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Introduction

Have you been diagnosed with type 2 diabetes? Or is your blood sugar higher than normal and putting you at risk for developing diabetes? If so, you're not alone. More than 34 million Americans have diabetes and about 88 million more have prediabetes, a precursor to type 2 diabetes. ([1](#), [2](#))

Diabetes occurs when your body cannot properly regulate blood sugar and insulin levels. It has no cure, but the good news is that it can be managed. The key to managing diabetes is finding effective ways to keep blood sugar levels under control. Conventional treatment typically includes medication, but natural remedies such as healthy lifestyle habits and dietary supplements may also help some people control their blood sugar. With the right arsenal of tools, you can manage this chronic condition.

In this guide, you'll discover how these complementary therapies work in combination with standard treatments to improve blood sugar management. Exploring natural ways to help control high blood sugar is an empowering step in taking charge of your health. Although not a replacement for the medical management of diabetes or prediabetes, the dietary supplements in this guide may help you better manage your condition—and there's even a chance that they'll reduce the amount of medication you'll need.

Understanding Type 2 Diabetes

Diabetes mellitus is a chronic health condition characterized by the inability of the body to properly regulate the amount of glucose (sugar) in the blood. This occurs because of an issue with insulin, a hormone made in the pancreas that helps cells use blood sugar as energy.

The vast majority of people with diabetes (about 90-95%) have type 2 diabetes.⁽¹⁾ That's why references to diabetes throughout this guide imply type 2 diabetes unless otherwise noted.

In people with type 2 diabetes, the body either becomes inefficient at using the insulin it produces or doesn't produce as much insulin as it needs—or both. When this happens, some of the glucose meant for the trillions of cells in the body stays in the bloodstream, resulting in higher than normal blood sugar levels. Over time, this can lead to serious health complications.

Getting a diagnosis of diabetes or knowing your blood sugar levels are high can be scary. But with information, guidance from a healthcare professional and discipline, you have the power to manage this disease.

Here are answers to some common questions:

What is blood sugar?

When you eat or drink, some of the food you consume turns into glucose (sugar) as it's digested. The glucose is then carried through your bloodstream (which is why it's referred to as blood sugar) to be transferred to the cells in your body to use as energy.

How does blood sugar get into cells?

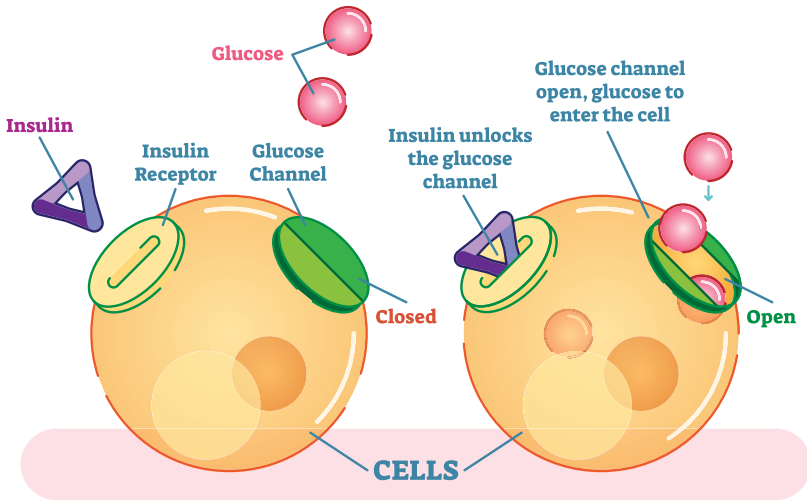
Insulin helps glucose move from your bloodstream to your body's cells. The pancreas normally makes as much insulin as is needed for this to happen. But if you have diabetes or prediabetes, your body either doesn't make enough insulin or doesn't effectively use the insulin it makes, referred to as "insulin resistance."

How does insulin work?

Think of insulin like a key that opens a door. When the key works properly, it unlocks the “doors” to the cells in your body so glucose can move from your blood into the cells to provide energy. This gets your body’s cells the energy they need and keeps your blood sugar in a normal range.

But sometimes you don’t have enough keys. Or those keys don’t work properly. When this happens, the doors don’t easily open. This makes it hard for the glucose in your blood to move into your cells and keeps blood sugar levels higher than they should be.

HOW DOES INSULIN WORK



How do you know if your blood sugar is high?

