

Graves' Disease

Disease Report

REPORT CATEGORY —



Sample Client

Report date: 15 January 2026

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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

Graves' disease is an autoimmune disorder that causes hyperthyroidism, or an overactive thyroid gland. It is fairly rare, occurring in less than 1% of the population [R].

The thyroid produces hormones that regulate metabolism, heart rate, and other important bodily functions. In Graves' disease, the immune system mistakenly produces antibodies that stimulate the thyroid gland to produce too much hormones.

Symptoms of Graves' disease may include [R]:

- Weight loss
- Rapid heartbeat
- Tremors
- Sweating
- Difficulty sleeping
- Eye bulging (Graves' ophthalmopathy)
- Sexual dysfunction
- Anxiety and irritability
- Thickening of the skin (Graves’ dermopathy)

Graves' disease can cause other health problems if left untreated, including heart problems, osteoporosis, and nerve damage.

It is typically treated with medications to control the thyroid hormone levels and reduce symptoms. In some cases, surgery or radiation may be used. It's important for people with Graves' disease to work closely with their healthcare provider to manage their condition and prevent complications.

Risk Factors

Key Takeaways:

- Up to **80%** of differences in people's chances of getting Graves' disease may be due to genetics.
- Risk factors include young age, female sex, stress, smoking, and pregnancy.
- Symptoms include weight loss, rapid heartbeat, difficulty sleeping, eye bulging, and sexual dysfunction.
- If you have a high genetic risk, your overall risk is low due to its rarity. You can still improve this risk by taking action on those risk factors you can change.
- Click the **Recommendations** tab for potential dietary and lifestyle changes, and **next steps** for relevant labs.

Risk factors for Graves' disease include [\[R\]](#):

- **Genetics**
- Being female
- Age under 40
- Other autoimmune disorders
- Emotional or physical stress
- Pregnancy
- Smoking

Up to **80%** of differences in people's chances of getting Graves' disease may be due to genetics [\[R\]](#).



TYPICAL LIKELIHOOD

Typical likelihood of Graves' disease based on 176 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CTLA4	rs3087243	GG
TSHR	rs179247	AA
UHRF1BP1	rs9469899	AA
TSHR	rs28414437	AC
SESN3	rs4409785	TC
CTLA4	rs231779	CT
TPO	rs11675434	CT
IGLV3-21	rs5751536	GA
TSHR	rs2300519	TA
CTLA4	rs231775	AG
CD40	rs1569723	CA
MAF	rs17689159	CT
FCRL3	rs1977710	GA
STAT4	rs12612769	AC
TMPRSS3	rs34544259	GA
RNASET2	rs13210649	TG
TRIB2	rs1534422	GG
TSHR	rs4903964	GA
SH2B3	rs653178	CT
ZNF668	rs57348955	AG
TNFRSF14	rs2843403	TC
IL2RA	rs706779	TC
CD40	rs1883832	TC
HLA-DPA1	rs9357156	AA
SLAMF6	rs12026490	TT
ALDH2	rs4646776	GG
HLA-DQA1	rs2187668	CC
PTPN22	rs2476601	GG
MAGT1	rs4826198	A
TNF	rs1799964	TT
MICB	rs361525	GG
TNF	rs1800629	GG

GENE	SNP	GENOTYPE
CTLA4	rs11571297	TT
BACH2	rs7754251	GG
BACH2	rs72928038	GG
FCRL3	rs3761959	CC
GXYLT1	rs4768412	CC
LPP	rs13093110	CC

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	Relaxation Techniques	30 minutes	2	Selenium Supplements	50 mcg
3	Meditation	30 minutes	4	Exercise At Least One Hour a Day	1 hour
5	Ahnjeonbaekho-tang (AJBHT)		6	Aerobic Exercise (Cardio)	1 hour
7	Mindfulness-Based Stress Reduction (MBSR)	2 hours	8	Tai Chi	1 hour
9	Balance Iodine Intake				

1



Relaxation Techniques

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Incorporate relaxation techniques such as deep breathing exercises, meditation, or yoga into your daily routine. Spend at least 15-30 minutes each day practicing one of these techniques, preferably in a quiet, comfortable space without interruptions.

TYPICAL STARTING DOSE

30 minutes

Description

Relaxation techniques encompass various methods like deep breathing, yoga, meditation, and progressive muscle relaxation, aimed at reducing stress and promoting mental and physical relaxation. Practicing these techniques regularly can help manage stress, improve mental clarity, and enhance overall emotional well-being.

We all get stressed from time to time.

[Stress](#) can help you deal with a challenge or avoid danger. However, **it’s not healthy to be stressed for a long time** [\[R\]](#), [\[R\]](#).

Relaxation techniques such as [yoga](#) and [meditation](#) can relieve stress in different ways. Most of them focus on breathing and help you get rid of negative thoughts and emotions [\[R\]](#).

