

Gestational Diabetes

Disease Report

REPORT CATEGORIES —



BLOOD SUGAR
CONTROL



REPRODUCTIVE
HEALTH

Sample Client

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omicsedge

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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

Gestational diabetes (GD) is a type of diabetes that develops during pregnancy when the body cannot produce enough insulin to regulate blood sugar effectively. It typically resolves after childbirth but may increase the risk of type 2 diabetes later in life [\[R\]](#).

Gestational diabetes often presents no noticeable symptoms. In some cases, women may experience [\[R\]](#), [\[R\]](#):

- Increased thirst.
- Frequent urination.
- Fatigue.
- Blurred vision.

Routine screening between 24-28 weeks of pregnancy is crucial for detecting GD, as symptoms can be subtle or absent [\[R\]](#), [\[R\]](#).

Complications and Treatment

Certain factors increase the likelihood of developing gestational diabetes, including [\[R\]](#), [\[R\]](#):

- Being overweight or obese before pregnancy.
- A history of gestational diabetes in a previous pregnancy.
- Family history of type 2 diabetes.
- Being over the age of 35 (or >25 for women of Asian, Hispanic, and Native American ancestries)
- Having polycystic ovary syndrome (PCOS).
- Previous delivery of a baby weighing over 9 pounds (macrosomia).
- Being of certain ethnic backgrounds (e.g., African American, Hispanic, Native American, or Asian).
- Genetic predisposition.

Effective gestational diabetes management involves [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Monitoring blood sugar levels regularly.
- Adopting a healthy diet and engaging in moderate physical activity.
- Insulin therapy or oral medications if blood sugar levels cannot be controlled through diet and exercise alone.

Close monitoring during pregnancy and proper management can minimize complications and ensure a healthy delivery.

Consumer Summary

- Gestational diabetes happens when your body can't manage blood sugar levels during pregnancy. It usually goes away after birth but can raise your risk of developing type 2 diabetes later.
- Many women with gestational diabetes don't notice any symptoms, but some might feel extra thirsty, tired, or need to urinate more often. That's why routine screening between 24-28 weeks of pregnancy is so important.
- You're more likely to get gestational diabetes if you're overweight, over 25, have a family history of diabetes, or had a very large baby before. Conditions like PCOS can also increase your risk.



LESS LIKELY

Less likely to have gestational diabetes based on 1,012,701 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
/	rs117370931	GG
/	rs79596863	GA
CBX6	rs78554731	CT
CTNND2	rs147311205	TT
ANAPC4	rs141673378	AA
TBX3	rs149824410	GG
/	rs148128020	GG
SYNPR	rs13069093	CC
/	rs113491848	TT
TNFAIP8L2	rs192645808	CC
SYNCRIP	rs190618220	TT
GIMD1	rs138547276	CC
/	rs112056959	CC
DAOA	rs111466952	AA
NR2F2	rs118117464	TT
DLEU7	rs76418129	GG
ZBTB20	rs61167087	AA
HPSE2	rs145457945	AA
CNTN3	rs116838442	CC
FAM155B	rs779701135	G
MDGA2	rs117689036	AA
LDLRAD4	rs117607381	CC
SLC7A11	rs12507205	GG
/	rs148647963	AA
RAB27B	rs72924790	AA
CPED1	rs111833092	CC
NPY5R	rs4057780	TT
EPHB4	rs146006635	GG
TACR1	rs115177932	CC
PRSS12	rs113885148	GG
/	rs1446394	TT
SEPTIN9	rs117023857	AA

- Managing gestational diabetes means checking your blood sugar regularly, eating healthy, staying active, and sometimes using medications like insulin if needed.
- With good care, most women with gestational diabetes have healthy pregnancies and babies.

GENE	SNP	GENOTYPE
LEPR	rs12141591	CC
/	rs118055049	TT
MED30	rs10098770	CC
CLDN16	rs11929677	TT
IGFBP7	rs6832199	TT
GUCY1A2	rs10890563	CC
EVX2	rs1542208	TT

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	Aerobic Exercise (Cardio)	1 hour	2	Avoid PBDE	
3	Maintain Optimal Vitamin D Levels	1000 iu	4	Myo-inositol	4 g
5	Inositol	2 g	6	Omega-3 (Fish Oil)	2000 mg
7	Vitamin B12	100 mcg	8	Avoid PFAS Exposure	
9	Lactobacillus Rhamnosus HN001	10 billion CFU	10	Alpha-Lipoic Acid	600 mg
11	Avoid Cadmium Exposure		12	Capsaicin	
13	Riboflavin (Vitamin B2)	25 mg	14	Extra Virgin Olive Oil (EVOO)	
15	Evening Primrose Oil		16	Oats	
17	Avoid Large Meals		18	Probiotics	30 billion CFU
19	Avoid Sugary Foods & Drinks		20	L-Carnitine	1 g
21	Swimming	30 minutes	22	Walking	30 minutes
23	Limit Saturated Fat		24	Avoid Rapid Weight Changes	
25	Exercise At Least One Hour a Day	1 hour	26	Nutrition Education	
27	Whole Grains				

