration of the blood. Doctors call this situation *insulin resistance*.

## Too Much Fructose and Carbs

One of the driving forces behind type 2 diabetes is excessive dietary [fructose](#), which has adverse effects on all of metabolic hormones – including two key players: insulin and leptin.

There is no question in my mind that regularly consuming more than 25 grams of fructose per day will dramatically increase your risk of insulin and leptin resistance, metabolic syndrome, and chronic diseases, including obesity, type 2 diabetes, cancer, heart disease, arthritis, and Alzheimer's. It's important to realize that even though fructose is relatively "low glycemic" on the front end, it actually reduces the receptor's affinity for insulin, leading to chronic insulin resistance and elevated blood sugar. So, while you may not notice a steep increase in blood sugar immediately following fructose consumption, it is likely changing your entire endocrine system's ability to function properly behind the scenes...

And then there are the pesky carbs. In fact, some [paleo-anthropologists suggest](#) that our ancestors consumed, on average, only about 80 grams of carbohydrate a day. Compare that to the 350-600 grams a day in the typical American diet today. (7)

You must keep your carbs generally to 150 grams in a healthy person (non-diabetic) and carbs is you have diabetes. Keep in mind, everyone has differing needs. You have to play around with the numbers and see what works for you.

Anyone craving sweets? The conundrum of poor blood sugar regulation is sweet cravings – the very thing that can worsen diabetes. Not moving enough sugar into the cells from the blood can contribute to cravings for sweets and carbohydrates. However, eating them tends to further deplete zinc, manganese and chromium, exacerbating the condition.

## Minerals Imbalances Implicated in Diabetes

Chromium, manganese, zinc and calcium are KEY in synthesizing and controlling insulin and cellular sensitivity. These minerals are proven in studies to be lower in patients with diabetes (17)

Hair, blood and urine minerals analyzed in diabetic patients compared to non-diabetic controls showed that the mean levels of zinc, manganese and chromium were significantly lower in the blood and scalp hair of patients diagnosed with diabetes. Higher levels of copper and iron were also found in the scalp hair of the diabetic group as well.” (23)

- **Chromium** gets insulin to the receptor.
- **Zinc** releases insulin. Low zinc will decrease release of insulin from the pancreas. Zinc is required for insulin production, release and to extend the duration of the action of insulin. (8)
- **Calcium** suppresses insulin. Calcium deficiency can cause the pancreas to put out too much insulin causing hypoglycemia. High levels of bioavailable calcium will reduce the release of insulin from the pancreas. Calcium acts as a blockade. If calcium builds up inside cells it almost creates a plaque that prevents insulin, nutrients and hormones from getting into cells.
- **Manganese** aids carbohydrate metabolism. [Manganese](#) deficiency results in glucose intolerance and impaired carbohydrate metabolism. (4)

When the minerals are out of balance it can create reactive diabetes when the body is not functioning properly. You simply have to replenish and balance all nutrients and minerals and diabetes is avoidable and reversible.

## Cell Glycation

Late-stage diabetics may have problems with their cell membranes. High levels of glucose in the blood harden the cell membranes. The technical name for this is *glycation*. It is a slow process of sclerosis that occurs in the bodies of almost everyone who lives on carbs and sugar, and even too many complex carbohydrates like rice, potatoes and other starches. When this happens it can be harder for glucose to get into cells resulting in higher blood sugar.

This is not only a subtle cause of diabetes. It also slows or eventually can prevent the correction process because regenerating the cell membranes takes months to a few years.

Omega-3 fatty acids, chromium and manganese supplements, can help prevent and correct cell glycation. Eliminating what is called metastatic or biounavailable calcium is also extremely helpful for the cell membranes.

## Hair Mineral Analysis Indicators of Diabetes

One of the best ways to balance your body chemistry, remineralize your body and detox the metals contributing to diabetes, is with a **Mineral Power** program. I have seen phenomenal results with my diabetic clients. They very quickly see such improvement in their blood sugar levels that they can get off their diabetes medications – to the amazement of their physicians.

These following indicators of potential diabetes on a hair mineral analysis are trends only. It may take years for a trend to develop into the full blown diabetes. That's why the hair test is great. It can predict these trends and correct them before one develops diabetes.

1. **Chromium and manganese.** The larger the discrepancy between them, the worse you are metabolizing sugar.
2. **A sodium/potassium ratio less than 2.5:1.** A low ratio is associated with chronic stress on the liver, pancreas, kidney and cardiovascular system. A ratio less than 1:1 is even more indicative of a diabetic trend.
3. **The presence of toxic metals such as cadmium, copper, lead, arsenic, aluminum or iron.** All can interfere with the vital minerals such as zinc, chromium, selenium and others.
4. **A hair calcium/magnesium ratio greater than 9.5 to 10, or so.** A calcium/magnesium ratio greater than about 9.5 often indicates overeating on carbohydrate foods. It is not so much a diabetic indicator, but rather a dietary indicator related to how much carbohydrate one eats.
5. **A zinc level less than about 12 mg%.** Zinc is needed to manufacture insulin, secrete insulin and extend the action of insulin. Low zinc can predispose one to iron, copper and other toxic metal poisoning that can affect the pancreas and other organs. Zinc can be tricky because it can be increased by cadmium toxicity.
6. **Low levels of chromium, manganese and/or selenium.** These minerals are essential for proper glucose metabolism.

