SelfDecode™

TSH

Biohacker Report

REPORT CATEGORY

THYROID

Sample Client

Report date: 15 January 2026

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Table of Contents

Personal information

NAME

Sample Client

SEX AT BIRTH

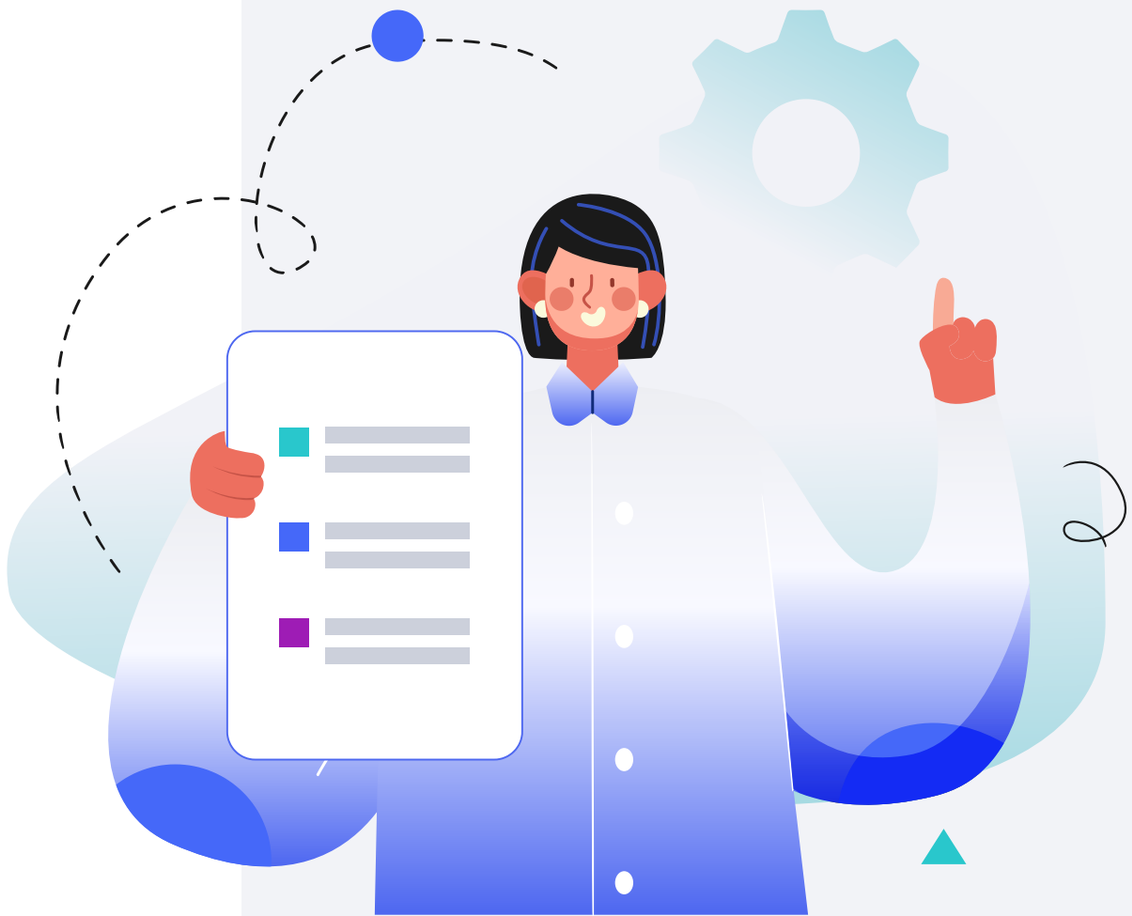
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