1



Aerobic Exercise (Cardio)

IMPACT4 / 5

EVIDENCE4 / 5

How to implement

Engage in at least 150 minutes of moderate-intensity aerobic exercise or 75 minutes of vigorous-intensity activity each week. Distribute this time over at least 3 days per week, avoiding consecutive days of vigorous exercise to allow for recovery.

TYPICAL STARTING DOSE
1 hour

Description

Engaging in regular aerobic exercise, such as running, swimming, or cycling, offers numerous health benefits, including improved cardiovascular fitness, weight management, and mood enhancement. It supports overall physical and mental well-being while reducing the risk of chronic diseases.

Cardio, short for cardiovascular exercise, is any type of physical activity that temporarily increases your heart rate. Examples include **running, cycling, swimming, and brisk walking**.

Regular cardio exercise has many benefits for your overall health. It can help lower your risk of heart disease and diabetes, support weight loss, and improve your mood and energy levels. To get the most out of cardio, try to do it for at **least 30 minutes, 3-5 times a week**.

Interval training is a type of cardio that combines periods of high-intensity training with brief rest periods.

How it helps

Regular exercise (especially aerobic) before and during pregnancy may reduce the risk of gestational diabetes. Exercise may be more effective when combined with diet [\[R, R, R, R, R\]](#).

In women with this condition, exercise may help control blood glucose. Aerobic exercise in particular may lower fasting glucose, postprandial glucose, and HbA1c [\[R, R, R, R\]](#).

2



Avoid PBDE

IMPACT

4 / 5

EVIDENCE

3 / 5

How to implement

To avoid PBDEs, replace old furniture that might contain these chemicals, vacuum and dust your home regularly to reduce dust particles that might contain PBDEs, and use products labeled as PBDE-free. Ensure you check labels on electronics, furnishings, and textiles for mention of being PBDE-free.

Description

Polybrominated Diphenyl Ethers (PBDEs) are commonly found in flame retardants used in household items. These chemicals are linked to health issues like hormone disruption and neurodevelopmental problems. Opt for PBDE-free products, improve ventilation, and frequently clean to minimize dust, which can contain PBDE particles, promoting a healthier living environment.

How it helps

Exposure to PCBs, PBDEs, PAEs, and PFASs increases the risk of gestational diabetes mellitus (GDM) according to a meta-analysis of 25 studies involving 23,796 participants. Cohort studies also confirm these associations. No publication bias was found [\[R\]](#).

A study in China (2020-2022) found that higher levels of PCB-153, PBDE-28, and total PCB in serum were associated with an increased risk of gestational diabetes (GDM) and elevated 1-hour OGTT blood glucose levels, but not fasting or 2-hour OGTT blood glucose [\[R\]](#).

Exposure to certain environmental pollutants like PAEs, PFASs, PCBs, and PBDEs was linked to a higher risk of gestational diabetes (GDM), but not for phenols, OCPs, and parabens. Experimental studies suggest various mechanisms contributing to GDM. More research on the biological link is needed [\[R\]](#).

3

Maintain Optimal Vitamin D Levels

IMPACT

3 / 5

EVIDENCE

4 / 5

How to implement

Check your vitamin D levels, they should ideally be in the 30-66 ng/mL range. If your levels are lower than that, take a vitamin D supplement, 1000-4000 IU daily, to reach an optimal range.

TYPICAL STARTING DOSE
1000 iu

Description

Vitamin D, often referred to as the "sunshine vitamin," can be synthesized by the skin when exposed to sunlight, as well as being found in fish, eggs, and fortified milk. It helps regulate calcium absorption, promoting strong bones and a healthy immune system. Vitamin D deficiency can lead to conditions like rickets in children and osteoporosis in adults.

Your body needs [vitamin D](#) for strong bones. Vitamin D also plays a role in [\[R\]](#):

- Mood
- Immunity
- Heart health
- Blood sugar control

[Sunlight](#) is our main source of vitamin D. Experts recommend getting at least **5-15 minutes of midday sun, 2-3 times per week**. People with darker skin and those living at high latitudes may need longer periods of sun exposure [\[R, R\]](#).

