

High Blood Sugar

DNA Health Report

REPORT CATEGORY —



Sample Client

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DISCLAIMER

This report does not diagnose this or any other health conditions. Please talk to a healthcare professional if this condition runs in your family, you think you might have this condition, or you have any concerns about your results.

Personal information

NAME

Sample Client

SEX AT BIRTH

Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg



How this works

Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



Similarly, our Trait Reports look at how your DNA influences your traits.



Your DNA is like an instruction manual — it contains a lot of information.
You can think of it as a blueprint for your body.

Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



We use artificial intelligence and machine learning to analyze all this information.
We then summarize your results as a risk score or display it on a gauge.

In total, we analyze up to 83 million genetic variants.

When we give a risk score, the risk icon tells you if you are at a higher or lower risk compared to other people:



Genotype color info:

AA

You don't have any risk alleles

AA

You have 1 risk allele

AA

You have 2 risk alleles

Your risk is also displayed as a percentile. This will tell you how your risks compare to our sample population. The lower your percentile number, the lower your risk. The "50th percentile" would be an average risk.

Similarly, the gauge tells you your relative risk score compared to our sample population, or it indicates a specific trait or haplotype you are more likely to have based on your genetic variants.

When applicable, we also list top evidence-based recommendations that may help lower your risk. The focus is on recommendations that may be of benefit to you, based on your genetics.

Our recommendations come in four categories: lifestyle, diet, supplements and drugs. The following icons tell you which category a recommendation falls into:



Our team of scientists also ranks each recommendation.
We rank based on impact and the strength of evidence in the medical literature.

Impact shows how strongly a recommendation will affect your health in a certain area.
Evidence is how much scientific support there is for the recommendation. Rankings are from 1 to 5 (low to high):



Impact

Impact scores range from 1-5. These scores reflect how much of an effect each recommendation can have. An impact score of 5 predicts the biggest effect.

When a recommendation affects something we can measure, we use those measurements to assign the impact score. For example, a recommendation that decreases cholesterol by 20% will have a higher impact score than one that decreases it by 5%.

Some recommendations affect things that we cannot directly measure, like stress or mood. For these, the impact score is based on how well they work relative to other recommendations and standard treatments. The best ones get the highest scores.

If there is a lot of research that shows a recommendation works especially well for your genotype, the impact score gets increased.

Recommendation Evidence

5 / 5

Recommendations that are considered effective and generally recommended by experts and medical bodies.

4 / 5

Recommendations that are considered likely effective and that have multiple independent meta-analyses and a great many studies supporting them.

3 / 5

Recommendations that are considered possibly effective and have many studies supporting them

2 / 5

Recommendations that have insufficient evidence, with two or several clinical trials supporting them, or many studies but with ambiguous results.

1 / 5

Recommendations that have insufficient evidence, with a single clinical trial, or with many studies most of which didn't find support for the recommendation.

0 / 5

No evidence in humans.

Genotype-specific Evidence

High-quality

Direct evidence that a recommendation helps more in people with your gene variant (many clinical trials, a few large clinical trials, or a meta-analysis).

Medium-quality

Direct evidence that a recommendation helps more in people with your gene variant (a few clinical trials or one large clinical trial).

Low-quality

Direct evidence that a recommendation helps more in people with your gene variant (a single clinical trial or more trials with inconsistent results).

Indirect

A recommendation may help more in people with your gene variant because it targets a specific gene or protein affected by your variant (e.g., MTHFR, dopamine).

In theory

A recommendation may help more in people with your gene variant because it targets a specific mechanism affected by your variant (e.g., inflammation, oxidative stress).

Some things to keep in mind:

- Genetics doesn’t play a considerable role in a condition or a trait.
- There is not enough research available to estimate a genetic predisposition.
- There are technical limitations to estimating or presenting a genetic predisposition.
- The topic is sensitive, and a genetic predisposition should only be estimated and presented by a healthcare professional.

