SelfDecode™

Overactive Thyroid

DNA Health Report

REPORT CATEGORY

THYROID

Sample Client

Report date: 29 July 2025

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Personal information

NAME

Sample Client

SEX AT BIRTH

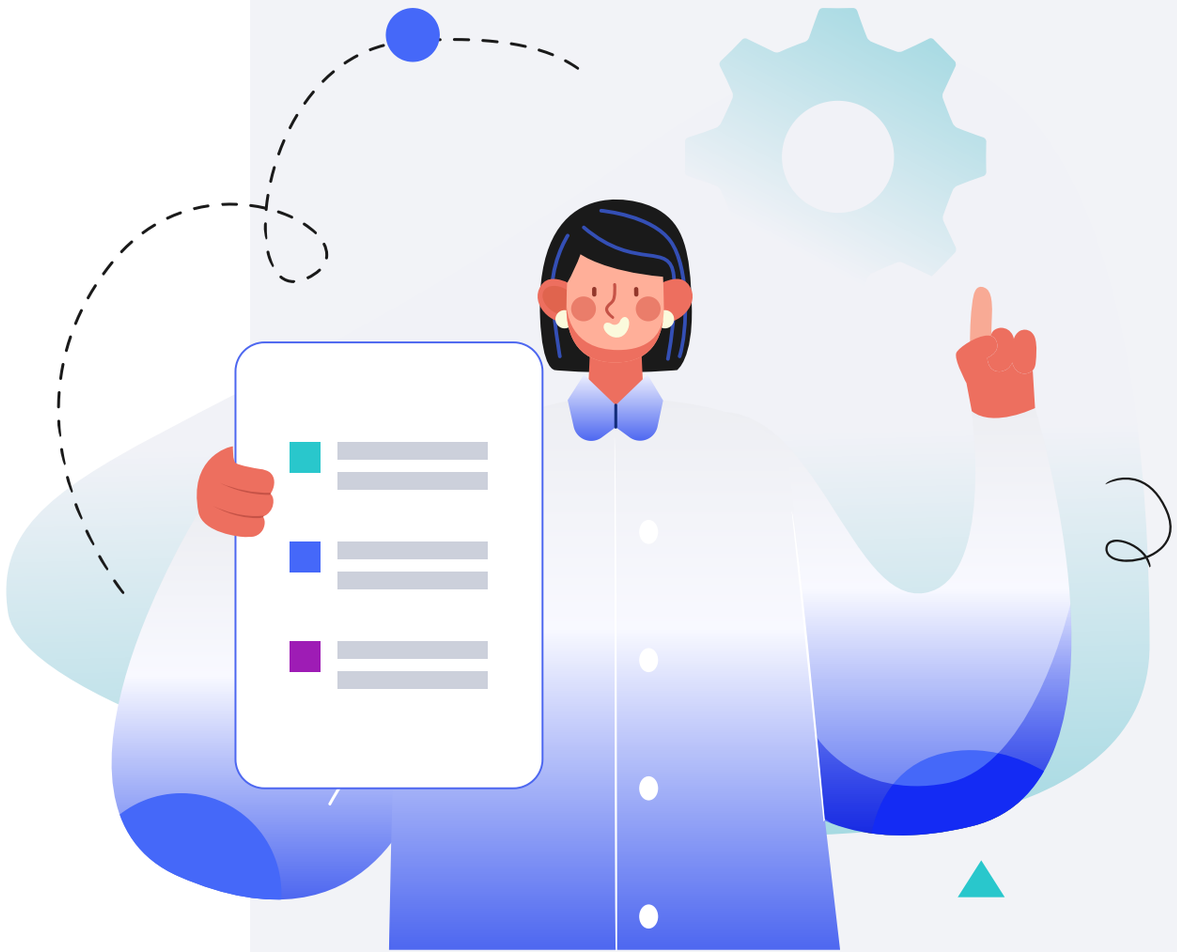
Female

HEIGHT

5ft 9" 175.0cm

WEIGHT

165lb 75.0kg



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.

Introduction

What's the difference between hyperthyroidism and hypothyroidism?

Hyperthyroidism means that your thyroid gland is overactive, while hypothyroidism means the gland is underactive. In this report, we'll focus on **hyperthyroidism**!

