SelfDecode™

Iron

DNA Health Report

REPORT CATEGORIES

ENERGY & FATIGUE

NUTRITION

Sample Client

Report date: 15 January 2026

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Table of Contents

Personal information

NAME

Sample Client

SEX AT BIRTH

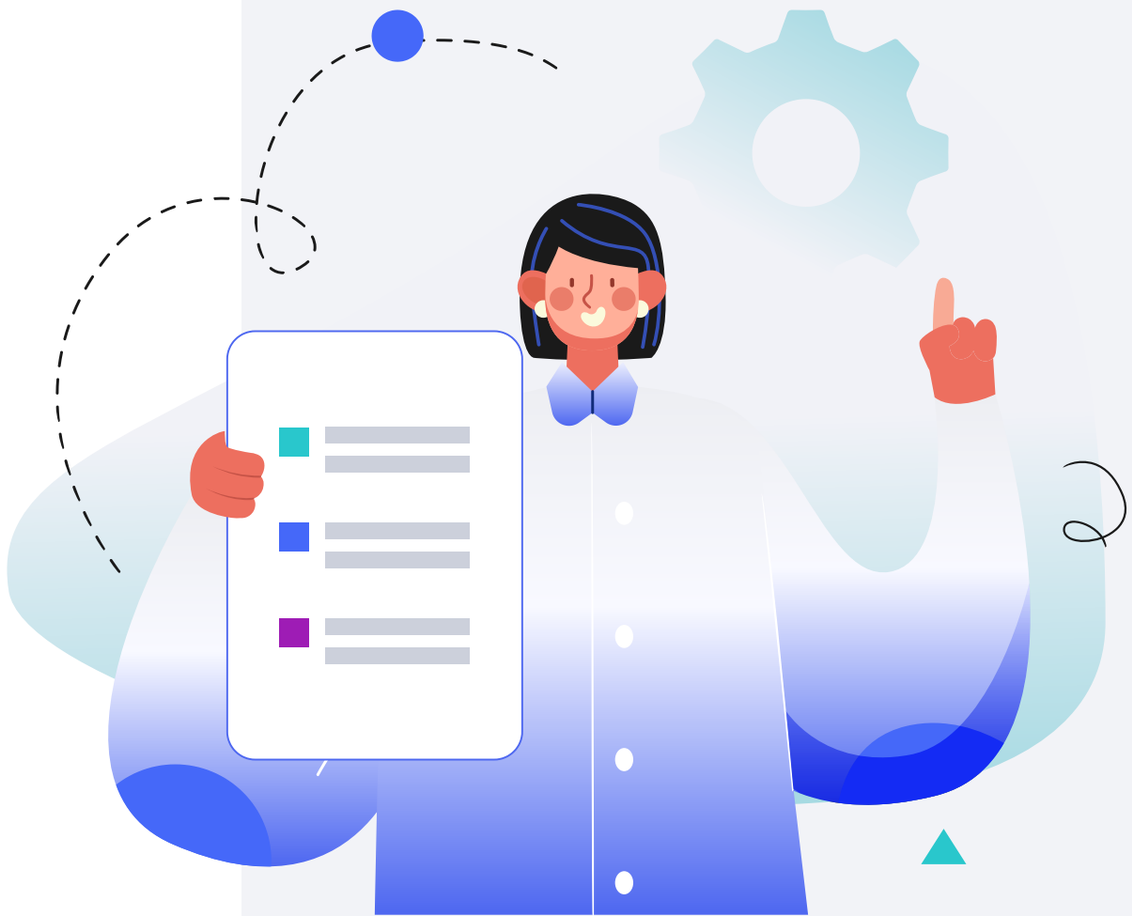
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