Foods like fish, eggs, and fortified milk provide small amounts of vitamin D. **People lacking vitamin D should consider taking a supplement** [\[R\]](#).

How it helps

Women with low vitamin D levels may have a 19-45% higher risk of gestational diabetes. In line with this, those with this condition tend to have lower vitamin D levels (by 4.79-5.33 nmol/L) [\[R, R, R, R, R\]](#).

Supplementation with vitamin D during pregnancy may improve glycemic control and blood lipid profile while reducing adverse neonatal outcomes such as hyperbilirubinemia in women with gestational diabetes [\[R, R, R, R, R\]](#).

Please note: *Experts recommend getting 600-800 IU of vitamin D per day. Medical bodies recommend against taking more than 4,000 IU per day* [\[R\]](#).

4



Myo-inositol

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Take 2 grams of myo-inositol supplement orally twice a day, preferably with meals to enhance absorption. This regimen should be followed daily for at least 6 months to observe significant benefits.

TYPICAL STARTING DOSE

4 g

Description

Myo-inositol is a naturally occurring compound that plays a role in various cellular functions. It is used in dietary supplements and is believed to have potential benefits for mental health, hormone regulation, and insulin sensitivity.

Inositol is a type of sugar that our bodies need to function. It was considered a vitamin (vitamin B8) until it was discovered that our bodies can make it from another common sugar, glucose [\[R\]](#).

[Myo-inositol](#) is the most common form of inositol. It plays a role in [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Heart health
- Normal blood sugar levels
- Mental health
- Cognitive function
- Reproductive health

Myo-inositol can convert to [D-chiro-inositol](#) in the body. These two forms of inositol are often combined in supplements. People use them to improve blood sugar control and PCOS [\[R\]](#), [\[R\]](#), [\[R\]](#).

How it helps

In 4 placebo-controlled trials of 706 healthy pregnant women, supplementation with myo-inositol (4 g/day) for up to 28 weeks reduced insulin resistance and gestational diabetes rates. The effect was strongest in overweight women, who are at highest risk [\[R\]](#), [\[R\]](#), [\[R\]](#).

A supplement with myo-inositol, chiro-inositol, folic acid, and manganese improved glycemic and blood lipid parameters in a placebo-controlled trial of 24 healthy pregnant women [\[R\]](#).

In a placebo-controlled trial of 69 pregnant women with gestational diabetes, myo-inositol (4 g/day) combined with folic acid reduced fasting glucose and insulin levels, ultimately improving insulin resistance [\[R\]](#).

In 2 non-placebo-controlled trials of 152 pregnant women with PCOS, myo-inositol was more effective than metformin at preventing gestational diabetes [\[R\]](#), [\[R\]](#).

Myo-inositol mimics the effects of insulin and seems to enhance insulin sensitivity. Based on the studies so far, it seems better suited for overweight women [\[R\]](#).

5



Inositol

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Take inositol as a daily supplement, usually available in powder or capsule form. The typical dosage ranges from 2 grams to 18 grams per day, divided into smaller doses taken with meals and water to aid absorption. It's important to start with a lower dose and gradually increase to avoid digestive side effects.

TYPICAL STARTING DOSE

2 g

Description

Inositol is a naturally occurring compound that plays a role in cell signaling and neurotransmitter function. It has been studied for its potential in promoting mental health and managing conditions like anxiety and depression when used as a supplement under the guidance of a healthcare professional.

Inositol is a type of sugar that our bodies need to function. It was considered a vitamin (vitamin B8) until it was discovered that our bodies can make it from another common sugar, glucose [\[R\]](#).

[Myo-inositol](#) is the most common form of inositol. It plays a role in [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Heart health
- Normal blood sugar levels
- Mental health
- Cognitive function
- Reproductive health

Myo-inositol can convert to [D-chiro-inositol](#) in the body. These two forms of inositol are often combined in supplements. People use them to improve blood sugar control and PCOS [\[R\]](#), [\[R\]](#), [\[R\]](#).

How it helps

In 4 placebo-controlled trials of 706 healthy pregnant women, supplementation with myo-inositol (4 g/day) for up to 28 weeks reduced insulin resistance and gestational diabetes rates. The effect was strongest in overweight women, who are at highest risk [\[R\]](#), [\[R\]](#), [\[R\]](#).

A supplement with myo-inositol, chiro-inositol, folic acid, and manganese improved glycemic and blood lipid parameters in a placebo-controlled trial of 24 healthy pregnant women [\[R\]](#).