The thyroid does a lot. Most importantly, it releases hormones that regulate your metabolism. An overactive thyroid may cause an imbalance in your metabolism. This can have serious health consequences [R]!

The most common cause of hyperthyroidism is Graves' disease, responsible for 70-80% of all cases. Graves' disease is an autoimmune condition, which means your body attacks its own thyroid gland and causes it to malfunction [R].

*(**Important!** If you're concerned you may have an overactive thyroid, make sure to consult a medical professional!)*

You may be able to balance your thyroid activity using tips coded in your DNA.

For those who carry certain variants of the *ICAM1* gene, stress may increase their risk of complications linked to Graves' disease. As a result, these individuals may particularly benefit from relaxation techniques [R, R].

While gene-based tips may benefit your health, the best course of action when it comes to improving your thyroid health is to discuss this information with your doctor.

Read on to find out more about:

- **How your genetics play a role in thyroid health**
- **Your genetic risk score based on over 500 genetic variants**
- **Personalized recommendations based on your genetics**

About Overactive Thyroid

Key Takeaways:

- Up to **65%** of differences in thyroid hormone levels may be due to genetics.
- Risk factors include: Graves' disease, goiter, too much/little iodine, thyroiditis, pituitary or thyroid gland tumors.
- It can cause: weight loss, increased appetite, irritability, irregular heartbeat, goiter, heart, bone, and muscle problems.
- Hyperthyroidism is fairly rare, mostly due to Graves' disease or iodine deficiency. If your genetic risk is high, the overall risk is still low due to its rarity, but be aware of symptoms.
- Click the **next steps** tab for relevant labs.

The thyroid is a gland found in the front of the neck. It produces T3 and T4, thyroid hormones that affect [R]:

- Heart function
- Energy production
- Breathing rate
- Bone growth
- Alertness
- Reproductive health

In some people, the thyroid produces too much of these hormones. This condition is called *hyperthyroidism* (overactive thyroid) [R, R, R].

Potential causes of overactive thyroid include [R, R]:

- **Autoimmune conditions like *Graves' disease***
- **Thyroid nodules (goiter)**
- Too much or too little iodine
- Thyroid inflammation (*thyroiditis*)
- Pituitary or thyroid gland tumors

TYPICAL LIKELIHOOD

Typical likelihood of hyperthyroidism based on 466 genetic variants we looked at

46th

PERCENTILE

Your risk is **greater than 46% of the population** and **lower than 54% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CTLA4	rs3087243	GG
FCRL3	rs7522061	CT
TSHR	rs12101261	CT
SH2B3	rs653178	CT
CD40	rs1883832	TC
MICB	rs2517532	GA
FAM227B	rs17477923	TT
PDE10A	rs2983514	GG
LRRC6	rs118039499	AA
PDE8B	rs2046045	GT
TSHR	rs2160215	TC
SYT13	rs11038357	TA
SOX9	rs8077245	TG
VEGFA	rs66760320	TC
MAF	rs140851213	IT
RNASET2	rs385863	CG
CD40	rs6131010	AG
UHRF1BP1	rs9469899	AA
MYC	rs2466028	TT
TSHR	rs28414437	AC

Hyperthyroidism is fairly rare. In countries with iodine deficiency, goiter is a common cause. In developed countries like the United States, most people get enough iodine and Graves' disease is a more common cause [R, R].

When the thyroid is overactive, it may produce signs and symptoms like [R]:

- Weight loss
- Increased appetite
- Nervousness or irritability
- Rapid or irregular heartbeat
- Shaking
- Intolerance to heat
- Enlarged thyroid (*goiter*)

Treatment for hyperthyroidism may be different for each person. A doctor may recommend [R]:

- Medication
- Radiation therapy
- Surgery

Diet changes may also help manage some cases. For example, if you have an autoimmune thyroid condition, you may need to avoid iodine-rich foods like seaweed [R].