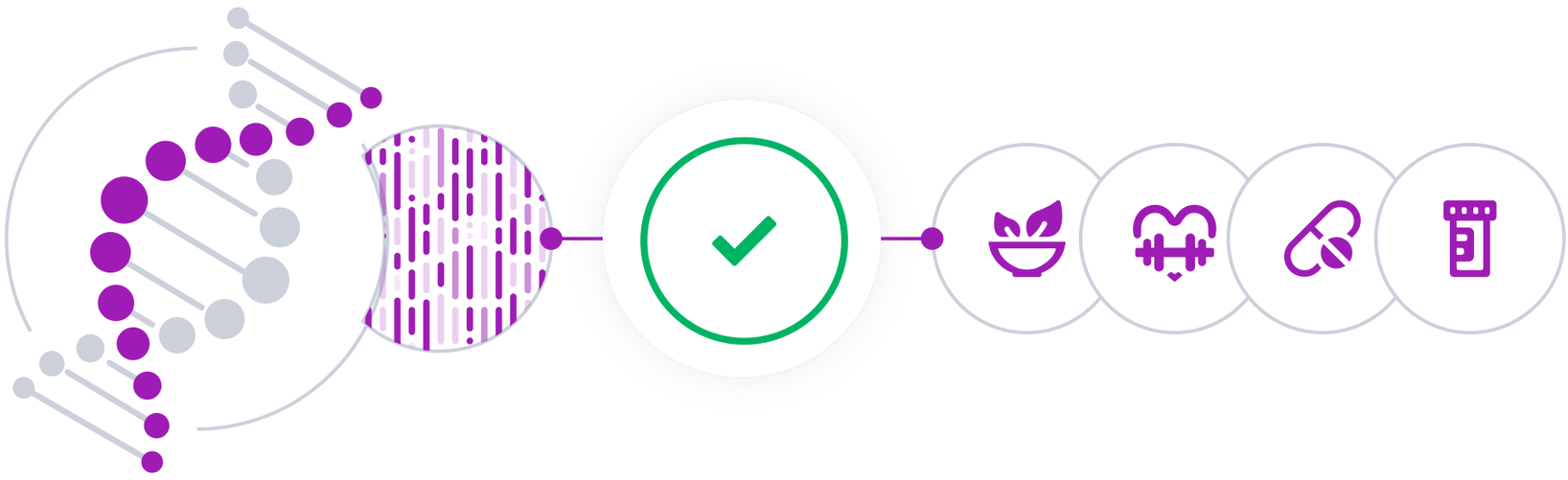


DISCLAIMER

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

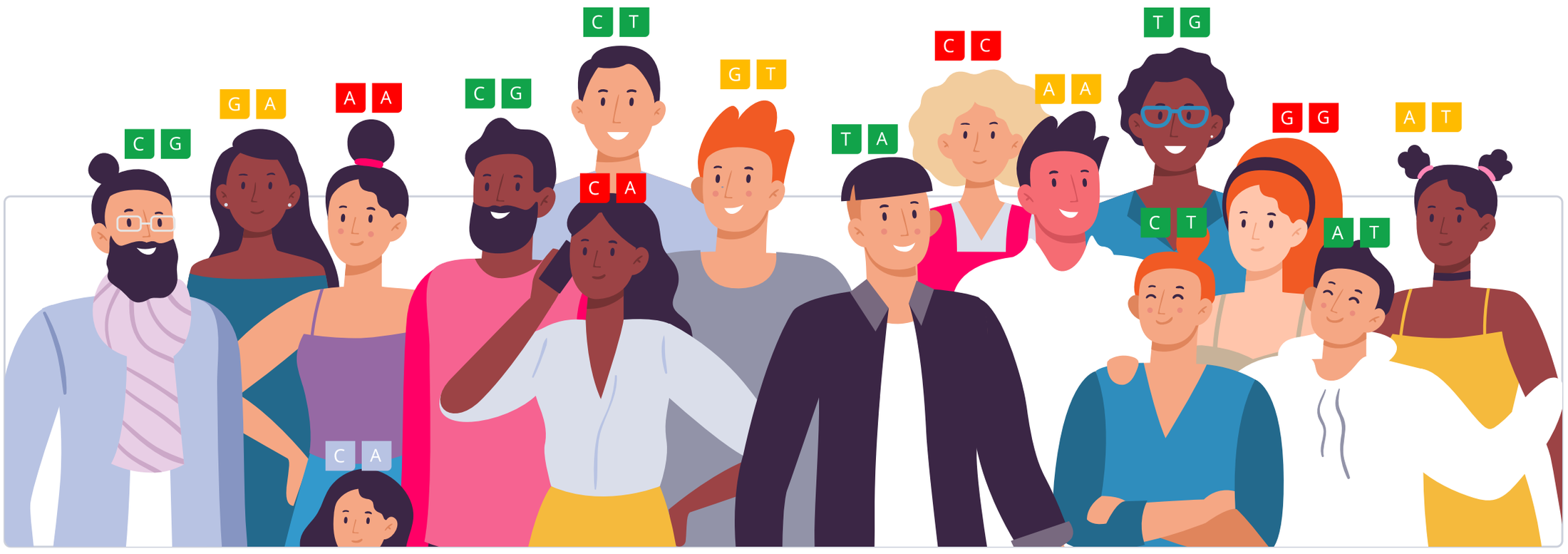
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

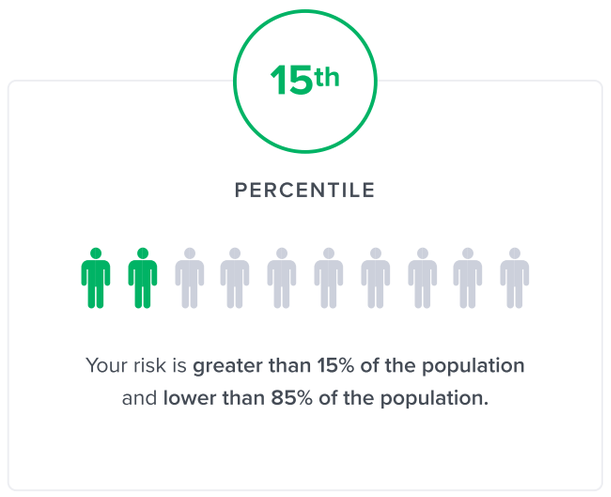
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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

Iron (Fe) is an essential mineral. It helps make hemoglobin, a protein that red blood cells need to carry oxygen throughout the body. In this way, iron supports energy production and fights fatigue. It also supports brain and immune system function [R, R, R].

Most of the iron in your body can be found in red blood cells. The rest is stored in your liver, muscles, and other parts of the body [R, R].

The best way to get enough iron is to eat iron-rich foods like [R, R]:

- Meat (e.g., beef, pork)
- Seafood (e.g., oysters)
- Legumes (e.g., beans, peas)
- Dark leafy greens (e.g., spinach)
- Dried fruit (e.g., raisins, dried apricots)
- Fortified foods (e.g., fortified cereals)

Adults should be getting 18 mg of iron per day [R].

Iron Deficiency

PERSONALIZED TO GENES

Based on the genetic variants we looked at, you may have a typical need for iron.

Try to aim for the recommended daily amount of iron. That's **8 mg** for men and **18 mg** for women. If you suspect you may be deficient, talk to your doctor [R].