In a placebo-controlled trial of 69 pregnant women with gestational diabetes, myo-inositol (4 g/day) combined with folic acid reduced fasting glucose and insulin levels, ultimately improving insulin resistance [\[R\]](#).

In 2 non-placebo-controlled trials of 152 pregnant women with PCOS, myo-inositol was more effective than metformin at preventing gestational diabetes [\[R\]](#), [\[R\]](#).

Myo-inositol mimics the effects of insulin and seems to enhance insulin sensitivity. Based on the studies so far, it seems better suited for overweight women [\[R\]](#).

6



Omega-3 (Fish Oil)

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Take 1-2 g of omega-3 (fish oil) supplement daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

2000 mg

Description

Omega-3 fatty acids are essential fats found in fatty fish like salmon, flaxseeds, and walnuts. They are known for their potential cardiovascular and brain health benefits, including reducing the risk of heart disease and supporting cognitive function.

[Omega-3 fatty acids](#) are some of the healthiest fats we can eat. They help lower inflammation and protect the heart, brain, and eyes. Our bodies produce less omega-3s than we need for optimal health, so it's important to get enough through food or supplements [\[R\]](#), [\[R\]](#), [\[R\]](#).

There are three major types of omega-3s: ALA, EPA, and DHA [\[R\]](#), [\[R\]](#).

Fatty fish are rich in EPA and DHA. They include [\[R\]](#):

- Salmon
- Tuna
- Herring
- Sardines

For optimal protection, try to get at least **two servings of fatty fish per week**. Fish oil supplements are available for those who don't eat fish regularly [\[R\]](#).

How it helps

In women with gestational diabetes, supplementation with omega-3 fatty acids may lower fasting glucose, fasting insulin, and insulin resistance. Omega-3s may also lower triglycerides, VLDL cholesterol, and CRP while increasing HDL cholesterol. However, it may not help prevent adverse birth outcomes. Combining omega-3s with the vitamins D or E may further enhance their benefits [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Omega-3 fatty acids may help by improving insulin sensitivity.

7



Vitamin B12

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Take a 50 mcg vitamin B12 supplement daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

100 mcg

Description

Vitamin B12 is a water-soluble vitamin primarily found in animal-based foods like meat, fish, and dairy products. It plays a crucial role in maintaining healthy nerve cells, DNA synthesis, and red blood cell formation. Vitamin B12 deficiency can lead to anemia, neurological issues, and fatigue.

[Vitamin B12](#) is important for [\[R\]](#), [\[R\]](#):

- Building DNA
- Nervous system function
- Energy production

You can get vitamin B12 from [\[R\]](#):

- Animal products (meat, fish, eggs, and dairy)
- Fortified foods
- Supplements

Adults should be getting **2.4 micrograms** of vitamin B12 every day [\[R\]](#).

How it helps

Vitamin B12 deficiency in pregnancy is linked to a 46% higher risk of gestational diabetes (GDM). Elevated B12 levels may reduce GDM risk by 23%, but the relationship between excess folic acid and low B12 levels is unclear [\[R\]](#).

Six studies (1,810 pregnant women, 309 GDM cases) found lower vitamin B12 levels in women with GDM. Vitamin B12 deficiency was linked to a 1.81 times higher risk of GDM [\[R\]](#).

However, a meta-analysis of 13 observational studies found a significant rise in gestational diabetes risk with high RBC folate levels, moderate evidence, and a less certain association with high plasma/serum folate. An increase of 200 ng/ml in RBC folate correlated with an 8% higher risk. Extended Folic Acid Supplement (FAS) intake (≥3 months) raised GDM risk by 56% with low certainty. No significant link was established with plasma/serum B12 levels. Additional studies confirmed lower serum B12 levels in GDM, mixed results for higher RBC folate, and an inconclusive link to vitamin B12 deficiency [\[R\]](#), [\[R\]](#).

8



Avoid PFAS Exposure

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

To avoid PFAS exposure, choose products that are labeled PFAS-free, especially when selecting cookware, cosmetics, and clothing. Reduce the consumption of packaged and fast foods since the packaging often contains PFAS. Use a water filter that is certified to remove PFAS compounds for your drinking and cooking water.

Description

Avoiding per- and polyfluoroalkyl substances (PFAS) exposure means avoiding products and environments contaminated with these chemicals, which can help prevent potential health issues like hormonal disruption and adverse effects on liver and immune function.

How it helps

A meta-analysis of 8 studies and 5654 pregnant women associated high PFOA exposure with a 27% higher risk of gestational diabetes. However, other PFAS didn't increase the risk [\[R\]](#).