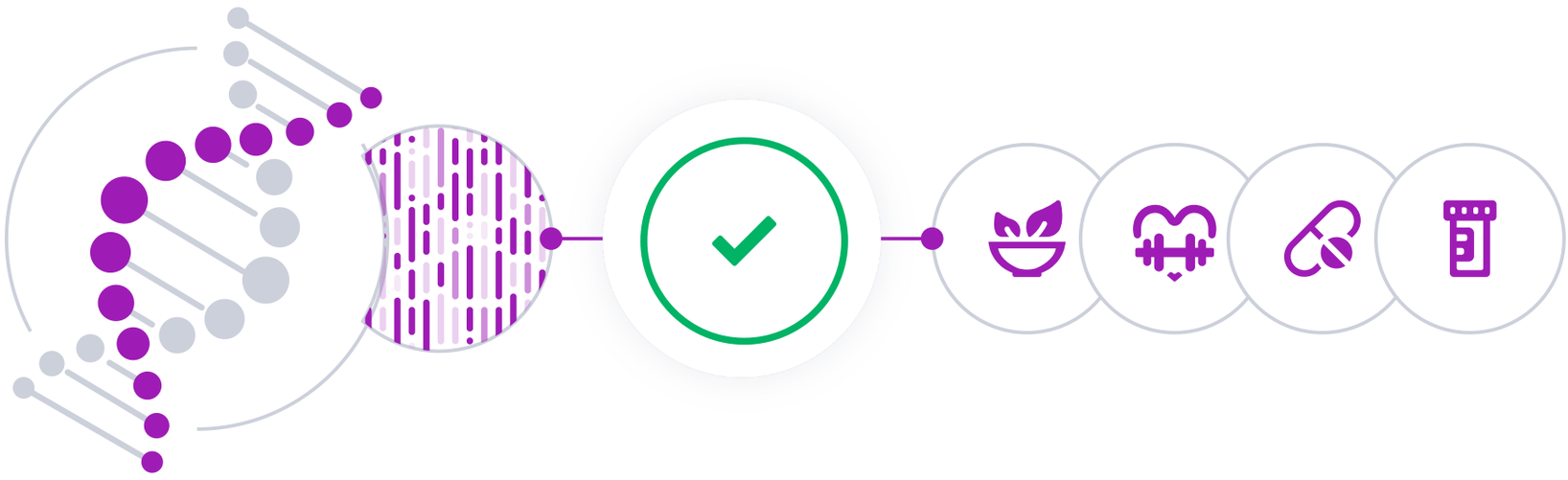


DISCLAIMER

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.

How this works

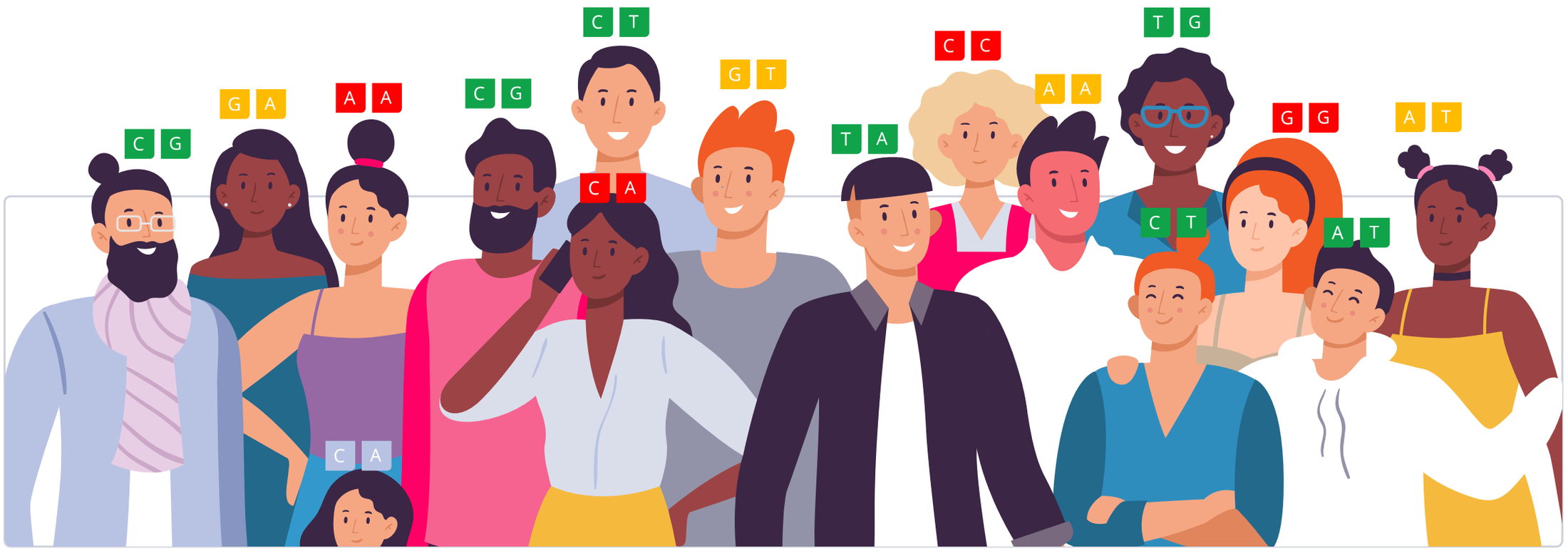
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