Key Takeaways:

- Iron is an essential mineral that your body needs to make hemoglobin, which is used by red blood cells. Women and vegetarians are more likely to be deficient.
- Iron-rich foods include meat, seafood, dark leafy greens, legumes, and fortified foods. You need about 18mg of iron per day.
- If your need is likely higher, you may want to make dietary changes to help ensure adequate intake. Speak to your doctor about supplementation, as high levels of iron can be toxic.
- Click the **next steps** tab for relevant labs.

Iron (Fe) is an essential mineral. It helps make hemoglobin, a protein that red blood cells need to carry oxygen throughout the body. In this way, iron supports energy production and fights fatigue[R, R, R,R].

When iron levels are low, the body can't make enough red blood cells. This is called **iron-deficiency anemia**. Although mild cases may not lead to any signs or symptoms, people with more advanced iron-deficiency anemia may experience [R]:

- Weakness and fatigue
- Pale skin
- Shortness of breath
- Dizziness
- Cold hands or feet
- Brittle nails

TYPICAL NEED

Likely typical need for iron based on 446,739 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
TMPRSS6	rs228916	TT
ZDHHC14	rs181143083	TT
TMPRSS6	rs4820268	GA
TMPRSS6	rs855791	AG
MAPRE1	rs146680938	CC
CDH19	rs181670562	CC
MOSPD3	rs7385804	AC
TF	rs3811647	AG
TF	rs1799852	CT
CLDN11	rs113286612	GG
DTWD2	rs2442120	CC
SLC24A2	rs142401741	GG
IRX2	rs62330869	AA
ERG	rs117910189	TT
ZFAT	rs2315834	CC
HFE	rs1799945	CC
SCGN	rs115809796	AA
NOTCH4	rs41270472	AA
CNTN5	rs1398168	GA
GK2	rs12641027	TC
PLAAT1	rs9849045	TT
NCKAP5	rs7588567	TT
CARMIL1	rs111722075	TC
H3C6	rs113507773	AG
TF	rs8177240	GT
IGLV4-60	rs987710	GG
SHISA9	rs78138925	GG
ESM1	rs150548770	TT
FIG4	rs143130997	GG
TMC5	rs4780797	GG
PROC	rs116946164	TT
RAD18	rs113839317	TT

The following groups may be at a higher risk of iron deficiency [R, R]:

- Women
- Children
- Routine blood donors
- Vegetarians

Iron from plant sources is harder to absorb than iron from animal sources. This makes vegetarians more prone to iron deficiency [R].

Iron-deficiency anemia can often be detected with a blood test. After it is diagnosed, your doctor may recommend supplementing with iron. Keep in mind that it may take several months of supplementation to help correct iron deficiency [R, R].

Genetically higher iron may be causally associated with:

- Varicose veins [R, R]
- Deep vein thrombosis [R]
- Anemia (lower risk) [R, R]
- Low Mood (lower risk) [R]
- High Blood Sugar [R]
- Fatty liver [R, R]
- Back Pain [R]
- Total Cholesterol [R]
- LDL Cholesterol [R, R]
- Parkinson's Disease (lower risk) [R]
- Painful Periods (lower risk) [R]
- eGFR [R]
- Joint Pain (lower risk) [R]
- Heart Health (lower risk) [R]
- Artery Hardening (lower risk) [R]
- Atrial Fibrillation [R]
- Lung Health (improved function) [R]
- Longevity (reduced) [R]
- Gout/Uric acid [R]
- Joint Inflammation (lower risk) [R]

Note that it is best to get iron from food. A high dose of iron can lead to stomach pain and other unwanted gut issues. It can also be toxic. Talk to your doctor before taking iron supplements [R].

GENE	SNP	GENOTYPE
PLCG2	rs9934030	AA
HFE	rs1800562	GG
BMP4	rs210368	GG

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

Your Recommendations

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

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

		DOSAGE
1	Red Meat	
2	Lactoferrin	100 mg
3	Pumpkin Seeds	
4	Beef	
5	Leafy Green Vegetables	
6	Chickpeas	
7	Maintain Optimal Iron Levels	10 mg
8	Tomato	
9	Beef liver	
10	Oysters	
11	Spinach	
12	Potatoes	
13	Sardines	
14	Vitamin C	2000 mg
15	Swiss Chard	
16	Beef Spleen	
17	Brussels Sprouts	
18	Avoid Perchlorate	
19	Beef Heart	
20	Lentils	
21	Chicken Liver	
22	Kidney beans	
23	Alpha-GPC Choline	300 mg
24	Legumes	
25	Avoid Coffee and Tea After Iron-Rich Meals	
26	Coconut	
27	Guava	
28	White Beans	
29	Tofu	
30	Quinoa	
31	Black Strap Molasses	
32	Vitamin A	700 mcg

1

Red Meat

IMPACT 4 / 5

EVIDENCE 4 / 5

How to implement

Limit your red meat consumption to no more than three portions per week, with each portion being about 3-4 ounces (85-113 grams), roughly the size of a deck of cards. Opt for leaner cuts of meat and consider replacing some red meat meals with poultry, fish, or plant-based protein sources.

Description

Proteins, fats, and carbs are macronutrients. You need these nutrients in large (‘macro’) amounts. They provide your body with the energy it needs to function properly [R].

You should choose high-quality foods that give you the “best” version of each macronutrient. For example, too much saturated fat and protein from certain animal sources may increase the risk of heart disease and infertility [R, R, R].