When it comes to identifying prediabetes or diabetes, or monitoring how well diabetes treatment is working, the gold standard is the A1C test. This simple blood test, also referred to as the hemoglobin A1C or HbA1c test, provides a snapshot of your average blood sugar over the past two to three months.

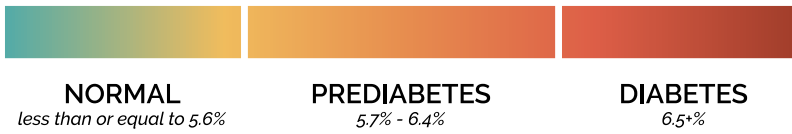
What is A1C?

When sugar enters your bloodstream, it attaches to hemoglobin. The A1C test measures the percentage of red blood cells that have sugar-coated hemoglobin. The higher the percentage, the higher your blood sugar levels have been during the preceding three months.

Normal A1C levels are below 5.7%. A1C levels between 5.7% and 6.4% indicate prediabetes. A1C levels of 6.5% or higher indicate diabetes.

If you've already been diagnosed with diabetes, there's not a one-size-fits-all target for A1C levels (the number varies based on age and other factors), but the goal for most adults with diabetes is an A1C less than 7%, according to the American Diabetes Association®. (3)

A1C Levels



Why is controlling blood sugar so important?

Higher than normal blood sugar levels are damaging to the body and can result in serious health complications over time if not treated. These include an increased risk of heart disease, stroke, kidney disease, circulation and vision problems, as well as other health issues.

Natural Remedies to Keep Blood Sugar Under Control

Managing blood sugar levels when you have diabetes or prediabetes is an everyday task that takes discipline. Conventional therapies, like antidiabetic medications and insulin, are the standard treatment for the condition. Complementary therapies—including dietary supplements and healthy lifestyle habits—also help improve blood sugar management, provide relief from diabetes symptoms, and lower the risk of complications.

Natural remedies for blood sugar control cannot cure diabetes and should not be used as a standalone treatment, but the supplements and lifestyle habits outlined in this guide may provide benefits to people with high blood sugar. In some cases, they may even allow for a decrease in the amount of medication you need. But it's important to keep in mind that medication should never be stopped or changed without your doctor's consent.

Dietary Supplements

For centuries, numerous herbs and plants have been recommended for use in helping to treat high blood sugar. Although not a replacement for traditional therapies like antidiabetic medications and insulin, many reported benefits have been shown when using these natural remedies. (5)

Complementary health approaches are often used by people with diabetes and natural dietary supplements are the most frequently used complementary therapy. (6) Commonly used supplements for diabetes can be broken into three categories:

- **Hypoglycemic agents** – including banaba, bitter melon, fenugreek and gymnema
- **Insulin sensitizers** – including American ginseng, banaba, berberine, chromium, cinnamon, gymnema, milk thistle, prickly pear cactus, soy, and vanadium
- **Carbohydrate absorption inhibitors** – including aloe vera gel, fenugreek, flaxseed, prickly pear cactus, soy, and turmeric

Read on to learn more about some of the most popular dietary supplements used by people interested in blood sugar management. Keep in mind that before beginning use of any supplement, be sure to talk with your doctor or other healthcare professional about the benefits and risks and inquire about possible interactions with any drugs you may be taking.



Aloe Vera

Many people are familiar with using aloe vera as a treatment for sunburn and other skin conditions due to its anti-inflammatory, anti-microbial and wound healing properties. But did you know this desert plant may also help manage and prevent symptoms of diabetes?

Research published in 2013 looked at the effects of using aloe vera in treating diabetes. The findings suggest that aloe vera's antioxidant potential may help facilitate the repair of beta cells in the pancreas that produce insulin. (7) Another study supports the effectiveness of using aloe vera to reduce fasting blood glucose and hemoglobin A1C. (8)

A more recent review concluded that aloe vera may help combat the oxidative stress thought to be the main cause of diabetes complications. Aloe vera was shown to reduce blood glucose, increase insulin and improve the health and number of pancreatic islets, cells that make insulin. Study authors suggest it may also protect against diabetic kidney disease, depression, and anxiety, as well as improving eye health—all potential complications of diabetes. (9)

Scientific results showing aloe vera's effect on managing diabetes-related symptoms appear promising, but more research is still needed to determine its safety and efficacy in people with diabetes.

How to use it:

Aloe vera can be taken as a supplement in capsule form or you can add juiced aloe vera pulp to drinks, such as smoothies. Keep in mind that aloe vera skin care products should not be ingested orally.