People use relaxation techniques to improve conditions like [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Anxiety
- Depression
- Chronic pain

Progressive muscle relaxation is another relaxation technique. In this technique, you focus on tensing and relaxing different parts of your body. It is common to start with the toes and slowly work your way up to the neck and head [\[R\]](#), [\[R\]](#).

Autogenic training is a relaxation technique that a person may carry out on their own. It uses exercises that take the mind’s attention to bodily sensations such as warmth and heaviness [\[R\]](#), [\[R\]](#).

How it helps

Stress may be a risk factor for Graves’ disease, especially in women [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

It may cause harm by altering the immune response [\[R\]](#), [\[R\]](#), [\[R\]](#).

Relaxation techniques such as meditation may help support thyroid health in some people. Reducing stress may also make Graves’ disease symptoms less severe [\[R\]](#), [\[R\]](#), [\[R\]](#).

2



Selenium Supplements

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Take 50 mcg of selenium supplements once daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

50 mcg

Description

Selenium is a trace mineral found in Brazil nuts and many other foods as well as supplements. It is an essential nutrient that plays a crucial role in maintaining the body's antioxidant defenses and supporting thyroid function.

[Selenium](#) supports [\[R\]](#):

- Reproduction
- Thyroid function
- DNA production
- Immune response

Adults should be getting **55 micrograms** of selenium per day. Selenium supplements are available for people who can't meet their needs with a balanced diet [\[R\]](#).

How it helps

Low levels of selenium are linked to thyroid issues [\[R, R, R, R\]](#).

Selenium (up to 400 mcg/day for 6 months) may **support healthy thyroid function** when combined with standard treatment in people with Grave’s disease. However, not all studies found this benefit. It might be limited to people with lower selenium levels [\[R, R, R, R\]](#).

Some people with Graves’ disease develop a condition in which their eyes bulge (Graves’ eye disease). Selenium (200 mcg/day for 6 months) may help improve this condition and slow its progression [\[R, R\]](#).

Selenium may help by [\[R, R\]](#):

- Supporting normal immune and thyroid function
- Reducing oxidative stress and inflammation

Please note: *High intake and levels of selenium are linked to type 2 diabetes. Selenium is not a replacement for thyroid medication. Talk to your doctor before taking selenium or any supplements for thyroid issues* [\[R\]](#).

3



Meditation

IMPACT1 / 5

EVIDENCE2 / 5

How to implement

Set aside 10-20 minutes each day in a quiet space without distractions to practice meditation. Focus on your breath or perform guided meditation using an app or audio track.

TYPICAL STARTING DOSE

30 minutes

Description

Meditation is a mindfulness practice that can reduce stress, improve mental clarity, and promote relaxation. Regular meditation is associated with numerous mental and emotional health benefits, including reduced anxiety and enhanced emotional well-being.

Meditation is a relaxation technique that trains your mind to focus and redirect your thoughts. Some of the main types of meditation are [\[R\]](#):

- Mindfulness
- Focused
- Transcendental
- Mantra
- Moving

People use meditation to improve [\[R\]](#), [\[R\]](#):

- Stress and anxiety
- Mood
- Sleep disturbances
- Pain

How it helps

Stress may be a risk factor for Graves’ disease, especially in women [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

It may cause harm by altering the immune response [\[R\]](#), [\[R\]](#), [\[R\]](#).

Relaxation techniques such as meditation may help support thyroid health in some people. Reducing stress may also make Graves’ disease symptoms less severe [\[R\]](#), [\[R\]](#), [\[R\]](#).

4



Exercise At Least One Hour a Day

IMPACT

1 / 5

EVIDENCE

2 / 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

Some experts recommend exercise to prevent potential complications of Grave’s disease such as excess weight and brittle bones [\[R\]](#).

According to a single study, exercise may help with Graves’ disease by [\[R\]](#):

- Supporting thyroid function
- Preventing condition worsening
- Reducing fatigue

5



Ahnjeonbaekho-tang (AJBHT)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Ahnjeonbaekho-tang (AJBHT) is typically prescribed by a healthcare professional who specializes in traditional Korean or East Asian medicine. If recommended, take the herbal formulation as a decoction. This means you'll need to simmer the prescribed amount of AJBHT herbs in water for a specific time, usually around 30 minutes to an hour, then strain and drink the liquid. The exact dosage and frequency depend on the individual conditions but generally, it's taken two to three times daily. Follow your healthcare provider's instructions accurately regarding the preparation and duration of the treatment.

Description

Ahnjeonbaekho-tang is a traditional Korean herbal medicine formulation. It is used in traditional medicine to support respiratory health and alleviate symptoms of conditions such as asthma and bronchitis, with its benefits attributed to a combination of herbal compounds like ginsenosides, glycyrrhizin, and others, which may have anti-inflammatory and bronchodilatory effects.