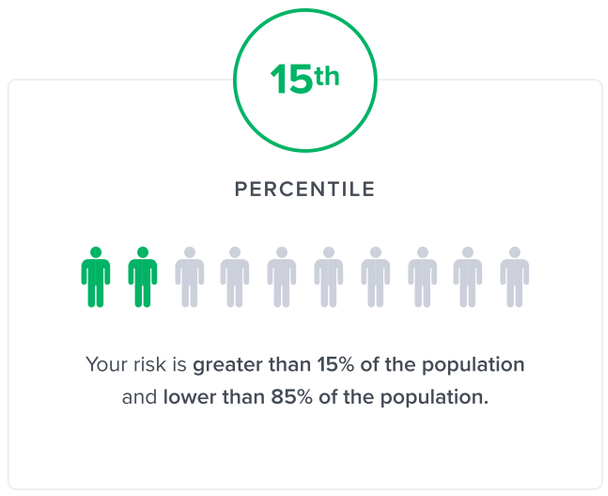
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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.

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

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



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, afew 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

Thyroid-stimulating hormone (TSH), also known as thyrotropin, is a hormone produced by the pituitary gland — a small gland at the base of the brain.

TSH stimulates the thyroid gland, the butterfly-shaped gland at the neck, to produce thyroid hormones (T3 and T4). T3 and T4 affect [R]:

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

Hence, TSH levels are indicative of our thyroid and metabolic health [R].

Genetics of TSH Levels

Thyroid-stimulating hormone (TSH), also known as thyrotropin, is a hormone produced by the pituitary gland — a small gland at the base of the brain. **TSH stimulates the thyroid gland** to produce thyroid hormones (T3 and T4). These hormones affect several processes, including energy production, heart function, and reproductive health [R].

Around **65%** of people's differences in TSH levels may be due to genetics [R, R, R].

Even though higher TSH levels may indicate an underactive thyroid, **genetically higher TSH** levels are linked to [R, R, R, R, R, R, R, R, R]:

- Reduce mortality, especially from respiratory infections
- Reduce the rate of some types of heart disease and stroke
- Reduce diabetes rates
- Fractures in men
- Alzheimer's in certain groups
- Reduce blood pressure

On the other hand, genetically lower TSH levels are linked to lower cholesterol, gaining weight [R, R, R, R].

TYPICAL LEVELS

Predisposed to typical TSH levels based on 92 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
LRRC6	rs117764941	GG
LRRC6	rs118039499	AA
NKX2-1	rs116909374	CC
NFIA	rs334725	AA
PDE8B	rs2928167	AA
NR3C2	rs11732089	TT
TBX2	rs1157994	GG
CERS6	rs62174422	TT
PDE8B	rs1479567	AG
FAM227B	rs17477923	TT
VEGFA	rs1317983	CT
TNP1	rs13020935	GA
CDK17	rs10735341	GG
MAF	rs58722186	TC
VEGFC	rs4571283	AA
VEGFA	rs9381266	CT
CAPZB	rs12027702	TG
/	rs3104389	AC
FOXA2	rs1203949	TC
INSR	rs4804416	GT
GATA3	rs11592436	GC
C6ORF163	rs2242602	AT
/	rs121908872	GG
CEP128	rs141751376	TT
B4GALNT3	rs145153320	CC
CCDC77	rs546738875	CC
LTA4H	rs61938844	GG
PDE10A	rs2983511	CC
VAV3	rs17020122	CC
ASXL2	rs6721104	AA
ITPK1	rs6575306	AA
VEGFA	rs34046483	GG