9



Lactobacillus Rhamnosus HN001

IMPACT

1 / 5

EVIDENCE

2 / 5

How to implement

L. rhamnosus HN001 is available in various forms, including capsules, powders, and sometimes as an ingredient in fermented dairy products like yogurts and kefir. Typically, doses range from 1 billion to 10 billion colony-forming units (CFUs) per day. It is often recommended to start with a lower dose and gradually increase it to gauge how your body responds. Consistency is key. Taking *L. rhamnosus* HN001 regularly can help maintain its effectiveness.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus rhamnosus HN001 is a probiotic strain originally isolated from dairy products. Research suggests that *L. rhamnosus* HN001 can have several beneficial impacts, particularly in the areas of digestive health and immune system support.

People mainly take *L. rhamnosus* HN001 to help with:

- IBS
- Diarrhea
- Respiratory infections
- Eczema
- Anxiety
- Depression

How it helps

In a trial of pregnant women with a personal or partner history of atopic disease, supplementation with *L. rhamnosus* HN001 from 14-16 weeks of gestation reduced gestational diabetes rates, particularly among women aged ≥ 35 years and those with a history of this condition. This probiotic improved glycemic status in healthy pregnant women and lowered taurodeoxycholic acid in those with gestational diabetes in a placebo-controlled trial of 348 pregnant women [R, R].

However, the combination of *L. rhamnosus* HN001 and *Bifidobacterium animalis* ssp. *lactis* 420 failed to prevent gestational diabetes in a placebo-controlled trial of 439 pregnant women [R].

10



Alpha-Lipoic Acid

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 600-1800 mg of alpha-lipoic acid daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

600 mg

Description

[Alpha-lipoic acid](#) is a natural antioxidant found in almost every cell in your body. People use alpha-lipoic acid to help with issues like skin aging, weight loss, and high blood sugar [\[R, R, R\]](#).

People use alpha-lipoic acid to help with [\[R, R, R, R\]](#):

- Complications of high blood sugar
- Skin aging
- Weight loss
- Carpal tunnel syndrome

How it helps

In a placebo-controlled trial of 60 women with gestational diabetes, supplementation with alpha-lipoic acid (300 mg/day) for 8 weeks improved fasting glucose, total antioxidant capacity, oxidative stress index, total antioxidant gap, total oxidant status, glutathione, and catalase [\[R\]](#).

11



Avoid Cadmium Exposure

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

To avoid cadmium exposure, refrain from smoking or exposure to secondhand smoke, reduce consumption of foods high in cadmium like shellfish, liver, kidney meats, and certain leafy vegetables, and use ceramic or glass containers instead of plastic when microwaving food. Limit intake of cadmium-contaminated workplace air by using protective gear if you work in battery manufacturing, welding, or metal refining industries.

Description

Avoiding cadmium exposure is essential to prevent potential health risks associated with this heavy metal, such as kidney damage and increased cancer risk. Reducing exposure to cadmium-containing products and contaminated foods is crucial.

Heavy metals are elements naturally found in the environment. They are also used for agricultural, industrial, and medicinal purposes. Some can even be found in small amounts in your body [\[R\]](#), [\[R\]](#).

Long-term exposure to high amounts of heavy metals can be harmful to your health [\[R\]](#), [\[R\]](#).

Heavy metals that are most often linked to health problems include [\[R\]](#), [\[R\]](#):

- Lead
- Cadmium
- Arsenic
- Chromium
- Mercury

How it helps

A meta-analysis of 11 studies with 32,392 participants found that cadmium exposure may increase the risk of gestational diabetes mellitus by 21% [\[R\]](#).

12



Capsaicin

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Apply a capsaicin cream or gel to the affected area up to 4 times daily. Make sure the skin is intact and not broken. Start with a lower concentration (0.025%) and gradually increase to 0.075% if needed for pain relief. Use continuously for at least 4 weeks to evaluate its effectiveness.

Description

Capsaicin, found in chili peppers, is known for its potential to boost metabolism and promote weight loss. It can also provide pain relief when used topically in certain creams and ointments.

How it helps

In a placebo-controlled trial of 44 pregnant women with gestational diabetes, supplementation with capsaicin (5 mg/day) for 4 weeks improved postprandial hyperglycemia and hyperinsulinemia, as well as fasting lipid metabolic disorders [\[R\]](#).

13



Riboflavin (Vitamin B2)

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take a riboflavin (vitamin B2) supplement daily, with a dose ranging from 5mg to 400mg, depending on the specific health concern or advice from a healthcare provider. Swallow the supplement with water, preferably with a meal to enhance absorption. This regimen can be continued long-term or as directed by a healthcare professional.