Bitter Melon

Practitioners of traditional Chinese and Indian medicine have used bitter melon for centuries and it has acquired a reputation for helping to manage diabetes due to its glucose-lowering effects. Although it should not be taken in place of diabetes medications, this medicinal fruit has exhibited positive results in clinical trials on people with diabetes, but more research is needed to determine exactly how it works.

According to one review, bitter melon was shown to aid in the control of blood sugar in various forms. Research showed that ingesting seeds, drinking a suspension of vegetable pulp or fruit juice, or taking a dried powder extract all lowered blood glucose levels or improved glucose tolerance. (5)

A 2020 study involving 90 people with type 2 diabetes who received either bitter melon extract or a placebo also found that those who took the extract had lower fasting blood glucose after 12 weeks, with no serious adverse reactions being reported. (10)

How to use it:

Although you can cook with bitter melon or add it to drinks and smoothies, it is an acquired taste (it is considered the most bitter of all fruits and vegetables). That's why many people prefer taking it in supplement form.



Fenugreek Seeds

Fenugreek is an herb in the same family as soy and its seeds are a great source of soluble fiber. This can help slow the digestion of carbohydrates and sugar, which in turn can help lower blood sugar levels.

There is also evidence that this Mediterranean seed may help prevent or delay the development of type 2 diabetes in people with prediabetes, according to research. A 3-year randomized study found that the incidence of diabetes in participants taking 10g fenugreek/day was significantly lower than a control group. Participants taking fenugreek had a reduction in blood sugar levels resulting from increased insulin. [\(11\)](#)

How to use it:

Fenugreek seeds can be used as an herb when cooking or the seeds can be ground into powder form. The seeds can also be soaked in hot water to make a tea. Many people consume fenugreek as a supplement in capsule form.



Gymnema

Gymnema sylvestre is a woody climbing shrub that has been used medicinally for over 2,000 years in ancient Indian medicine. Due to its ability to help control blood sugar, it has been touted as a complementary treatment for diabetes. In fact, its name even means “sugar destroyer.”

Although there's not enough evidence to prove gymnema's effectiveness for controlling blood sugar on its own, multiple studies have shown its potential for complementing traditional treatments in both type 1 and type 2 diabetes.

A review of clinical studies showed that gymnema decreased fasting blood glucose and A1C in type 2 diabetic participants who were also receiving oral diabetic medication and drug dosage could be decreased. The review included a study showing that participants taking gymnema had lower blood glucose and higher insulin levels. Additionally, a study of people with type 1 diabetes who took gymnema along with insulin therapy showed they had significantly lower blood sugar levels than participants who took insulin alone. (5)

How to use it:

Gymnema is most often consumed in the form of pills or tablets, making it easier to control the dosage. It also comes in leaf powder or extract. There are few known side effects, but it may have an additive effect when taken in conjunction with diabetic medications. That's why it's important to talk to a healthcare professional before taking this supplement or changing the dosage.



Milk Thistle

Milk thistle is a flowering plant that comes from the same family as the daisy. It has long been used as a natural remedy to treat a variety of health conditions. Primarily known as a remedy for liver problems, milk thistle also shows promise in helping people manage type 2 diabetes.

The active ingredient in milk thistle is called silymarin. This compound has antioxidant and anti-inflammatory properties and may help improve glycemic control and prevent the progression of diabetes complications, according to one research review. Four trials showed a significant reduction in fasting blood glucose levels and HbA_{1c} levels. (12) Additional research also found evidence that milk thistle helps lower glucose levels in people with diabetes. (6)

Although the effects of milk thistle and silymarin appear to be promising, it's not enough for experts to recommend them for diabetes care on their own.

How to use it:

Milk thistle is available as a supplement, as well as a tea. Although most people tolerate the herb well, it may cause side effects such as nausea, diarrhea, and bloating.



Cinnamon

Cinnamon is a popular spice among people with diabetes due to its ability to add sweetness to foods, reducing the need for sugar. But that's not the only reason this fragrant spice may be good for people looking to control their blood sugar.