It is extremely important to treat hyperthyroidism according to your doctor's instructions. Left untreated, an overactive thyroid can cause [R]:

- Heart problems
- Bone and muscle problems
- Eye problems
- Fertility problems

Up to 67% of differences in thyroid hormone levels may be attributed to genetics. Genes involved in hyperthyroidism may influence [R, R]:

- Thyroid hormones (*PDE8B*, *DIO1*, *CAPZB*, *TSHR*)
- Immune function (*HLA-DPB1*, *PTPN22*, *CTLA4*)

GENE	SNP	GENOTYPE
CTLA4	rs231779	CT
SESN3	rs4409785	TC
CD40	rs1569723	CA
MAF	rs17689159	CT
FCRL3	rs1977710	GA
STAT4	rs12612769	AC
TMPRSS3	rs34544259	GA
PTPN22	rs2476601	GG
TNF	rs1800629	GG
PRLR	rs143210911	GG
HLA-DQA2	rs1794280	AA
TRIM27	rs3135293	TT
TRMO	rs925488	GG
FAM227B	rs4338740	TT
BACH2	rs604912	AA
HLA-DPA1	rs9357156	AA
SLAMF6	rs12026490	TT
ALDH2	rs4646776	GG
MAGT1	rs4826198	A

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
1	Gypsywort	300 mg
2	Selenium Supplements	50 mcg
3	Balance Iodine Intake	
4	Maintain Optimal Vitamin D Levels	1000 iu
5	Meditation	30 minutes
6	Ahnjeonbaekho-tang (AJBHT)	

1

Gypsywort

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Take a gypsywort supplement, available in capsule or liquid extract form. For capsules, follow the manufacturer's dosage instructions, typically around 300-600mg daily, taken with water. If using a liquid extract, aim for 1-4 ml three times a day. Continue for 4-6 weeks to observe benefits.

TYPICAL STARTING DOSE

300 mg

Description

Gypsywort, a herbaceous plant, is traditionally used for its potential to alleviate skin conditions and promote wound healing due to its astringent and anti-inflammatory properties. It is also taken to support thyroid health.

Gypsywort (*Lycopus europaeus*), or bugleweed, is a flowering plant in the mint family. It tends to grow in wetlands [R, R].

People use gypsywort to support thyroid health [R].

How it helps

Gypsywort supplements may improve the symptoms of a mildly overactive thyroid [R].

Gypsywort may help clear thyroid hormones through the urine. This may help remove excess thyroid hormones from the body [R].

Please note: *Gypsywort may interact with certain medications, supplements, and hormones. High doses or long-term use of gypsywort may lead to an enlarged thyroid. Talk to your doctor before taking gypsywort* [R, R].

2

Selenium Supplements

IMPACT 2 / 5

EVIDENCE 2 / 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 may support healthy thyroid function when combined with prescribed treatment. However, not all studies found this benefit. It might be limited to people with lower selenium levels [R, R, R].

Some people with Graves' disease develop a condition in which their eyes bulge (Graves' eye disease). Selenium may help improve this condition. It may also slow the condition's 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

Balance Iodine Intake

IMPACT 1 / 5

EVIDENCE 3 / 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

The human body can normally adapt to high levels of iodine. This adaptation prevents too many thyroid hormones from being made. However, a sudden increase in iodine levels may **increase the risk of overactive thyroid**. It may also worsen symptoms. This is likely because iodine helps make thyroid hormones [R, R, R].

People who lack iodine may be more sensitive to jumps in iodine levels. However, the resulting increase in thyroid activity is usually mild and may be short-lasting [R, R, R, R, R].

People with an overactive thyroid may want to limit their intake of high-iodine foods [R].

On the other hand, **goiter caused by the lack of iodine can also lead to an overactive thyroid**. This is not common in the US and other countries where table salt is enriched with iodine [R, R, R].

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Maintain Optimal Vitamin D Levels

IMPACT 1 / 5

EVIDENCE 2 / 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

People with low vitamin D levels may have a 2-fold higher risk of Graves' disease. Moreover, those with the condition may have lower vitamin D levels [R, R].

5

Meditation

IMPACT 1 / 5

EVIDENCE 2 / 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].

Stress may contribute to Graves' disease by altering the immune response [R, R, R].

Relaxation techniques such as meditation may help support thyroid health in some people. Reduced stress may also make Graves' disease symptoms less severe [R, R, R].

6

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

Ahnjeonbaekho-tang may help reduce thyroid hormone levels in people with Graves' disease. It may help by reducing how much thyroid hormone is made. 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.*