Red meat can be part of a balanced diet when consumed in moderation. It is a rich source of essential nutrients, including high-quality protein, which helps build and repair tissues, and important vitamins like B12, crucial for nerve health and red blood cell formation. Red meat also contains iron in its heme form, which is more readily absorbed by the body compared to non-heme iron from plant sources. This can be especially beneficial for individuals with iron deficiencies or higher iron needs.

However, it’s important to opt for lean cuts and control portion sizes to reduce the intake of saturated fats. Balance your diet by also incorporating a variety of protein sources such as poultry, fish, and legumes.

How it helps

Red meat is one of the most significant dietary sources of vitamin B12, which is vital for maintaining nerve health, producing red blood cells, and supporting DNA synthesis. It also provides heme iron, a form of iron that is more readily absorbed by the body compared to non-heme iron found in plant-based foods, reducing the risk of iron-deficiency anemia [R].

2

Lactoferrin

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Take 100-200 mg of lactoferrin supplement per day, preferably on an empty stomach to enhance its absorption. Continue this regimen daily for 8 to 12 weeks to observe beneficial effects.

TYPICAL STARTING DOSE

100 mg

Description

Lactoferrin is a protein found in milk and other bodily fluids that has been studied for its potential health benefits, including immune system support and antimicrobial properties. It plays a role in promoting gut health.

Lactoferrin is a protein found in milk. It can bind to iron and travel all around the body [R].

Lactoferrin may help support [R, R]:

- Immunity
- Iron status

How it helps

Lactoferrin may help people with iron-deficiency anemia. It may support healthy levels of iron and hemoglobin. Lactoferrin supplements may also be less upsetting to the stomach than iron supplements [R, R].

A trial of 20 healthy young women found that iron can be equally absorbed from a standardized meal supplemented with lactoferrin (twice 4 weeks apart) or ferrous sulfate. Ferritin and iron levels improved in both groups [R].

Lactoferrin can bind to iron and help with the transport and absorption of iron in the intestine.

3

Pumpkin Seeds

IMPACT 2 / 5

EVIDENCE 1 / 5

How to implement

Incorporate a handful of pumpkin seeds (about 28 grams) into your diet daily. You can add them to your breakfast cereal, sprinkle them over a salad, blend them into smoothie bowls, or simply eat them as a snack. This practice can be continued indefinitely as part of a healthy dietary pattern.

Description

Pumpkin seeds, also known as pepitas, are the edible seeds of the pumpkin.They are rich in protein, antioxidants, iron, zinc, magnesium, manganese, and phosphorus. The compounds in pumpkin seeds may benefit heart health and immune function.

Pumpkin seeds are rich in arginine, protein, antioxidants, iron, zinc, magnesium, manganese, and phosphorus. Pumpkin seeds contain 54.18 mg of arginine per gram.

How it helps

Pumpkin seeds contain a substantial amount of non-heme iron and healthy fats that can contribute to a balanced diet.

In a 4-week randomized trial with 8 healthy women, consuming iron-fortified cereal and pumpkin seed kernels led to increased serum iron levels, transferrin saturation, and decreased TIBC [R].

4

Beef

IMPACT 2 / 5

EVIDENCE 1 / 5

How to implement

Incorporate lean beef into your diet 2-3 times per week, with a serving size of about 3-4 ounces (85-113 grams) per meal. Choose cuts like sirloin or round to minimize saturated fat intake.

Description

Beef is a rich source of high-quality protein, essential vitamins, and minerals like iron and zinc. Incorporating lean cuts of beef into a balanced diet can support muscle growth, overall nutrition, and iron intake.

Beef is an excellent source of many B-vitamins, protein, proline, and minerals like zinc and iron. Grass-fed uncharred beef is healthiest. Beef contains 34.82 mg of proline per gram.

How it helps

Beef is rich in heme-iron, a type of iron that is easily absorbed by your body. Consuming it helps increase iron levels in your body, preventing conditions like iron-deficiency anemia.

5

Leafy Green Vegetables

IMPACT 2 / 5

EVIDENCE 1 / 5

How to implement

Incorporate at least one serving of leafy green vegetables, such as spinach, kale, or Swiss chard, into your diet daily. This can be done by adding them to salads, smoothies, or as a side dish to your meals.

Description

Leafy green vegetables like spinach and kale are packed with vitamins, minerals, and antioxidants. Incorporating them into your diet can promote overall health by providing essential nutrients, supporting digestion, and reducing the risk of chronic diseases like heart disease and certain cancers.

Leafy green vegetables, also called leafy greens, or greens, are edible plant leaves, which can include stalks and shoots as well. Common examples include: lettuce, spinach, kale, chard, endive, and fennel.

Leafy greens contain a host of vitamins and minerals, as well as fiber. Most of them are a particularly good source of vitamin K.

How it helps

Dark leafy greens like spinach and kale contain significant amounts of non-heme iron which contribute to iron intake.

6

Chickpeas

IMPACT 2 / 5

EVIDENCE 1 / 5

How to implement

Incorporate chickpeas into your diet by adding them to salads, soups, and stews, or by making hummus. Aim for at least a half-cup serving, 3-4 times a week.

Description

Chickpeas, also known as garbanzo beans, are a good source of fiber, protein, and various vitamins and minerals. They can promote digestive regularity, provide sustained energy, and contribute to overall well-being when included in a balanced diet.

Chickpeas are a good source of minerals like manganese, iron, copper, zinc, and phosphorus, as well as folate and fiber. A ½ cup serving provides 0.9 mg of manganese or 39%DV.