Introduction

Glucose is a type of sugar. **Fasting glucose –or fasting blood sugar – is the measurement of one's blood sugar level after 8-12 hours of avoiding food and drinks.**

Fasting glucose levels help show how your body deals with dietary sugar. Doctors may order a fasting glucose test to check if someone is diabetic. Fasting [blood sugar](#) levels can be in the following ranges [\[R\]](#), [\[R\]](#):

- **<100 mg/dL indicates a person is unlikely to have diabetes**
- **100-125 mg/dL** indicates that fasting glucose is high and the person may have prediabetes
- **>126 mg/dL** on two separate occasions indicates that a person may have diabetes

You’ve probably heard about the dangers of high blood sugar (glucose). It puts **almost 1 in 3 Americans at risk of developing type 2 diabetes** [\[R\]](#).

Type 2 diabetes is a common and dangerous disease. In older adults, it can cause heart disease, stroke, kidney damage, and more. If diabetes isn’t treated, it can be fatal [\[R\]](#).

Symptoms of high blood sugar and diabetes are subtle when they first develop. People with elevated fasting glucose often do not notice symptoms. Screening for diabetes using fasting glucose testing may help catch these “silent” cases and prevent serious complications [\[R\]](#).

Experts recommend measuring fasting glucose to screen for diabetes to the following groups of high-risk people [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Pregnant women after 24 weeks of pregnancy
- Overweight or obese adults over the age of 40
- People with risk factors for diabetes such as high blood pressure or a family member with diabetes

Genetics of High Blood Sugar

Up to 80% of the differences in people's chances of getting type 2 diabetes can be attributed to genetics. Genes that may contribute to high blood sugar influence [R]:

- Pancreas development and function
- Insulin activity
- Glucose breakdown
- Liver function

PPARG (rs1801282, Pro12Ala C>G): The *PPARG* gene influences insulin sensitivity and fat storage. The ‘C’ allele of rs1801282 may contribute to a higher risk of insulin resistance and elevated blood sugar levels.

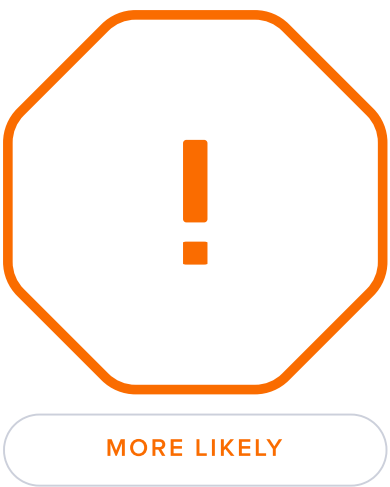
TCF7L2 (rs7903146, C>T): The *TCF7L2* gene plays a key role in insulin secretion and glucose regulation. The ‘T’ allele of rs7903146 is strongly linked to an increased risk of type 2 diabetes, as it may impair insulin production and exacerbate high blood sugar.

SLC2A2 (rs5400, Thr110Ile C>T): The *SLC2A2* gene encodes a glucose transporter that affects how efficiently glucose is absorbed into cells. The ‘T’ allele of rs5400 is associated with reduced glucose transport efficiency, potentially leading to higher blood sugar levels.

FTO (rs9939609, T>A): The *FTO* gene is associated with appetite regulation and obesity, which are major contributors to high blood sugar. The ‘A’ allele of rs9939609 is linked to an increased risk of insulin resistance and type 2 diabetes, as well as higher body fat accumulation.

IRS1 (rs2943641, T>C): The *IRS1* gene regulates insulin signaling. The ‘C’ allele of rs2943641 is associated with reduced insulin sensitivity.

IRS1 (rs1801278, G>A): Another variant in *IRS1*, the ‘A’ allele of rs1801278, is linked to impaired insulin signaling. This may result in insulin resistance and elevated blood glucose levels.