TYPICAL STARTING DOSE

25 mg

Description

Riboflavin is a water-soluble B vitamin found in various foods like dairy products, leafy greens, and lean meats. It plays a crucial role in energy production, metabolism, building red blood cells, and maintaining healthy skin and eyes.

[Vitamin B2](#) helps our cells create energy. It’s also known as riboflavin [\[R\]](#), [\[R\]](#).

This vitamin is important for [\[R\]](#), [\[R\]](#):

- Brain, liver, and gut health
- Building red blood cells

Riboflavin deficiency is rare in the US. People with gut, eating, or hormonal disorders may be at a higher risk. Alcohol abuse and certain medications can also deplete this vitamin [\[R\]](#), [\[R\]](#).

Good sources of riboflavin include [\[R\]](#), [\[R\]](#):

- Eggs
- Dairy
- Lean and organ meats
- Green vegetables
- Fortified cereals

How it helps

Low thiamine and riboflavin intake in pregnancy. Increased intake linked to lower GDM risk in first and second trimesters. Supplement use showed similar results. Higher intake reduces GDM incidence [\[R\]](#).

14



Extra Virgin Olive Oil (EVOO)

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Incorporate 1-2 tablespoons of extra virgin olive oil into your daily diet. Use it as a dressing for salads, vegetables, or incorporate it into cooking, but avoid using it at high temperatures to preserve its health benefits.

Description

Extra virgin olive oil is a high-quality olive oil obtained from the first pressing of olives. It is rich in monounsaturated fats and antioxidants, like polyphenols, and is associated with various health benefits, including heart health and anti-inflammatory properties.

[Olive oil](#) is fat from the olive, a traditional tree of the Mediterranean Basin [\[R\]](#).

Olive oil has anti-inflammatory and antioxidant properties. It may also reduce the risk of [\[R\]](#), [\[R\]](#):

- Heart disease
- Diabetes
- Cancer

Olive oil is also the primary fat source in the [Mediterranean diet](#), which may improve brain and heart health [\[R\]](#).

How it helps

In a study with 874 women, those receiving an early supplemented Mediterranean diet intervention had lower rates of gestational diabetes (GDM) and improved maternal and neonatal outcomes [\[R\]](#).

15



Evening Primrose Oil

IMPACT

0 / 5

EVIDENCE

1 / 5

How to implement

Take 500mg to 1000mg of evening primrose oil, in capsule form, once daily with a meal to ensure optimal absorption. This regimen is typically recommended for several months to evaluate its effectiveness for the specific condition being addressed.

Description

Evening primrose is a plant known for its seeds, which are a source of gamma-linolenic acid (GLA), an essential fatty acid. Some studies suggest that evening primrose oil, derived from these seeds, may help alleviate symptoms of conditions like premenstrual syndrome (PMS) and eczema, as well as support overall skin health.

Evening primrose (*Oenothera biennis*) is a flowering plant. Its name comes from the fact that its flowers close during the day and open when the sun sets [R].

[Evening primrose oil](#) comes from the plant’s seeds. It is rich in omega-6 fatty acids like [GLA](#). People use this oil to help with high triglycerides [R, R].

How it helps

In women with gestational diabetes, supplementation with vitamin D and evening primrose oil significantly improved insulin resistance, lipid profiles, and other metabolic markers over six weeks compared to placebo [R].

16



Oats

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate oats into your diet daily by having them for breakfast as oatmeal, or adding them to smoothies, baking recipes, or overnight oats. Aim for at least a half-cup (40 grams) of dry oats to reap the health benefits.

Description

Oats are a whole grain known for their high fiber content and nutritional value, like zinc, iron, and manganese. Including oats in one's diet can promote heart health, stabilize blood sugar levels, and provide sustained energy.

Oats are a good source for manganese, zinc, iron, magnesium, and vitamins B1 and B5. A ½ cup serving provides 0.7 mg of manganese or 30%DV.

How it helps

Oats have a low glycemic index and high fiber content, making them beneficial for controlling blood sugar levels in gestational diabetes. This slow digestion process prevents spikes in blood sugar, helping to manage gestational diabetes more effectively.

17



Avoid Large Meals

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Divide your daily food intake into smaller portions spread out over five to six times a day instead of having three large meals. Ensure that each portion is balanced and includes a variety of nutrients. This means having breakfast, a mid-morning snack, lunch, an afternoon snack, dinner, and possibly a light evening snack, depending on your caloric needs.