How it helps

Chickpeas are rich in iron, a mineral essential for producing red blood cells and transporting oxygen throughout your body. Regularly consuming chickpeas can help prevent or manage iron deficiency conditions by bolstering your body's iron reserves.

7

Maintain Optimal Iron Levels

IMPACT 2 / 5

EVIDENCE 1 / 5

How to implement

Check your iron levels. If they are below optimal, take a 10 mg iron supplement daily, preferably with a meal to enhance absorption and reduce stomach upset.

TYPICAL STARTING DOSE

10 mg

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]:

- Women
- Children
- Vegetarians
- Routine blood donors

Iron supplements are available for people who can't meet their needs through a balanced diet, but they should not be taken without consulting a doctor.

How it helps

Iron supplements can help prevent or treat iron-deficiency anemia by boosting levels of iron in your body, which is essential for producing red blood cells to carry oxygen. It's important because iron deficiency can lead to fatigue, weakness, and a weakened immune system.

PERSONALIZED TO YOUR GENES

Supplementation with iron may increase its blood levels more in people with your *TMPRSS6* gene variant [R].
Supplementation with iron may increase its blood levels more in people with your *TMPRSS6* gene variant [R].

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
TMPRSS6	**rs4820268**	GA	
TMPRSS6	**rs855791**	AG	

8

Tomato

IMPACT 2 / 5

EVIDENCE 1 / 5

How to implement

Incorporate fresh or cooked tomatoes into your daily diet. This can be achieved by adding them to salads, sandwiches, pastas, and sauces or simply eating them on their own. Aim for at least one serving (approximately 1 medium-sized tomato or 1/2 cup of chopped or cooked tomatoes) per day.

Description

Tomatoes are a fruit grown widely in numerous varieties, and are rich in vitamins C and K, as well as the antioxidant lycopene, which may contribute to heart health and protect against certain chronic diseases when incorporated into a balanced diet.

Tomato (*Solanum lycopersicum*) is a fruit originally from the Andes in South America. It is usually consumed as a vegetable in juices, sauces, or fresh. Tomate is an important source of [R]:

- Vitamin C
- Potassium
- Antioxidants (e.g., lycopene)
- Vitamin B9 (folate)

Tomato is traditionally used for [R, R]:

- High cholesterol
- High blood pressure

How it helps

Tomatoes are a great source of vitamin C, which can enhance iron absorption, aiding in preventing iron deficiency. Additionally, they contain a small amount of iron contributing positively to your daily iron uptake.

9

Beef liver

IMPACT 2 / 5

EVIDENCE 1 / 5

How to implement

Incorporate beef liver into your diet 1-2 times per week, aiming for a serving size of about 3-4 ounces (85-113 grams) each time. This can be pan-fried, baked, or incorporated into dishes like stews or pate to make it more palatable.

Description

Beef liver is a commonly recommended organ meat due to its rich content of protein, B-vitamins, and minerals.

Chickpeas are a good source of vitamin B6, iron, folate, fiber, and rich in minerals like copper, zinc, and phosphorus. A ½ cup serving provides 1.1 mg of vitamin B6 or 65%DV.

How it helps

Beef liver is rich in iron, a mineral that helps produce red blood cells and maintain energy levels. A regular intake could therefore help prevent iron deficiency, which causes anemia.

10

Oysters

IMPACT 2 / 5

EVIDENCE 1 / 5

How to implement

Consume 3-5 medium-sized oysters, which are about 50-100 grams, two to three times a week. This ensures an adequate intake of essential nutrients like zinc without excessive heavy metal consumption.

Description

Common to coastal areas around the world, oysters are a mullusk that has been harvested for thousands of years. Oysters are a rich source of protein, vitamins (especially B12), zinc, iron, copper, and omega-3 fatty acids.

Oysters are an excellent source of iodine, iron and are loaded with other vitamins and minerals, especially copper and vitamin B12. A 3-ounce serving provides 93 mcg of iodine or 62%DV.

How it helps

Oysters are rich in iron, a nutrient your body needs to produce red blood cells and prevent iron-deficiency anemia. Regularly consuming oysters can therefore boost your iron levels and support healthy blood production.

11

Spinach

IMPACT 2 / 5

EVIDENCE 1 / 5

How to implement

Incorporate one cup of fresh spinach or half a cup of cooked spinach into your daily diet. You can add spinach to salads, smoothies, omelets, or pastas to easily increase your intake.

Description

Spinach is a leafy green vegetable packed with essential nutrients, including vitamins A and K, iron, and folate. Incorporating spinach into the diet supports eye health, bone health, and overall nutrition.

Spinach is a good source of molybdenum, folate, calcium, and iron, as well as vitamins A, C, and K1. A ½ cup serving provides 8 mcg of molybdenum or 18%DV.

How it helps

Spinach is rich in iron, which your body needs to produce red blood cells that carry oxygen around your body. Regularly eating iron-rich foods like spinach can help prevent iron deficiency.

12

Potatoes

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate potatoes into your diet 2-3 times per week, either baked, boiled, or steamed, avoiding deep-frying to minimize unhealthy fats. Aim for portion sizes of about a half to a whole medium-sized potato per serving.

Description

Potatoes are a starchy root vegetable rich in carbohydrates, molybdenum, iron, fiber, vitamin C, manganese and potassium. They provide sustained energy, and promote digestive regularity.

Potatoes are a good source for choline, as well as vitamins and minerals (mostly in the skin), including iron, vitamins C and B6, potassium, manganese, and niacin. One medium potato provides 57 mcg of choline or 10%DV.