More likely to have high blood sugar based on 1,097,561 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
TCF7L2	rs7903146	CT
SLC2A2	rs5400	GG
SLC30A8	rs13266634	CC
GCKR	rs780093	CC
CDKN2A	rs10811661	TT
RPL22L1	rs8192675	TT
CDKN1C	rs2237892	CC
STARD10	rs1552224	AA
ADCY5	rs11708067	AA
BCL2	rs12454712	TT
GCKR	rs780094	TC
GCK	rs1799884	TC
HMGA2	rs2261181	TC
IMPDH1	rs791595	AG
TNF	rs2857605	TC
SLC38A11	rs10195252	TC
TSPAN3	rs7177055	GA
DGKB	rs2191349	GT
PPARGC1A	rs8192678	TC
GCKR	rs1260326	TC
RFC4	rs266729	GC
LEPR	rs1137101	AG
IGF2BP2	rs1470579	AC
KCNQ1	rs231362	AG

GENE	SNP	GENOTYPE
ARL15	rs4311394	GA
CCND2	rs76895963	TT
TCF7L2	rs4506565	AT
TIMP4	rs13081389	AA
WSB2	rs7973260	AG
SLC22A18A S	rs2237895	CA
MTNR1B	rs10830963	CG
IRS1	rs2943641	TC
IGF2BP2	rs11927381	TC
KLF14	rs972283	GG
IGF2BP2	rs4402960	GT
HHEX	rs1111875	CT
IGF2BP2	rs11705701	GA
HHEX	rs7923837	GA
CDKAL1	rs7756992	AA
KCNJ11	rs5215	TT
MC4R	rs12970134	GG
JAZF1	rs1635852	CC
TAP2	rs2071479	CC
PPARGC1A	rs2970847	CC
NOSTRIN	rs16856187	AA
GIPR	rs10423928	TT
TFAP2B	rs987237	AA
SOD2	rs4880	GG
MC4R	rs2229616	CC
ADAM10	rs2070895	GG

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Your Recommendations

Your recommendations are prioritized according to the likelihood of it having an impact for you based on your genetics, along with the amount of scientific evidence supporting the recommendation.

You’ll likely find common healthy recommendations at the top of the list because they are often the most impactful and most researched.

DOSAGE		DOSAGE	
1	Dietary Pentadecanoic Acid	2	Emoxypine
3	Eat Fiber-Rich Foods	4	Low-Fat Diet
5	Limit Fructose25 g	6	Good Eating Habits
7	Avoid Low-Fat High-Carb Diets	8	Low-Carbohydrate Diet
9	Avoid Overeating	10	Acarbose
11	Keto Diet	12	Avoid Refined Sugar
13	Whole Grains	14	Avoid Sugary Foods & Drinks
15	Gymnema200 mg	16	Avoid High-Glycemic Index Foods
17	Metformin	18	Maintain a Regular Meal Schedule
19	Avoid Processed Carbs		

1



Dietary Pentadecanoic Acid

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

While there is no officially recommended daily intake for pentadecanoic acid, research suggests that **20–50 mg per day** may support health benefits such as improved metabolism, reduced inflammation, and enhanced cellular health. You can achieve this through a balanced diet rich in full-fat dairy and fatty fish or by taking supplements as directed. Always consult with a healthcare professional before starting supplementation, especially if you have specific health conditions or dietary restrictions.

Description

Pentadecanoic acid, also known as C15:0, is a 15-carbon saturated fatty acid that belongs to the group of odd-chain fatty acids. It is naturally found in [\[R\]](#):

- Full-fat dairy products (e.g., milk, butter, and cheese)
- Fatty fish (salmon, herring, mackerel, sardines, anchovies, tuna)
- Whole grains
- Seed oils (flaxseed, chia, hemp)
- Legumes (lentils, chickpeas)

Unlike even-chain fatty acids, pentadecanoic acid has unique biological properties that are being increasingly studied for its potential health benefits.