Ahnjeonbaekho-tang (AJBHT) is a combination of 8 herbs [\[R\]](#):

- Kudzu
- [Chinese skullcap](#)
- Gypsum
- Balloon flower
- *Angelica tenuissima*
- *Cimicifuga foetida*
- Dahurian angelica
- Chinese licorice

People use it to support thyroid health [\[R\]](#).

How it helps

AJBHT may help reduce thyroid hormone levels in people with Graves’ disease. It may help by reducing thyroid hormone production. **However, the studies are few, small, and of low quality** [\[R, R, R\]](#).

Please note: *AJBHT is not a replacement for thyroid medication. Talk to your doctor before using any supplements for thyroid issues.*

6



Aerobic Exercise (Cardio)

IMPACT

1 / 5

EVIDENCE

1 / 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

Some experts recommend exercise to prevent potential complications of Grave’s disease such as excess weight and brittle bones [R].

According to a single study, a structured exercise program including walking may help with Graves’ disease by [R]:

- Supporting thyroid function
- Preventing condition worsening
- Reducing fatigue

7



Mindfulness-Based Stress Reduction (MBSR)

IMPACT0 / 5

EVIDENCE0 / 5

How to implement

Enroll in an 8-week MBSR course, which includes a weekly 2.5-hour class, one all-day class after the sixth week, and 45 minutes of daily home practice guided by assignments and instructional recordings.

TYPICAL STARTING DOSE

2 hours

Description

Mindfulness-Based Stress Reduction (MBSR) is a structured program that teaches mindfulness techniques to reduce stress and improve overall mental and emotional health. MBSR has been shown to help individuals cope with chronic pain, anxiety, and other stress-related conditions.

How it helps

MBSR can help reduce stress, potentially improving symptom management.

8



Tai Chi

IMPACT0 / 5

EVIDENCE0 / 5

How to implement

Practice Tai Chi for 30 to 60 minutes at least twice a week. Choose a quiet, spacious area and follow along with a qualified instructor, either in person at a class or through an online video tutorial, to ensure proper technique and maximum benefit.

TYPICAL STARTING DOSE

1 hour

Description

Tai Chi is a traditional Chinese mind-body practice involving slow, flowing movements and deep breathing. It is known for its potential to reduce stress, improve balance, and enhance overall physical and mental well-being.

Tai chi involves gentle movements and breathing to strengthen and relax the mind and body. Practicing tai chi may help [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Manage pain
- Improve fitness
- Increase well-being
- Improve sleep and mood

How it helps

Tai Chi promotes relaxation and stress relief, which can be helpful in symptom management.

9



Balance Iodine Intake

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

To balance iodine intake, consume foods rich in iodine such as fish, dairy, and eggs, aiming for about 150 micrograms per day for adults. Consider using iodized salt in cooking, but be mindful not to exceed the daily limit. Regularly assess iodine levels, especially if you are pregnant, lactating, or have thyroid issues.

Description

Iodine intake is essential for thyroid function and is obtained through iodized salt and foods like seafood and dairy products. Balanced iodine intake is necessary to prevent thyroid disorders.

[Iodine](#) is an element that helps make thyroid hormones. It's important for [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Thyroid function
- Healthy pregnancy
- Cognitive function

Iodine can be found in foods like [\[R\]](#):

- Seaweed
- Enriched bread
- Fish (cod)
- Dairy
- Iodized salt

Adults should be getting **150 micrograms** of iodine per day. People who are deficient can take iodine as a supplement. However, most people in the US and other developed countries don't need to take extra iodine. Excess iodine can be harmful [\[R\]](#), [\[R\]](#).

How it helps

Regulating dietary iodine is crucial in managing Graves' disease, as iodine can influence thyroid hormone synthesis, which is typically overactive in this condition. A balanced intake may help to stabilize thyroid function.

Next Steps

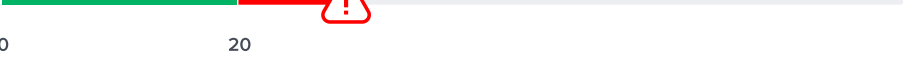
Remember, your genes only tell one important part of your health story!

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.

	T4 Free (FT4)	1.26 ng/dL		9 Nov 2025
	TSH	2.76 mIU/mL		9 Nov 2025
	Zinc	17.12 umol/L		9 Nov 2025
	T4 (Thyroxine), Total	7.27 mcg/dL		9 Nov 2025
	T3, Free (FT3)	3.34 pg/mL		9 Nov 2025
	Thyroglobulin Antibodies	49 IU/mL		9 Nov 2025
	T3 Total	0.95 ng/mL		9 Nov 2025
	Thyroid Peroxidase Antibodies (TPO)	3.03 IU/mL		9 Nov 2025