GENE	SNP	GENOTYPE
DPH6	rs74888443	CC
TRMO	rs925488	GG
HLA-B	rs1265091	CC
SOX9	rs1042678	GG
ARL17A	rs116956554	GG
THAP4	rs6717283	AA
GNG7	rs72978712	TT
MAL2	rs72682433	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
1	Avoid PBDE	
2	Avoid Perchlorate	
3	Avoid Organophosphate Pesticide Exposure	
4	Aerobic Exercise (Cardio)	1 hour
5	Zinc	15 mg
6	Avoid Mercury Exposure	
7	Maintain Optimal Vitamin D Levels	1000 iu
8	Avoid Phthalate Exposure	
9	Avoid Arsenic Exposure	
10	Alpha-GPC Choline	300 mg
11	Retinyl Palmitate	
12	Avoid BPA (Bisphenol A) Exposure	
13	Kelp	500 mg
14	Yoga Nidra	30 minutes
15	Balance Iodine Intake	
16	Fruits And Vegetables	
17	Selenium Supplements	50 mcg
18	Sleep for 7+ Hours	
19	Dietary Zinc	
20	Dietary Iron	
21	Low-Intensity Exercise	1 hour

1

Avoid PBDE

IMPACT 3 / 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

PBDEs (polybrominated diphenyl ethers) are harmful chemicals found in household items that could negatively affect your thyroid gland and disrupt TSH (Thyroid Stimulating Hormone) levels. By avoiding PBDEs, you help to maintain a healthy thyroid function and appropriate TSH levels.

A meta-analysis of 16 studies associated PBDE exposure with **lower total T4 levels and higher TSH** [R].

Another meta-analysis (18 studies) associated PBDE exposure with higher T3 levels but **lower total and free T4, free T3, and FSH** [R].

2

Avoid Perchlorate

IMPACT 2 / 5

EVIDENCE 3 / 5

How to implement

To avoid perchlorate, check water quality reports for your area to ensure your drinking water does not contain high levels of perchlorate. Also, limit consumption of foods known to have higher perchlorate levels, such as leafy green vegetables, dairy products, and fruits, or opt for organic versions of these foods as organic farming standards restrict certain chemicals.

Description

Perchlorate is a chemical that can interfere with the thyroid gland's ability to produce thyroid hormone. This can lead to a variety of health problems, including hypothyroidism, developmental delays, and cancer. Avoiding perchlorate can help to protect your health.

How it helps

A meta-analysis of 2 studies and 4443 participants associated higher urinary perchlorate levels with lower free T4 levels in non-pregnant women, but not in men or pregnant women. In line with this, a study of 22,000 pregnant women found no association between perchlorate levels and thyroid function. A study of 2,299 adults associated high perchlorate levels with low T4 levels and high TSH levels in women with urinary iodine below 100 mcg/L and only with high TSH levels in those with urinary iodine above 100 mcg/L. Finally, a study of over 8k participants associated high urinary perchlorate with 5% lower T4 levels, while those with high perchlorate, high thiocyanate, and low iodine combined had 12.9% lower T4 levels [R, R, R, R].

Perchlorate can disrupt the function of your thyroid by interfering with iodine uptake, which is crucial for TSH production of thyroid-stimulating hormone.

3

Avoid Organophosphate Pesticide Exposure

IMPACT 2 / 5

EVIDENCE 3 / 5

How to implement

To reduce organophosphate pesticide exposure, buy organic produce when possible, thoroughly wash and peel fruits and vegetables, avoid using chemical pesticides in your home and garden, and wear protective clothing and a mask if you must handle pesticides for agricultural or landscaping work.

Description

Reducing organophosphate exposure involves minimizing contact with pesticides and insecticides containing these chemicals, which can protect against potential health risks such as neurotoxicity and respiratory issues, particularly for individuals working in agriculture or pest control.

Organophosphates (OP) are the most widely used pesticides worldwide. They include [R]:

- Parathion
- Malathion
- Chlorpyrifos
- Diazinon
- Phosmet

Chronic exposure to OPs has been linked to [R, R]:

- Fertility problems
- Cognitive problems
- Nerve damage
- Cancer and gene damage

How it helps

Organophosphate pesticides can interfere with the function of your thyroid gland, leading to an increase in thyroid-stimulating hormone (TSH) levels. By reducing exposure to these pesticides, you may help regulate your TSH levels, improving your thyroid health.

A meta-analysis of 9 studies concluded that exposure to organophosphates **increases the risk of hypothyroidism by 12%** [R].