Supplementation with pentadecanoic acid has shown promise in supporting metabolic health by improving cholesterol levels, enhancing insulin sensitivity, and reducing inflammation. It may also promote cellular health by stabilizing cell membranes and improving mitochondrial function. Additionally, C15:0 has been linked to better immune system regulation, neuroprotection, and potentially reducing the risk of chronic diseases like diabetes and cardiovascular conditions. As an emerging "essential fatty acid," it is gaining attention for its role in promoting long-term health and wellness.

How it helps

High blood pentadecanoic acid levels have been associated with a decreased risk of type 2 diabetes [\[R, R\]](#).

2



Emoxypine

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Emoxypine is typically available in oral capsules, tablets, or injectable forms, with the dosage depending on the condition being treated. For general antioxidant or neuroprotective purposes, the oral dose ranges from 125–250 mg taken 2–3 times daily, while more intensive treatments may require higher doses or injectable administration under medical supervision. It is usually recommended to take Emoxypine with meals to minimize gastrointestinal discomfort. Treatment duration can vary from a few weeks to several months, depending on the therapeutic goal.

Description

Emoxypine (2-ethyl-6-methyl-3-hydroxypyridine succinate) is a synthetic antioxidant and nootropic compound primarily used in Russia and some Eastern European countries. It is derived from pyridoxine (vitamin B6) and known for its neuroprotective, anti-stress, and anti-inflammatory properties.

Emoxypine can reduce anxiety, stress, and symptoms of depression by normalizing neurotransmitter levels and protecting brain cells from oxidative stress. Additionally, it has applications in managing cognitive impairment, improving memory, and protecting against age-related neurodegeneration. Emoxypine is also used for cardiovascular health, as it can improve blood flow and protect tissues from ischemia-reperfusion injuries.

Emoxypine works by scavenging free radicals, enhancing membrane fluidity, and improving the body's antioxidant defenses.

How it helps

Several trials of patients with diabetes found that treatment with Emoxypine (150-300 mg/day) improved carbohydrate and lipid metabolism, insulin resistance, lipid peroxidation, depression, cognitive function, quality of life, and symptoms of diabetic foot [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

3



Eat Fiber-Rich Foods

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Incorporate foods high in fiber, such as fruits, vegetables, whole grains, and legumes, into your daily meals. Aim for a total dietary fiber intake of 25 to 30 grams per day, spread out over all meals.

Description

Fiber is a type of carb that your body can’t digest which supports digestion, heart health, and blood sugar control. You can get fiber by eating things like whole grains, fruits, nuts, seeds, and leafy greens.

Fiber is a type of carb that your body can’t digest. It supports digestion, heart health, blood sugar control, and more [\[R, R\]](#).

Adults should get 28 g of fiber every day. Most people in the US don’t get enough fiber [\[R, R\]](#).

You can get more fiber by eating [\[R, R\]](#):

- Whole grains
- Fruits
- Leafy greens
- Nuts and seeds
- Beans
- Broccoli

Fiber supplements, such as [psyllium husk](#), are available for people who don’t get enough fiber from their diets [\[R, R\]](#).

How it helps

Incorporating fiber-rich foods can slow glucose absorption, thereby stabilizing blood sugar levels and enhancing insulin sensitivity, which is crucial for individuals managing high blood sugar. Additionally, fiber aids in promoting satiety, potentially leading to reduced overall calorie intake.

4



Low-Fat Diet

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Adopt a diet where less than 30% of your daily calories come from fat. Incorporate plenty of fruits, vegetables, whole grains, and lean proteins. Avoid or significantly limit high-fat foods like fried foods, processed snacks, and fatty meats. Aim for this dietary pattern consistently each day.

Description

Low-fat diets are often recommended for heart health and weight management. They can help reduce the intake of saturated and trans fats, lowering the risk of cardiovascular disease.