How it helps

Potatoes are a great source of iron, a mineral that is critical for creating hemoglobin, which carries oxygen around your body. Thus, eating potatoes can potentially help prevent iron deficiency anemia, a condition in which your body doesn't have enough iron to produce hemoglobin.

13

Sardines

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate two to three servings of sardines into your diet each week. You can eat them grilled, steamed, or straight from the can as part of salads, sandwiches, or as a snack. Each serving should be about 3.5 ounces (100 grams), which is roughly one can of sardines.

Description

Sardines are small, oily fish known for their rich content of omega-3 fatty acids, calcium, B12, and vitamin D. Consuming sardines can support heart health, bone strength, and provide essential nutrients, and they are typically found in coastal waters.

Sardines are a good source of iron, omega-3 fatty acids, and a host of vitamins and minerals including calcium, iron, and vitamin D. A 2-sardine serving provides 2 mg of iron or 11%DV.

How it helps

Sardines are rich in iron, a nutrient essential for creating hemoglobin that carries oxygen in the bloodstream. So, consuming sardines can boost your iron levels, preventing conditions linked to iron deficiency like anemia.

14

Vitamin C

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 500-2000 mg of vitamin C supplement daily. It can be taken at any time of the day, with or without food, according to personal preference or tolerance.

TYPICAL STARTING DOSE

2000 mg

Description

Vitamin C is an essential nutrient. This means that our bodies can't produce it on their own, so we have to get it from food or supplements [R].

Foods rich in Vitamin C include: [R]

- Citrus Fruits
- Peppers
- Brussel sprouts
- Kiwi
- Broccoli
- Tomato
- Cantaloupe
- Cauliflower
- Spinach

Vitamin C has antioxidant properties. It supports immunity, heart health, and wound healing [R, R].

Vitamin C deficiency is called *scurvy.* In the past, many sailors suffered from it [R].

How it helps

Vitamin C can enhance the absorption of iron from the GI tract. It converts iron into a more absorbable form, potentially increasing iron levels in the body when taken with iron-rich foods or supplements.

15

Swiss Chard

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate Swiss chard into your diet by adding it to salads, sautéing it with olive oil and garlic for a side dish, or mixing it into soups and stews. Aim to eat Swiss chard 2-3 times per week to benefit from its nutrients.

Description

Swiss chard is a leafy green vegetable rich in vitamins K, A, and C, as well as minerals like potassium and magnesium. It supports bone health, immunity, and overall nutrition.

How it helps

Swiss Chard is rich in iron, a mineral that's essential for blood formation and transporting oxygen around the body. For an individual with an iron deficiency, incorporating Swiss Chard into the diet can help increase the body's iron levels, reducing symptoms like fatigue and weakness.

16

Beef Spleen

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate beef spleen into your diet by consuming it 2-3 times a week. You can cook it by braising, grilling, or making it into stews. Ensure it's thoroughly cooked before eating.

Description

Beef spleen is an organ meat that provides essential nutrients, including iron and vitamin B12. It can be incorporated into a balanced diet to support overall nutritional well-being.

How it helps

Eating beef spleen can increase your iron intake, as it's high in this nutrient. This can be beneficial for those with anemia, a condition caused by iron deficiency, by helping to increase the production of red blood cells.

Beef spleen is a good source of iron. It contains 39.4 mg of iron per 100 grams. Spleens from other animals may have similar nutritional profiles [R].

17

Brussels Sprouts

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate brussels sprouts into your diet by eating them 2-3 times per week. They can be steamed, roasted, or sautéed and seasoned to taste, forming part of a balanced meal. Each serving should be about 1 cup, which roughly equals 5-6 medium-sized brussels sprouts.

Description

Brussels sprouts are a cruciferous vegetable packed with vitamins, fiber, and antioxidants. They are a nutritious addition to a balanced diet and may support immune health and overall well-being.

Brussels sprouts are good sources of vitamin C, vitamin K, fiber, as well as small amounts of other vitamins and minerals. A ½ cup serving provides 48 mg of vitamin C or 53%DV.

How it helps

Brussels sprouts are rich in iron, a crucial element for blood production and transporting oxygen in your body. Including them in your diet can help prevent iron deficiency, a condition that can lead to anemia if not addressed.

18

Avoid Perchlorate

IMPACT 1 / 5

EVIDENCE 1 / 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 study of 7,028 participants associated high urinary perchlorate with higher BUN and lower iron levels in pregnant women [R].

Perchlorate can interfere with iron absorption.

19

Beef Heart

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate beef heart into your meals 2-3 times a week. It can be grilled, braised, or stewed. For a balanced diet, accompany it with vegetables and whole grains.

Description

Beef heart is a nutrient-dense organ meat that provides a concentrated source of essential nutrients, including iron, B vitamins, and coenzyme Q10. It is considered a nutritious food choice that can promote heart health and overall well-being when included in a balanced diet.

How it helps

Eating beef heart provides a rich source of heme iron, which is absorbed more easily by the body compared to other types of iron. This can help increase your iron levels, potentially improving conditions like iron deficiency anemia.

Beef heart is a good source of iron. It contains 6.4 mg of iron per 100 grams. Hearts from other animals may have similar nutritional profiles [R].

20

Lentils

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate at least 1/2 cup of cooked lentils into your daily diet. You can add them to salads, soups, or rice dishes for a nutritious boost. Continue this practice as a regular part of your diet to benefit from their high fiber and protein content.

Description

Lentils are a nutritious legume that provides a good source of plant-based protein, fiber, and essential vitamins and minerals.