Description

Eating smaller, more frequent meals may help prevent overeating. This involves eating the same number of meals at about the same times every day. Doing so may help with issues like blood pressure, body weight, cholesterol levels, and migraines.

Eating smaller, more frequent meals may help prevent overeating. One way to do this is to keep a regular meal schedule. This involves eating the same number of meals at about the same times every day. Doing so may help [\[R\]](#), [\[R\]](#), [\[R\]](#):

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

How it helps

Eating large meals can cause significant rises in blood glucose levels. For women with gestational diabetes, smaller, more frequent meals help to maintain a more consistent blood glucose level, reducing the risk of spikes.

18



Probiotics

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take a probiotic supplement containing 10 billion or more live cultures once daily, preferably with a meal or as directed by the packaging or a healthcare provider.

TYPICAL STARTING DOSE
30 billion CFU

Description

Probiotics are live beneficial bacteria and yeasts that can support gut health and digestive function when consumed as supplements or found in fermented foods like yogurt and sauerkraut. They may be beneficial to gut health, immune function, blood sugar, and mood.

[Probiotic bacteria](#) are “good” bacteria found mainly in the large intestine. They support your body and mind by [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Maintaining gut health
- Supporting a healthy immune system
- Improving your mood
- Helping to maintain healthy blood sugar

Prebiotics are certain types of fiber and other complex carbs that serve as food for gut bacteria. **They support gut health by helping boost the activity and growth of “good” bacteria** [\[R\]](#), [\[R\]](#).

Prebiotics are also added to foods and supplements. Common prebiotic ingredients are [\[R\]](#), [\[R\]](#):

- Oligo-fructose
- Oligo-galactose
- [Inulin](#)

Mixtures of probiotics and prebiotics are known as **synbiotics** [\[R\]](#).

How it helps

Probiotics can influence the gut microbiota, which plays a role in metabolism and may affect glucose regulation. Some studies suggest that probiotic supplementation during pregnancy might help reduce the risk of gestational diabetes by improving glucose metabolism.

19



Avoid Sugary Foods & Drinks

IMPACT

0 / 5

EVIDENCE

0 / 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

Similar to avoiding refined sugar, steering clear of sugary foods can help manage blood glucose levels by preventing rapid spikes. This is especially crucial for managing gestational diabetes effectively.

20



L-Carnitine

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take 500 mg of L-carnitine supplement daily with a glass of water, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

1 g

Description

L-carnitine is an amino acid-like compound that plays a role in energy metabolism and helps prevent toxic substances from building up in cells. It is often used in dietary supplements for its potential to support muscle recovery, reduce fatigue, and enhance athletic performance.

[L-carnitine](#) is a compound that helps you burn fat. It also prevents toxic substances from building up in cells [\[R\]](#).

Your body can usually make enough carnitine to meet its needs. You can also get it from **meat and dairy products** [\[R\]](#).

People use L-carnitine for [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Heart problems
- Overactive thyroid
- Fertility problems
- Blood sugar control
- Weight control

How it helps

Low blood carnitine levels may increase the risk of gestational diabetes more in people with certain gene variants [\[R\]](#).

21



Swimming

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate swimming into your routine for at least 30 minutes, 3 times a week. Choose a pace and stroke that keeps your heart rate elevated yet allows you to breathe comfortably. Continue this practice regularly for long-term health benefits.

TYPICAL STARTING DOSE

30 minutes

Description

Swimming is a whole-body workout that engages various muscle groups, promoting strength and endurance. It helps keep the heart and lungs healthy, improves flexibility, and can even help reduce stress. Regular swimming is a great way to maintain a balanced, fit, and healthy lifestyle.

How it helps

Swimming is a good form of aerobic exercise for pregnant women with gestational diabetes as it improves glucose control without putting too much strain on the body. This activity helps in lowering blood sugar levels through increased insulin sensitivity.

22



Walking

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate at least 30 minutes of brisk walking into your daily routine, aiming for a minimum of five days a week. This can be done in one continuous session or broken into shorter periods, such as three 10-minute walks throughout the day.

TYPICAL STARTING DOSE

30 minutes

Description

Walking is a low-impact form of exercise that can contribute to cardiovascular fitness, weight management, and improved overall health. It is used to support physical activity goals, enhance mood, and promote better cardiovascular health.

How it helps

Walking is an easily accessible form of exercise that can help control gestational diabetes by improving blood glucose levels. Regular walking increases insulin sensitivity and helps manage body weight, both of which are important for managing this condition.