A low-fat diet is a diet that provides **30% or less** of the daily energy requirement from fat [\[R\]](#).

This type of diet may be useful for **losing weight, reducing cholesterol levels, and lowering the risk of certain health conditions**, such as [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Heart disease
- Diabetes
- Certain types of cancer

Low-fat diets prioritize the following foods [\[R\]](#), [\[R\]](#):

- Vegetables and fruits
- Whole grains
- Legumes (e.g., beans, lentils, peas)
- Skinless poultry (e.g., chicken, duck, and turkey)
- Fish and seafood (e.g., salmon, lake trout, tuna, and herring)
- Egg whites
- Low-fat dairy products

How it helps

A low-fat diet can aid in managing high blood sugar levels by reducing overall calorie intake and decreasing body fat, which improves insulin sensitivity. Additionally, minimizing saturated and trans fats supports cardiovascular health, reducing the risk of complications associated with diabetes.

5



Limit Fructose

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Limit your daily intake of fructose, particularly from added sugars and sweetened beverages, to less than 25 grams per day. Check nutrition labels for fructose content in foods and beverages and make adjustments to stay within this limit.

TYPICAL STARTING DOSE

25 g

Description

Limiting excessive fructose intake, especially from added sugars, can help prevent potential health issues like insulin resistance and obesity. Reducing fructose consumption supports better metabolic health and overall well-being.

How it helps

Limiting fructose intake helps decrease insulin resistance and lowers the risk of obesity, both of which are critical factors in managing high blood sugar levels. By reducing excessive fructose, individuals can improve their metabolic health and enhance glycemic control.

6



Good Eating Habits

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate a variety of fruits, vegetables, whole grains, lean proteins, and healthy fats into your meals daily. Aim to eat at regular intervals, ideally three meals and one to two healthy snacks per day, to maintain energy levels and avoid overeating. Reduce consumption of processed foods, sugary snacks, and beverages.

Description

Practicing good eating habits, such as balanced and portion-controlled meals, can help maintain a healthy weight, support proper nutrition, and reduce the risk of chronic diseases.

Eating habits involve the how, what, when, and where of your diet. Some eating habits can be good for your health, but others... not so much.

Good eating habits include [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Planning and preparing most of your meals
- Eating mindfully and slowly
- Only eating when hungry
- Not skipping meals

Developing good eating habits takes attention, practice, and effort [\[R\]](#).

How it helps

Good eating habits help regulate blood sugar levels by ensuring balanced nutrient intake and preventing insulin spikes. This approach not only aids in weight management but also enhances overall metabolic function, crucial for individuals with high blood sugar.

7



Avoid Low-Fat High-Carb Diets

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Opt for a diet that balances macronutrients rather than focusing on low fat and high carbohydrates. Include moderate to high amounts of healthy fats and proteins while choosing complex carbohydrates over simple ones. Aim to make this dietary adjustment a permanent part of your eating habits rather than a temporary diet.

Description

Avoiding low-fat-high-carb diets can help promote a balanced macronutrient intake and better blood sugar control. Incorporating healthy fats into the diet supports satiety, hormone production, and overall nutritional well-being.

How it helps

Avoiding low-fat, high-carb diets helps stabilize blood sugar levels by reducing large insulin spikes associated with high carbohydrate consumption. Incorporating healthy fats promotes satiety and helps maintain energy levels, supporting better overall glycemic control.

8



Low-Carbohydrate Diet

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Limit your daily intake of carbohydrates to less than 26% of your total daily calories. For a standard 2000-calorie diet, this means consuming no more than 130 grams of carbohydrates per day. Focus on including non-starchy vegetables, lean proteins, and healthy fats in your meals while minimizing the intake of sugars, bread, pasta, and other high-carb foods.

Description

Low-carbohydrate diets can promote weight loss, improve blood sugar control, and support heart health. They may also be beneficial for individuals with certain medical conditions, such as epilepsy or metabolic syndrome.