Cinnamon was found to positively impact many variables of metabolic syndrome in one study, improving levels of insulin sensitivity, fasting glucose, hemoglobin A1C, inflammation, blood lipids, blood pressure and lean body mass. [\(13\)](#)

Additionally, a research review showed that cinnamon supplementation may result in: [\(14\)](#)

- Lower fasting blood glucose levels
- Lower total cholesterol
- Lower LDL ("bad") cholesterol
- Higher HDL ("good") cholesterol
- Lower triglycerides
- Higher insulin sensitivity

Another review provided additional evidence that cinnamon may help reduce fasting blood glucose and insulin resistance in people with type 2 diabetes and prediabetes. [\(15\)](#)

More research needs to be done before scientists can confirm the effects of cinnamon on diabetes management. Researchers suggest that the type and amount of cinnamon used, along with other medications taken, may impact a person's response to the spice.

How to use it:

Cinnamon may be added to food or drinks or can be taken as a supplement.



Ginger

Ginger is an herb that has been used since ancient times to treat a multitude of health issues, including digestive and inflammatory conditions. It also shows some promise in people with diabetes, cancer, and other health problems due to its anti-inflammatory, antibacterial, antiviral, and other properties.

One review of five clinical trials indicated that ginger may reduce insulin resistance in people with type 2 diabetes. The results showed that ginger supplementation of 1,600-3,000 mg per day for 8-12 weeks lowered fasting blood glucose and HbA1c levels, but not fasting blood insulin levels. (16)

The way ginger affects people with type 2 diabetes is unclear from these studies, however, and more research is needed to confirm the use of ginger as a complementary therapy for diabetes.

How to use it:

Ginger can be taken as a supplement in capsule form. It can also be used fresh or in powdered form in raw or cooked foods or brewed into a tea. Although side effects are rare, you may experience heartburn, diarrhea or upset stomach if you consume too much. Ginger may also have blood-thinning effects and may lower blood pressure so be sure to talk to a healthcare professional before starting ginger supplementation.

Lifestyle Habits

In addition to taking diabetes medications and/or insulin as prescribed by your doctor and utilizing some of the other natural remedies in this guide, there are various lifestyle habits that can help you keep your blood sugar under control. These include:



Eating healthy: Following a healthy eating plan that is low in sugar and refined carbohydrates helps keep blood sugar steadier. Increasing fiber intake by eating vegetables, fruits, legumes, and whole grains also slows sugar absorption, reducing blood sugar spikes.



Exercising regularly: There are numerous health benefits to keeping your body moving and managing diabetes is one of them. Regular exercise helps increase insulin sensitivity and makes it easier for you to maintain a healthy weight. It's also good for your heart.



Reducing stress: Although stress is a part of life, it can make it harder to keep blood sugar under control. Practicing meditation, deep breathing and taking time for yourself each day can help you manage stress.



Getting enough sleep: Too little sleep may enhance appetite, promote weight gain, and increase cortisol, a stress hormone. These can all play a role in increasing blood sugar levels. You can reverse these effects by getting enough quality sleep regularly.



Staying hydrated: Drinking enough fluids helps your kidneys flush out excess sugar. The Institute of Medicine recommends men drink about 13 cups of fluid a day and women drink about 9 cups. [\(17\)](#) Water is best, but at least stick to drinks without sugar, caffeine, or alcohol.



Maintaining a healthy weight: Managing portion sizes, eating healthy foods, and exercising regularly can help you lose weight or maintain a healthy weight. This has been shown to promote healthier blood sugar levels and lower the risk of developing type 2 diabetes. [\(18\)](#)



Monitoring blood sugar: Knowledge is power when it comes to blood sugar management. Measuring and keeping track of blood sugar levels on a regular basis can help you better determine how your body reacts to certain foods, supplements, or activities.

Conclusion

Although complementary therapies, such as natural dietary supplements and lifestyle habits, shouldn't take the place of traditional medicine, they may help improve blood sugar management. This can reduce symptoms, prevent complications, and may even allow medication dosages to be lowered.

Keep in mind, however, that it's important to talk to a healthcare professional before taking any new supplement or when changing the dosage. Some supplements can interact with diabetes medications or medications you may be taking for other health conditions. They may also cause side effects in some people. Being aware of any potential interactions and monitoring the dosage to check for positive and negative effects is crucial.

It's also important to get dietary supplements from high-quality sources. The FDA does not regulate these products for safety or effectiveness. That makes it especially important to do your research before buying supplements.

There are many ways to control your blood sugar and stay healthier when you have diabetes or prediabetes. With this guide in hand, you can get started on your journey to strive for better health naturally. Under the guidance of your doctor, explore if any of these supplements may be right for you.

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