A study of 1089 participants associated **urinary organophosphate metabolites with higher TSH, particularly in men** [R].

However, a study of 3249 participants associated urinary levels of the chlorpyrifos metabolite 3,5,6-trichloro-2-pyridinol with **higher levels of T4 and lower levels of TSH in men** Another study (413 pregnant women) associated a **high sum of DMP, DMTP, DEP, and DETP in urine with higher T4 and lower TSH levels** [R, R].

Higher DMP levels were associated with increased T4 and TSH but decreased T3 in as study of 136 men [R].

4

Aerobic Exercise (Cardio)

IMPACT 2 / 5

EVIDENCE 2 / 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

In obese patients with metabolic syndrome, physical exercise (including cardio) may modestly lower TSH levels [R].

5

Zinc

IMPACT 2 / 5

EVIDENCE 1 / 5

How to implement

Take a 15 mg zinc supplement daily, ideally with a meal to enhance absorption.

TYPICAL STARTING DOSE

15 mg

Description

Zinc is an essential mineral found in various foods, including meat, dairy, and nuts. It is crucial for immune function, wound healing, DNA synthesis, and maintaining healthy skin and nails. Zinc supplements are sometimes used to support immune health and manage zinc deficiencies.

Zinc is an essential mineral. Your body needs it to [R, R]:

- Defend against disease
- Protect DNA from damage
- Heal wounds
- Control blood sugar

Some of the best sources of zinc include **shellfish, pork, beef, and beans**. It is also available as a supplement [R].

Adults should get **8-11 mg of zinc** per day [R].

How it helps

In a placebo-controlled trial of children with Down's syndrome and low zinc levels, supplementation with zinc sulfate for 6 months decreased TSH levels. Similarly, the combination of zinc and selenium decreased TSH levels in a placebo-controlled trial of 68 overweight women with hypothyroidism. However, supplementation with zinc gluconate (22 mg/day) for 30 days didn't affect TSH levels in a placebo-controlled trial of 7 competitive cyclists [R, R, R].

6

Avoid Mercury Exposure

IMPACT 1 / 5

EVIDENCE 3 / 5

How to implement

Limit consumption of large fish such as shark, swordfish, king mackerel, and tilefish, which are known to have higher mercury levels. Opt for smaller fish like salmon, shrimp, pollock, and catfish, and limit seafood intake to 8-12 ounces (two to three servings) per week. Check and follow local advisories regarding the safety of fish caught by family and friends in your local lakes, rivers, and coastal areas.

Description

Avoiding exposure to mercury, a toxic heavy metal found in certain seafood and environmental sources, is essential to prevent adverse health effects, including neurological damage and developmental issues.

Mercury and other heavy metals are found in the soil, water, food, and some commonly-used household products. They adversely affect the environment and living organisms. According to some studies, mercury is considered **the most toxic heavy metal** in the environment [R, R].

A major source of mercury exposure is seafood, especially large fish such as [R]:

- Tuna
- Shark
- Swordfish

How it helps

Avoiding mercury exposure can reduce risks of hormone imbalances, as mercury can interfere with thyroid function. This is especially relevant to Thyroid Stimulating Hormone (TSH), as decreased levels could alter its production, thus affecting body's metabolism and energy regulation.

A meta-analysis of 13 studies found that blood mercury (Hg) levels were linked to thyroid hormone (TH) levels, showing a positive association with thyroid-stimulating hormone (TSH) (β=0.55; 95% CI: 0.20-0.90; $p < 0.001$) and free thyroxine (FT4) (β=0.47; 95% CI: 0.11-0.82; $p < 0.001$) but a negative association with thyroxine (T4) (β=-0.02; 95% CI: -0.02 to -0.01; $p < 0.001$). Subgroup analysis revealed a positive correlation between blood Hg and FT4 levels in pregnant women (β=1.00; 95% CI: 0.99-1.00; $p < 0.001$) [R].

7

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

Supplementation with vitamin D may improve thyroid function (including a decrease in TSH levels) in patients with Hashimoto's thyroiditis. However, not all studies found this benefit [R, R].

Vitamin D also lowered TSH in a trial on women with subclinical hypothyroidism [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].