## Supplement Recommendations

The following supplements are what I always give a client that has blood sugar issues or full blown diabetes. You can get my recommended supplements in this [Diabetes Kit](#).

- **[Magnesium](#).** Take 5x times your body weight in lbs in milligrams. Magnesium intake improves insulin resistance. (20, 21)
- **[Support Glucose](#).** BioMatrix Support Glucose contains 7 well-known nutritional elements to support proper glucose metabolism, antioxidant support, and insulin utilization. This fantastic supplement provides chromium, gymnema, cinnamon, alpha lipoic

acid, bitter melon, Banaba leaf and Vanadyl Sulfate. This product does contain gymnema, but I added more food-based organic Gymnema to the Diabetes kit because I think people need more of it!!

- **Alpha-Lipoic Acid** (300-1200 mg daily). Improves insulin sensitivity, reduces symptoms of neuropathy and protected pancreatic  $\beta$ -cells from destruction. (14)
- **Chromium** (200 mcg) Chromium reduces glucose and insulin in the blood. (13)
- **Zinc** (20mg) Insulin sensitivity improves in on zinc supplementation. (18)
- **Gymnema**. I love this supplement because it can stop sugar cravings in their tracks. Patients were able to discontinue their conventional diabetes drug and maintain their blood glucose homeostasis with an extract of gymnema alone. (19) Pretty impressive.
- Omega 3 fats from **Fish oil** or **Cod Liver oil** are recommended to improve insulin sensitivity. (3)
- **Glucomannan**. Specially processed, glucomannan is a polysaccharide fiber derived from a plant (Amorphophallus konjac). Used throughout Asia as a source of bulk in the diet, it creates a viscous barrier that impedes carbohydrate digestion, suppressing postprandial (after-meal) blood sugar surges. (9) Glucomannan also slows “gastric emptying” – the passage of food from the stomach into the small intestine – impeding carbohydrate overexposure in the digestive tract. In a group of 72 diabetics given konjac foods, postprandial glucose levels fell by an average of 84.6% (22).

# Foods You Must Remove to Reverse Diabetes Naturally

Many cases of diabetes can be reversed with diet changes alone. The main causative factors in both type 1 and type 2 diabetes include foods that spike blood sugar levels and cause intestinal inflammation. These are the top foods you **MUST** get out of your diet to reverse type 2 diabetes and support overall health for type 1 diabetes.

**Refined sugar** rapidly spikes blood glucose. Soda, fruit juice and other sugary beverages are the worst culprits. You must have a rule – no calories from beverages. These forms of sugar enter the blood stream rapidly and can cause extreme elevations in blood glucose. Even though natural sweeteners like raw honey and maple syrup are better options, they still affect blood sugar. Your best option is to switch to stevia or other [natural sweeteners](#).

**Grains**, especially [gluten](#) containing grains like wheat, contain large amounts of carbohydrates which are rapidly broken down into sugar. Gluten can cause intestinal inflammation which affects hormones like cortisol and leptin, and can lead to spikes in blood sugar. (11) I would remove all grains from your diet for 90 days and see if your blood sugar improves (it will). After that time you can introduce back in sprouted [non-gluten grains](#) in small amounts.

**Conventional cow's milk** should be eliminated – especially for type 1 diabetics. Grass fed organic whole fat [dairy](#) can be a fantastic food for balancing blood sugar if it comes from goat, sheep, or A2 cows. Stay away from all other forms of dairy because the A1 casein produced by conventional cows will harm the body and can trigger an immune response similar to gluten. (10) When buying [dairy](#), only purchase raw and organic from pasture raised animals.

**Alcohol** can dangerously increase blood sugar and lead to liver toxicity. Beer and sweet liquors are high in carbohydrates and should be avoided.

**GMO corn, soy, and canola** and their oils have been linked to kidney and liver disease and may promote diabetes. I suggest removing all GMO foods and all packaged foods from your diet. Also, remove hydrogenated oils from your diet including vegetable oil, soybean oil, cottonseed oil, and canola oil.

COMPONENTS OF THE  
**MINERAL POWER** *program*

Embrace the healing power of Heavy Metal Detox & Re-mineralization

SUPPLEMENTS	LIFESTYLE
DIET	DETOXIFICATION

with CUSTOM SUPPLEMENTS based on your body chemistry!

[www.mineralpower.com](http://www.mineralpower.com)

## Exercising Balances Your Blood Sugar

Exercise is another crucial part of improving insulin sensitivity. It naturally supports metabolism by burning fat and building lean muscle. To prevent and reverse diabetes I recommend getting outside and walking 20-30 minutes a day. This has been shown to be especially beneficial following meals. In addition to walking, you also need to do



high intensity interval training using cardio or weight training 3 days a week for 20-40 minutes. (15)

Muscles that have been exercised desperately want that glucose inside and will “up regulate” insulin receptors to speed the process. That’s one reason exercise is so critical for type 2 diabetics in regaining insulin sensitivity.

Resistance training seems to be as effective as aerobic activity, but a mix of the two is the best. And because you are now “insulin sensitive”, you don’t require as much insulin to store the excess sugar, which “up regulates” all the fat burning enzymes, so you burn your stored fats at a much higher rate throughout the day. Works for me!