How it helps

A low-carbohydrate diet helps manage high blood sugar by reducing insulin resistance and lowering glucose levels, which in turn aids in stabilizing energy and improving overall metabolic health.

9



Avoid Overeating

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Consume meals slowly, taking time to chew your food thoroughly and pausing between bites to allow your body to signal when it is full. Aim to stop eating when you feel about 80% full rather than waiting until you feel uncomfortably full. Implement this practice at every meal and snack, making it a consistent part of your daily eating habits.

Description

People who overeat take in more food than their body needs. Overeating may contribute to obesity and diabetes, as well as digestive and sleep problems.

People who overeat take in more food than their body needs.

Overeating may contribute to [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Obesity
- Diabetes
- Digestive problems
- Sleep problems

How it helps

Avoiding overeating helps regulate blood sugar levels by preventing excessive caloric intake, which can lead to weight gain and insulin resistance. This promotes better glycemic control and reduces the risk of complications associated with high blood sugar.

10



Acarbose

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Acarbose is usually taken orally, with the first bite of each main meal. The typical dose and frequency are determined by a healthcare provider based on your medical condition and response to treatment. Swallow the tablet whole with water, and avoid crushing or chewing it. To maximize its benefits, combine acarbose with a balanced diet and regular physical activity. If you miss a dose, take it with your next meal; do not double the dose.

Description

Acarbose is an oral medication used to manage blood sugar levels in individuals with type 2 diabetes. It belongs to the class of drugs known as *alpha-glucosidase inhibitors*, which work by slowing down the digestion and absorption of carbohydrates in the intestines to prevent sudden spikes in blood sugar levels after meals. It is often used in combination with other antidiabetic medications or lifestyle changes like diet and exercise for optimal results.

In addition to diabetes management, acarbose has been studied for potential benefits in reducing the risk of cardiovascular complications associated with metabolic syndrome and for weight management in specific populations. However, its use may cause gastrointestinal side effects, such as bloating or gas, due to undigested carbohydrates reaching the colon.

How it helps

Acarbose helps manage high blood sugar levels by inhibiting the enzyme alpha-glucosidase, which slows the digestion of carbohydrates in the intestines. This action reduces postprandial glucose spikes, leading to improved overall glycemic control in diabetes patients.

11



Keto Diet

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Adopt a diet that consists of about 70-80% fat, 10-20% protein, and 5-10% carbohydrates. Eliminate or significantly reduce the intake of sugar and starches like bread, pasta, rice, and potatoes, focusing instead on high-fat foods like meats, fatty fish, eggs, butter, and healthy oils, as well as low-carb vegetables like leafy greens. This dietary pattern should be maintained consistently for a period of at least 3-4 weeks to achieve ketosis, after which it can be adjusted based on individual goals and responses.

Description

The keto diet is a high-fat, low-carbohydrate eating plan designed to induce a state of ketosis in the body, where it primarily burns fat for energy. It is often used for weight loss and managing certain medical conditions.

The ketogenic diet, or the ‘keto’ diet, is rich in fat and restricts carb intake [\[R\]](#), [\[R\]](#).

On the ketogenic diet, 50 g of carbs or less are consumed per day. Around 55-80% of the calories come from fat [\[R\]](#).

The ketogenic diet depletes the body of sugars like glucose. When people fast or eat very little carbs, the body makes less insulin. In response, the body starts using fat for energy.

When the body only uses fat for energy, molecules called ketones are formed. This state is called *ketosis*.

The ketogenic diet may help with:

- Seizures [\[R\]](#)
- Excess weight [\[R\]](#)
- Diabetes [\[R\]](#), [\[R\]](#)

How it helps

The ketogenic diet aids in managing high blood sugar by significantly reducing carbohydrate intake, which lowers insulin demand and stabilizes glucose levels. This metabolic shift encourages fat utilization for energy, potentially improving overall glycemic control.