8

Avoid Phthalate Exposure

IMPACT 1 / 5

EVIDENCE 2 / 5

How to implement

To avoid phthalate exposure, check product labels and choose phthalate-free options for personal care items, plastics (look for recycling codes 3 and 7 or the letters 'V' or 'PVC'), and household products. Additionally, reduce the use of plastic containers for food storage, especially those not marked as 'phthalate-free', and avoid microwaving food in plastic containers. Aim to make these changes consistently in your daily life for long-term health benefits.

Description

Avoiding phthalate exposure involves choosing phthalate-free products, such as personal care items and plastics, to minimize potential endocrine-disrupting effects and protect reproductive and hormonal health.

How it helps

Reducing phthalate exposure can help balance your TSH levels as phthalates can disrupt the thyroid function. Therefore, limiting contact with phthalates, often found in plastic and personal care products, could potentially promote better thyroid health.

Thirteen eligible articles were included. Urinary MEHP and MEHHP concentration was negatively correlated with total T4. Pooled correlation coefficients between MEHP/MEHHP and total T4 were -0.02, respectively. **Urinary mono (2-ethyl-5-oxohexyl) phthalate concentration was positively correlated with thyrotropin, and the pooled correlation coefficient was 0.02** [R].

Neither past nor current DEHP exposure intensity was significantly associated with serum thyroid profiles in a study [R].

9

Avoid Arsenic Exposure

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Use a water filter certified to remove arsenic if you rely on well water, opt for arsenic-tested rice or rice products, and avoid using contaminated pesticides or herbicides in gardening or farming. Test your home for arsenic if you live in an area known for high levels of arsenic in soil or water. Limit consumption of foods known to accumulate arsenic such as rice and rice-based products, especially if you are pregnant, nursing, or preparing meals for young children.

Description

Avoiding arsenic exposure is essential for preventing potential health risks associated with arsenic contamination in drinking water and foods. Chronic exposure to arsenic has been linked to various health issues, including cancer and cardiovascular problems.

Arsenic is a heavy metal naturally found in the environment. It is used for mining, fracking, and industrial applications, such as the production of pesticides and wood preservatives, and the use of fossil fuels [R].

The main sources of exposure to arsenic are contaminated [R, R, R]:

- **Drinking water**
- **Rice** and fish
- Air

Long-term exposure to high amounts of arsenic may be linked to health problems, including [R, R, R, R, R]:

- Skin disorders
- Heart disease
- High blood pressure
- Stroke
- Diabetes
- Cancer

Please note: *Soaking, washing until clear, and cooking rice with a high (1:6) water-to-rice ratio may help reduce rice's arsenic content* [R, R, R].

How it helps

Avoiding arsenic exposure can prevent potential disruptions to your thyroid-stimulating hormone (TSH) levels. High levels of arsenic in the body can interfere with your thyroid function, potentially leading to conditions like hypothyroidism or hyperthyroidism.

In a 14-day study with 38 subjects, cod, salmon, and mussels consumption led to increased TSH levels. Arsenic (As) played a key role, while selenium (Se) and iodine also had effects.
There were also indications of changes in FT4, FT3 and the FT4:FT3 ratio consistent with a net inhibiting effect of As on FT4 to FT3 conversion. [R].

10

Alpha-GPC Choline

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 300-600 mg of Alpha-GPC choline supplement daily, preferably in the morning or early afternoon to avoid interference with sleep. It can be taken with or without food. Continue this supplementation for at least 4-6 weeks to assess its effectiveness.

TYPICAL STARTING DOSE

300 mg

Description

Alpha-GPC (L-alpha glycerylphosphorylcholine) is a natural compound that can be found in small amounts in various foods, including soy, and is also produced in the body. It is a choline-containing compound that may support cognitive function and memory.

How it helps

Alpha-GPC Choline can support your brain's health and improve cognition, which indirectly benefits your thyroid-stimulating hormone (TSH) function through better pituitary health. However, it doesn't directly treat TSH conditions such as hypothyroidism or hyperthyroidism.

In an RCT with 48 healthy college-aged males, alpha-GPC (A-GPC) supplementation at 250 mg/day showed potential as an ergogenic supplement by increasing maximum velocity and maximum mechanical power in countermovement jumps (CMJ). The 500 mg/day dose reduced TSH levels but had no impact on isometric strength or psychomotor function [R].