Lentils are loaded with iron, protein, fiber, vitamins, minerals, like thiamine, phosphorus, zinc, manganese, and copper. A ½ cup serving provides 3 mg of iron or 17%DV.

How it helps

Lentils are rich in iron, a mineral that your body uses to produce red blood cells and transport oxygen. Eating lentils can help prevent iron-deficiency anemia, a condition where low iron levels lead to decreased oxygen flow to the body's cells.

21

Chicken Liver

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate chicken liver into your meals 1-2 times per week, aiming for portions of about 100 grams (3.5 ounces) per serving. You can cook it by pan-frying, baking, or incorporating it into dishes like pâtés or spreads.

Description

Chicken liver is a nutrient-dense food that is rich in iron, vitamin A, and other essential nutrients. It can be a valuable addition to the diet to support healthy blood and overall nutritional health.

How it helps

Chicken liver is rich in heme iron, which is easily absorbed by the body, and therefore can significantly contribute to fulfilling the body's iron requirements.

22

Kidney beans

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate a half to one cup of cooked kidney beans into your diet 2-3 times a week. You can add them to salads, soups, chili, or make a bean-based spread to increase your intake.

Description

Kidney beans are a nutritious legume rich in protein and fiber. They can support digestive health, help regulate blood sugar levels, and contribute to a balanced diet.

Kidney beans are mineral rich and also a good source of protein and fiber, with iron, copper, manganese, potassium, and folate. A ½ cup serving provides 2 mg of iron or 11%DV.

How it helps

Kidney beans are rich in iron, a mineral essential for your body's production of red blood cells; consuming them regularly can boost your iron levels and help prevent iron deficiency. Inadequate iron can lead to anemia, a condition characterized by fatigue and weakness.

23

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 is not directly involved in treating iron deficiency or disorders linked to iron. Its main role is to boost cognitive functions and brain health.

In a crossover trial with 13 women having low iron stores, supplementation of meat-extracted L-alpha-glycerophosphocholine (46 mg) with and without 100 mg ascorbic acid increased nonheme iron absorption, as evidenced by erythrocyte incorporation [R].

24

Legumes

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate a serving of legumes, such as beans, lentils, chickpeas, or peas, into your diet at least four times a week. A serving size is approximately half a cup cooked. Ensure to prepare them properly by soaking and rinsing beans, if applicable, to reduce anti-nutrients and improve digestibility.

Description

Legumes, such as beans, lentils, and chickpeas, are excellent sources of plant-based protein, fiber, and various vitamins and minerals. Including legumes in your diet can promote satiety and support digestive health.

Legumes are plants from the *Fabaceae* family. Their edible seeds are called **pulses**. Legumes are important food staples and sources of carbohydrates, fiber, protein, iron, and other key nutrients.

Common legumes include:

- Peanuts
- Beans
- Chickpeas
- Peas
- Lentils

How it helps

Legumes such as beans, lentils, and chickpeas are good plant sources of non-heme iron. Consuming them with vitamin C-rich foods can enhance iron absorption.

25

Avoid Coffee and Tea After Iron-Rich Meals

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Wait at least an hour after consuming an iron-rich meal before drinking coffee to ensure optimal iron absorption from your meal.

Description

Avoiding coffee and tea immediately after consuming iron-rich foods or supplements can enhance the body's absorption of dietary iron. They contain compounds that may inhibit iron absorption, so waiting a while before drinking them can optimize the nutritional benefits of iron-rich meals.

How it helps

Avoiding coffee after an iron-rich meal can increase your body's ability to absorb iron. Coffee contains compounds called polyphenols that can inhibit iron absorption by up to 60%.

Coffee reduces iron absorption from meals, with a 39% decrease when consumed with a hamburger and a 64% reduction when compared to tea. Ingesting drip coffee or instant coffee with a meal significantly decreases iron absorption from 5.88% to 0.53% when the strength is doubled. Timing matters; no decrease occurs when coffee is consumed an hour before a meal, but a similar inhibition as simultaneous ingestion happens when taken an hour after [R].

26

Coconut

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate coconut into your diet by adding 1-2 tablespoons of unsweetened coconut flakes to your breakfast cereal or smoothie daily. You can also replace cooking oils with virgin coconut oil when sautéing or baking, not exceeding 2 teaspoons per day to maintain a balanced intake of dietary fats.

Description

Coconut is a versatile fruit with potential health benefits, including providing healthy fats and dietary fiber. It can support satiety, digestion, and overall nutritional wellness when incorporated into a balanced diet.

How it helps

Coconut is rich in iron, an essential nutrient the body uses to produce red blood cells and maintain overall vitality. By including coconut in your diet, it can potentially aid in preventing iron deficiency, a common condition that can lead to anemia. One cup (approximately 80 g) of fresh, shredded coconut contains approximately 1.64 mg (about 20.5% of RDI for men, about 9% of RDI for women) of Iron.

27

Guava

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate fresh guava into your diet by consuming 1-2 whole fruits daily or adding sliced guava to salads, smoothies, or yogurts. This can be continued as a regular part of your daily dietary intake to obtain its nutritional benefits.

Description

Guava is a nutritious fruit rich in vitamins, minerals, and dietary fiber. Consuming guava can support immune health, digestive regularity, and overall well-being.

Guava (*Psidium guajava* L.) is a tropical fruit found from India to Indonesia, and the Caribbean to Latin America. The fruit and leaves of the guava plant have been used medicinally for centuries.