12



Avoid Refined Sugar

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Eliminate foods and beverages high in refined sugars, such as sodas, candies, pastries, and white bread, from your diet. Replace them with natural sugars found in fruits and whole grains. Implement this change immediately and maintain it indefinitely for long-term health benefits.

Description

Reducing the consumption of refined sugar and high-sugar foods can help prevent dental problems, manage blood sugar levels, and support weight management.

How it helps

Avoiding refined sugar helps stabilize blood sugar levels by reducing insulin spikes, which is crucial for managing high blood sugar and preventing diabetes. This dietary adjustment can also assist in weight management, further supporting overall metabolic health.

13



Whole Grains

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate at least three servings of whole grains into your daily diet. This can include consuming foods such as whole grain bread, brown rice, whole grain pasta, and oats. Aim to replace refined grains with whole grains at each meal for optimal benefits.

Description

Whole grains encompass a variety of grains like wheat, oats, and quinoa, where the entire grain kernel is intact. They are rich in fiber, vitamins, minerals, and antioxidants, supporting heart health and reducing the risk of chronic diseases.

Unlike refined grains, whole grains contain nutritious parts of the grain like bran and germ.

Whole grains provide many crucial nutrients, including:

- Fiber
- B-vitamins
- Iron
- Magnesium
- Phosphorus

Due to their high fiber content, whole grains don't tend to spike blood sugar like refined grains do.

How it helps

Whole grains aid in blood sugar control by providing high fiber content, which slows glucose absorption and improves insulin sensitivity. This can lead to more stable blood sugar levels and help mitigate spikes associated with high blood sugar.

14



Avoid Sugary Foods & Drinks

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

To avoid sugary foods, eliminate or significantly reduce consumption of foods and beverages high in added sugars such as sodas, candies, baked goods, and sugary cereals from your diet. Instead, opt for natural sugar sources like fruits. Aim to do this daily for ongoing health benefits.

Description

High-sugar foods like baked goods, sweets, and sugary drinks, can spike your blood sugar levels. Consuming a lot of these types of foods can contribute to health issues like diabetes, obesity, insomnia, and heart disease.

High-sugar foods and refined carbs have a high glycemic index (GI). This means they tend to spike your blood sugar levels. They include [R](#), [R](#), [R](#):

- Sugary drinks
- Baked goods
- Sweets
- White bread
- White rice
- Pasta

Eating a lot of sugary foods can contribute to:

- Diabetes [R](#), [R](#), [R](#)
- Weight gain and obesity [R](#), [R](#)
- Insomnia [R](#)
- Heart disease [R](#)

You may also want to avoid processed sugars and sugary drinks. They may have a role in increasing IL-1B [R](#), [R](#).

How it helps

Avoiding sugary foods and drinks helps to stabilize blood glucose levels by preventing rapid spikes, which is crucial for individuals with high blood sugar. This dietary change directly reduces the risk of developing insulin resistance and related complications.

15



Gymnema

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a gymnema supplement containing 200 to 400 mg of gymnemic acids daily, ideally with a meal to potentially aid in reducing sugar absorption in the intestines. The duration can vary, but many users incorporate it into their daily routine for several months to assess its effects on blood sugar levels and cravings for sweets.

TYPICAL STARTING DOSE

200 mg

Description

Gymnema is an herb used in traditional medicine for its potential to support blood sugar control. Some studies suggest it may have benefits for individuals with diabetes, but it's important to consult with a healthcare provider before using it as a supplement.

[Gymnema](#) (*Gymnema silvestris*), also known as cowplant, gurmar, or periploca of the woods, is a plant originally from India. In Ayurvedic medicine, it is known as meshashringi or “the destroyer of sugar” because it temporarily **reduces the taste of sugar** on the tongue [\[R\]](#), [\[R\]](#).