11

Retinyl Palmitate

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take retinyl palmitate as a dietary supplement, usually found in capsule or liquid form. For general health and to support Vitamin A levels, adults can take 2500 to 5000 IU daily with a meal that contains fat (for better absorption). Do not exceed the recommended dose without medical advice, especially if pregnant or planning to become pregnant.

Description

Retinyl palmitate is a fat-soluble form of vitamin A that is essential for good vision, skin, and immune function. It has also been shown to have some anticancer properties.

How it helps

A 4-month randomized, double-blind controlled trial investigated the effects of retinyl palmitate (vitamin A, 25,000 IU of retinyl palmitate daily for 12 weeks) on thyroid function in 75 healthy adults. Retinyl palmitate increased total T3 levels by 61% but decreased TSH and T4 levels. The researchers believe that retinyl palmitate may increase T3 levels by increasing the conversion of T4 to T3. They also believe that retinyl palmitate may decrease TSH levels by inhibiting the secretion of TSH from the pituitary gland [R].

12

Avoid BPA (Bisphenol A) Exposure

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

To avoid BPA exposure, choose BPA-free products, particularly when selecting food containers, water bottles, and baby bottles. Prefer glass, porcelain, or stainless steel containers, especially for hot food or liquids. Reduce use of canned foods as they may be lined with BPA and avoid handling thermal paper receipts, as they can contain BPA. When possible, select fresh or frozen foods over canned goods.

Description

Avoiding BPA (Bisphenol A) exposure involves minimizing contact with products or containers containing this chemical, which is commonly found in plastics and can potentially disrupt hormone regulation.

BPA (bisphenol A) is a chemical used to make certain plastics and resins. BPA-containing plastics are often used in containers that store food and beverages. Plastics marked with **recycling code 3 or 7** may contain BPA [R].

BPA is a well-known hormone disruptor. Research has linked BPA exposure to diabetes, heart disease, altered behavior, and more [R].

How it helps

BPA may significantly decrease the levels of FT4 and TSH in males but increase the levels of FT4 in females [R].

13

Kelp

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a kelp supplement daily, ensuring the dosage aligns with the product's label, typically ranging from 600 to 1000 micrograms of iodine. It's important to not exceed the recommended dosage to avoid potential thyroid issues. Use for ongoing nutritional support, especially if your diet lacks iodine.

TYPICAL STARTING DOSE

500 mg

Description

Kelp is a type of seaweed rich in iodine and other minerals. Incorporating kelp into the diet may help support thyroid function and provide essential nutrients.

Kelp is a source of iodine, vitamins K, A, C, E, and B-vitamins, along with some thiamin, riboflavin, and niacin. The highest type is kombu kelp, which contains 2,984 mcg of iodine per seaweed sheet (1 gram).

How it helps

In 2 placebo-controlled trials of 45 euthyroid participants, consuming kelp (2-4 capsules/day for 4 weeks or a single kelp salad) increased basal and poststimulation TSH levels [R, R].

Kelp, rich in iodine, can regulate thyroid hormone production. If you have low TSH levels indicating an overactive thyroid, kelp might exacerbate your condition, so it's beneficial in specific situations.

14

Yoga Nidra

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Practice Yoga Nidra for 30-45 minutes per session. Choose a quiet, comfortable place where you won't be disturbed. Aim to do this 3-5 times a week, preferably in the evening before bed to help improve sleep quality and reduce stress.

TYPICAL STARTING DOSE

30 minutes

Description

Yoga nidra is a guided meditation and relaxation practice that originates from yoga traditions. It is used for reducing stress, improving sleep quality, and promoting mental relaxation, often involving deep introspection and heightened awareness.

How it helps

In a non-placebo-controlled trial of 126 women with menstrual irregularities, practicing yoga nidra (35-45 min/day, 5x/week for 6 months) decreased TSH levels [R, R].

Yoga nidra may help by reducing stress, which can significantly affect thyroid function.

15

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

Maintaining a balanced intake of iodine is crucial for thyroid health as it is a key component in the synthesis of thyroid hormones.

16

Fruits And Vegetables

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Increase your intake of fruits and vegetables to at least five servings per day, aiming for a variety of types and colors to ensure a broad range of nutrients. Each serving size should roughly be the amount you can fit in one hand. Try to incorporate at least one serving of fruits or vegetables into every meal and snack throughout the day.