People use guava fruit and leaf extracts to potentially help with [R, R]:

- Diabetes
- Digestive issues
- Weight control
- Joint health

How it helps

Guava is rich in iron, a nutrient that is essential for making red blood cells and carrying oxygen throughout your body. By eating guava, you increase your iron intake which can help combat your iron-deficiency condition.

In a non-placebo-controlled trial of 399 preschool children, consuming guava (25 g/day) for 140 days increased vitamin C levels, thus reducing iron deficiency. Drinking guava juice providing 200 mg/day ascorbic acid for 10 weeks increased serum hemoglobin (by 0.64 g/dL) and plasma ferritin (by 2.47 ng/mL) in a placebo-controlled trial of 95 school children [R, R].

28

White Beans

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate white beans into your diet by adding them to soups, salads, or as a side dish for meals. Aim for a serving size of about 1/2 to 1 cup (100 to 200 grams) of cooked white beans, at least 3-4 times a week for optimal benefits.

Description

White beans, such as cannellini beans, are a type of legume rich in dietary fiber, protein, and essential nutrients like folate. They are used to support digestive health, regulate blood sugar, and provide sustained energy.

White beans are full of protein, vitamins, and minerals, notably iron, folate, copper, potassium, magnesium, and zinc. A 1-cup serving provides 8 mg of iron or 44%DV.

How it helps

White beans are rich in iron, which is necessary for creating hemoglobin, the protein that carries oxygen in your blood. Therefore, including white beans in your diet helps prevent iron deficiency anemia by ensuring your body has enough iron to produce hemoglobin.

29

Tofu

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate tofu into your meals 2-3 times per week, replacing meat in dishes such as stir-fries, salads, and sandwiches. Aim for servings of about 3.5 to 4 ounces (100 to 113 grams) each time.

Description

Tofu, also known as bean curd, is a popular plant-based protein source made from soybeans. It is rich in protein, iron, calcium, and various vitamins, making it a versatile and nutritious addition to vegetarian and vegan diets.

Tofu is a high-protein soybean product with plenty of iron, copper, calcium, vitamin A, and a host of other nutrients. A ½ cup serving provides 476 mcg of copper or 53%DV.

How it helps

Tofu is a rich source of iron which helps produce hemoglobin, the protein responsible for transporting oxygen in the blood. Increased intake of tofu can thus aid in preventing iron deficiency and related conditions.

30

Quinoa

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate quinoa into your diet by replacing rice or pasta with it in meals. Aim for 1-2 servings, which is about 1/2 to 1 cup cooked, 2-3 times a week to benefit from its high protein, fiber, and mineral content.

Description

Quinoa is a nutrient-rich, gluten-free grain-like seed originating from South America. It is packed with protein, fiber, B-vitamins, vitamins A, C, and E, as well as minerals like calcium phosphorus, iron, and zinc, making it a valuable addition to diets for promoting muscle health, aiding digestion, and providing essential nutrients.

Quinoa (*Chenopodium quinoa Willd*) is a flowering plant native to The Andes in South America. There, it is a **food staple for indigenous cultures** [R, R, R].

Quinoa is famous for its seeds, which are **gluten-free and high in protein**. In comparison with many grains, quinoa seeds have a greater amount of many nutrients, including [R, R]:

- Fiber
- Fatty acids (e.g., linoleic and α-linolenic acid)
- Vitamins (e.g., B1, B2, B6, C, and E)
- Minerals (e.g., calcium, phosphorus, iron, and zinc)

Quinoa seeds can be used whole or ground to a fine powder and shaped into flakes before use [R].

How it helps

Quinoa is a gluten-free grain that offers a good amount of non-heme iron in addition to protein and fiber.

31

Black Strap Molasses

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate 1 to 2 tablespoons of blackstrap molasses into your daily diet. You can consume it by mixing it with a cup of warm water or milk in the morning, or use it as a sweetener in your porridge, tea, or smoothies.

Description

Black strap molasses is a natural sweetener that contains minerals like iron, calcium, and magnesium. It can be a healthier alternative to refined sugars and offers potential benefits for bone health and overall nutrition.

How it helps

Blackstrap molasses is a sweetener that serves as a source of non-heme iron, beneficial for increasing iron levels when used in moderation.

32

Vitamin A

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take a vitamin A supplement daily with a fat-containing meal to enhance absorption. The recommended daily allowance (RDA) for most adults is 700-900 micrograms (mcg) for men and women, respectively. Ensure not to exceed the upper intake level (UL) of 3000 mcg per day to avoid toxicity.

TYPICAL STARTING DOSE

700 mcg

Description

Vitamin A is a fat-soluble vitamin essential for various bodily functions, including vision, immune system support, and skin health. It is found in foods like carrots, sweet potatoes, and spinach and is important for maintaining overall health.

Vitamin A is a nutrient important for [R, R]:

- Vision
- Immunity
- Gut health
- Skin health

Foods rich in vitamin A include [R]:

- Beef liver
- Sweet potato
- Spinach
- Carrots
- Cheese

Vitamin A is also available in supplement form.

Women should be getting 700 micrograms of vitamin A per day, while men should be getting 900 micrograms [R].

How it helps

Vitamin A is believed to support iron metabolism and can assist in the mobilization of stored iron, thereby helping to improve iron deficiency states when used in conjunction with iron supplements.

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.

Ferritin	102.2 ng/mL	30 50 150 380	9 Nov 2025
Hemoglobin	17.1 g/dL	7 13.2 14 16.5 17.1 20	9 Nov 2025
Transferrin	306 mg/dL	188 341	9 Nov 2025
Iron	228 mcg/dL	40 50 70 140 180 350	9 Nov 2025