It is traditionally used for [\[R\]](#), [\[R\]](#):

- Diabetes
- Weight loss
- High cholesterol

How it helps

Gymnema may help reduce sugar absorption in the intestines and enhance insulin secretion, contributing to better blood sugar management in individuals with high blood sugar levels.

16



Avoid High-Glycemic Index Foods

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Substitute high glycemic foods, typically those that are processed, sugary, and low in fiber, with lower glycemic options like most fruits, vegetables, beans, and whole grains. This means avoiding white bread, candies, and sugary drinks in your daily diet, and instead opting for options like whole wheat bread, nuts, and water. It's a continuous adjustment to be made with every meal and snack.

Description

Choose foods with a lower glycemic index. These are foods that don’t cause spikes in your blood sugar [\[R\]](#).

How it helps

Avoiding high-glycemic index foods helps stabilize blood sugar levels by preventing rapid spikes, which is crucial for individuals managing high blood sugar. This dietary choice supports better glucose control and reduces the risk of complications associated with hyperglycemia.

17



Metformin

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Metformin is available in **immediate-release and extended-release formulations**. Doses are in the 500 to 2,550 mg range and are usually taken with food twice daily (immediate-release) or once daily (extended-release). It can also be taken in **combination with certain anti-diabetic medications** (rosiglitazone and metformin - Avandamet, glyburide, and metformin - Glucovance) [R].

Description

Metformin is classified as a biguanide. It’s used as a first-line drug treatment for type 2 diabetes and PCOS. Doctors may prescribe it for its "off-label" use in people with conditions such as [insulin resistance](#) and even cancer. It is the most commonly prescribed anti-diabetic medication in the world [R].

How it helps

Metformin helps manage high blood sugar by improving insulin sensitivity and decreasing hepatic glucose production, thereby promoting better glycemic control in individuals with type 2 diabetes.

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Maintain a Regular Meal Schedule

IMPACT

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EVIDENCE

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How to implement

Eat your meals at the same times each day, for instance, breakfast at 7 AM, lunch at 12 PM, and dinner at 6 PM. Stick to this schedule every day, including weekends, to help regulate your body's internal clock and improve digestion.

Description

Maintaining a regular meal schedule helps regulate blood sugar levels, supports digestion, and promotes a healthy metabolism. Consistency in meal timing can contribute to overall energy balance and long-term weight management.

Blood sugar ([glucose](#)) is the body’s main source of energy. It increases after a meal. Skipping meals may reduce this energy supply and lead to [R](#), [R](#):

- Poor cognitive performance
- Headaches

A regular meal schedule means eating the same number of meals at about the same times every day. Doing so may help [R](#), [R](#):

- Balance the internal clock
- Maintain a healthy body weight
- Support healthy cholesterol levels
- Prevent migraines

How it helps

Maintaining a regular meal schedule helps regulate blood sugar levels by reducing insulin resistance and preventing spikes and drops in glucose, thus supporting overall metabolic control. This stability is crucial for individuals managing high blood sugar.

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Avoid Processed Carbs

IMPACT

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EVIDENCE

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How to implement

Eliminate or significantly reduce foods such as white bread, pastries, sodas, and other processed or refined sugars from your daily diet. Instead, focus on consuming whole grains, fruits, and vegetables. Aim to maintain this dietary change consistently over time to achieve and sustain health benefits.

Description

Processed carbs, like white bread and chips, are foods that have been changed from their natural state. They often have sugars and unhealthy fats added in, which can lead to weight gain and other health problems. Avoiding processed carbs and sticking with whole grains, fruits, and vegetables is better for maintaining a healthy weight and avoiding illnesses like diabetes and heart disease.

How it helps

Avoiding processed carbohydrates helps in stabilizing blood sugar levels by minimizing rapid spikes in glucose. This can enhance overall glycemic control, reducing the risk of complications associated with high blood sugar.