Description

A diet rich in fruits and vegetables provides essential nutrients, antioxidants, and dietary fiber. This combination supports overall health, helps maintain a healthy weight, and reduces the risk of chronic diseases such as heart disease and certain cancers.

How it helps

They provide essential vitamins and antioxidants that support the thyroid and overall health.

17

Selenium Supplements

IMPACT 0 / 5

EVIDENCE 0 / 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

Selenium can help support proper thyroid function due to its role in the synthesis of thyroid hormones. Adequate levels are essential for the conversion of the thyroid hormone T4 into its active form, T3.

18

Sleep for 7+ Hours

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Ensure you allocate enough time in your schedule to achieve a minimum of 7 hours of sleep each night. This might involve going to bed earlier or adjusting your evening routine to promote relaxation and make it easier to fall asleep.

Description

Optimizing sleep involves adopting healthy sleep habits and creating a sleep-conducive environment to ensure restorative and sufficient sleep duration. It supports cognitive function, mood stability, and overall physical health. Most experts recommend getting **at least 7 hours of good-quality sleep each night**.

Sleep supports your body and mind [R, R]. More precisely, sleep helps:

- Support brain health [R, R]
- Maintain a healthy weight and appetite [R, R, R]
- Regulate blood pressure [R, R]
- Balance blood sugar [R, R]

Ways to sleep better include [R]:

- Reducing your bright light exposure (screen time) in the evenings
- Sticking to a regular sleep schedule
- Avoiding hunger or large meals before bed
- Avoiding nicotine, caffeine, and alcohol before bed
- Maintaining a sleep area that’s cool, dark, and quiet

How it helps

Quality sleep is essential for a properly functioning thyroid.

19

Dietary Zinc

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate foods high in zinc, such as beef, poultry, seafood (especially oysters), beans, nuts, and whole grains, into your daily diet. Aim for the recommended dietary allowance of zinc, which is 11 mg per day for adult men and 8 mg per day for adult women.

Description

Dietary zinc is essential for the body. It helps our immune system fight off bacteria and viruses, plays a role in healing wounds, and is essential for our sense of taste and smell. Without enough zinc, these systems may not work as effectively as they should.

How it helps

Zinc contributes to thyroid hormone metabolism and the conversion of T4 to T3.

20

Dietary Iron

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate iron-rich foods into your daily meals, such as red meat, chicken, turkey, fish, beans, lentils, tofu, cooked spinach, and fortified cereals. Aim for at least 18 mg of iron per day for adult women and 8 mg per day for adult men. It's also beneficial to pair these foods with vitamin C-rich foods like oranges, strawberries, or bell peppers to enhance iron absorption.

Description

Iron (Fe) is an essential mineral. It helps make hemoglobin, a protein that carries oxygen to cells. In this way, iron **increases energy** and supports **brain and immune system function** [R, R, R].

Foods rich in iron include [R]:

- Oysters
- White beans
- Beef
- Chocolate
- Spinach
- Fortified cereals

Women should be getting **8-18 mg** of iron per day, while **men** should be getting **8 mg** [R].

Groups at risk of iron deficiency include [R]:

- Menstruating women
- Children
- Vegetarians
- Routine blood donors

How it helps

Iron is important for thyroid hormone metabolism, and its deficiency can impair thyroid functions.

21

Low-Intensity Exercise

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate 60 minutes of low-intensity activities, such as walking or gentle yoga, into your daily routine. Aim to do this 5 days a week to achieve the best results.

TYPICAL STARTING DOSE

1 hour

Description

Low-intensity exercise, such as walking or gentle yoga, provides numerous health benefits, including improved cardiovascular health, stress reduction, and enhanced overall fitness without the strain of high-intensity workouts.

How it helps

Helps in maintaining a healthy weight and improving metabolism without overly taxing the body.

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	0.8 – 1.6	9 Nov 2025
TSH	2.76 mcIU/mL	0.4 – 1.5 – 2.5 – 4.5	9 Nov 2025
T3, Free (FT3)	3.34 pg/mL	2.3 – 3 – 4.7	9 Nov 2025
Thyroid Peroxidase Antibodies (TPO)	3.03 IU/mL	0 – 9	9 Nov 2025