23



Limit Saturated Fat

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Reduce your intake of saturated fats by choosing lean cuts of meat, opting for low-fat or fat-free dairy products, and using cooking oils high in unsaturated fats (like olive or canola oil) instead of butter or lard. Aim to keep saturated fat to less than 10% of your total daily calories. For someone consuming 2000 calories a day, this means 20 grams or less of saturated fat per day.

Description

Limiting saturated fat intake is crucial for managing cholesterol levels and reducing the risk of heart disease. Choosing lean protein sources and incorporating unsaturated fats into the diet supports cardiovascular health and overall well-being.

How it helps

Reducing saturated fat intake can improve insulin sensitivity, which is essential for managing gestational diabetes. A diet lower in saturated fats helps enhance the body's ability to manage blood glucose levels more effectively.

24



Avoid Rapid Weight Changes

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Maintain a consistent, healthy weight by avoiding extreme dieting or sudden increases in food intake. Aim for gradual weight changes, not exceeding 1-2 pounds per week, by adjusting your diet and physical activity levels accordingly. This approach should be sustained over a long-term period to ensure health and prevent potential adverse effects on the body.

Description

Avoiding extreme and rapid weight changes, whether through crash diets or excessive calorie restriction, is essential for preventing negative health consequences such as nutritional deficiencies and metabolic disruptions.

Your weight is determined by the number of calories you consume compared to those you burn. Changes in exercise frequency, amount and type of food consumed, and alcohol intake may alter your energy expenditure. This may cause small weight fluctuations [\[R\]](#).

Some people may gain or lose weight at a faster rate. Rapid weight fluctuations may be due to [\[R\]](#), [\[R\]](#):

- Very drastic diets
- Water retention or dehydration
- Hormonal changes
- Pregnancy
- Taking certain medications
- Certain health conditions

How it helps

Avoiding rapid weight changes helps manage gestational diabetes by maintaining stable blood sugar levels. Rapid weight gain can increase insulin resistance, making it harder to control blood glucose.

25



Exercise At Least One Hour a Day

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Dedicate a minimum of 60 minutes to moderate-intensity activities such as brisk walking, swimming, or cycling. Do this most days of the week, aiming for at least 5 days to optimize benefits.

TYPICAL STARTING DOSE

1 hour

Description

[Exercise](#) can do wonders for your health. It can help you lose weight, improve your heart health, boost your mood, and more [\[R\]](#).

There are many ways you can be active. You can walk, run, swim, dance, or play team sports. **Everything counts, and it's never too late to start!**

Try to get at least **60 minutes of moderate physical activity on most days**, including walking. **Getting a mix of cardio (min 150 min/day) and strength training (min 2 times a week) may be optimal.**

How it helps

Exercising for at least 30 minutes a day can significantly improve blood glucose control in women with gestational diabetes. This regular physical activity increases insulin sensitivity, which helps your body use glucose more effectively.

26



Nutrition Education

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Sign up for a comprehensive nutrition education course or workshop, which typically involves attending a series of classes or seminars. These can vary in length but often run weekly for 4 to 8 weeks, covering topics such as healthy eating principles, understanding food labels, and planning balanced meals. Aim to apply learned principles to your daily eating habits consistently.

Description

Nutrition education involves teaching individuals about healthy eating habits, proper nutrition, and making informed food choices. It empowers people to improve their diets, make healthier food selections, and ultimately support their overall health and well-being.

Nutrition education helps people with eating disorders better understand their condition and foster healthy eating behaviors [\[R\]](#).

It can involve [\[R\]](#):

- Understanding the effects of nutrition on the body
- Setting up a healthy meal plan
- Aiming for a healthy weight

How it helps

Nutrition education is crucial for managing gestational diabetes effectively. Understanding which foods impact blood sugar levels allows for better dietary choices that can help maintain stable glucose levels throughout pregnancy.

27



Whole Grains

IMPACT

0 / 5

EVIDENCE

0 / 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, like oats and quinoa, have a lower glycemic index compared to refined grains. They are digested more slowly which helps maintain stable blood sugar levels, beneficial for managing gestational diabetes.

Next Steps

Remember, your genes only tell one important part of your health story!

Now that you've seen your DNA-based results for this health topic, let's take a look at other contributing factors.

Your lab results

Your lab results are impacted by the combined effect of your genes, environment and lifestyle.

Lab tests will give you the best picture of your current health status, while your genes provide insight into your health predispositions and which recommendations are best for you.

	HbA1c	30 mmol/mol		29 Dec 2025
	Glucose, Fasting	97 mg/dL		9 Nov 2025
	Insulin, Fasting	9.08 uU/mL		9 Nov 2025
	HbA1c (%)	4 %		29 Dec 2025