

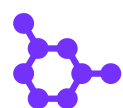
Testosterone

DNA Health Report

REPORT CATEGORIES —



REPRODUCTIVE
HEALTH



SEX HORMONES



SEXUAL HEALTH

Sample Client

Report date: 15 January 2026

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DISCLAIMER

This report does not diagnose this or any other health conditions. Please talk to a healthcare professional if this condition runs in your family, you think you might have this condition, or you have any concerns about your results.

Personal information

NAME

Sample Client

SEX AT BIRTH

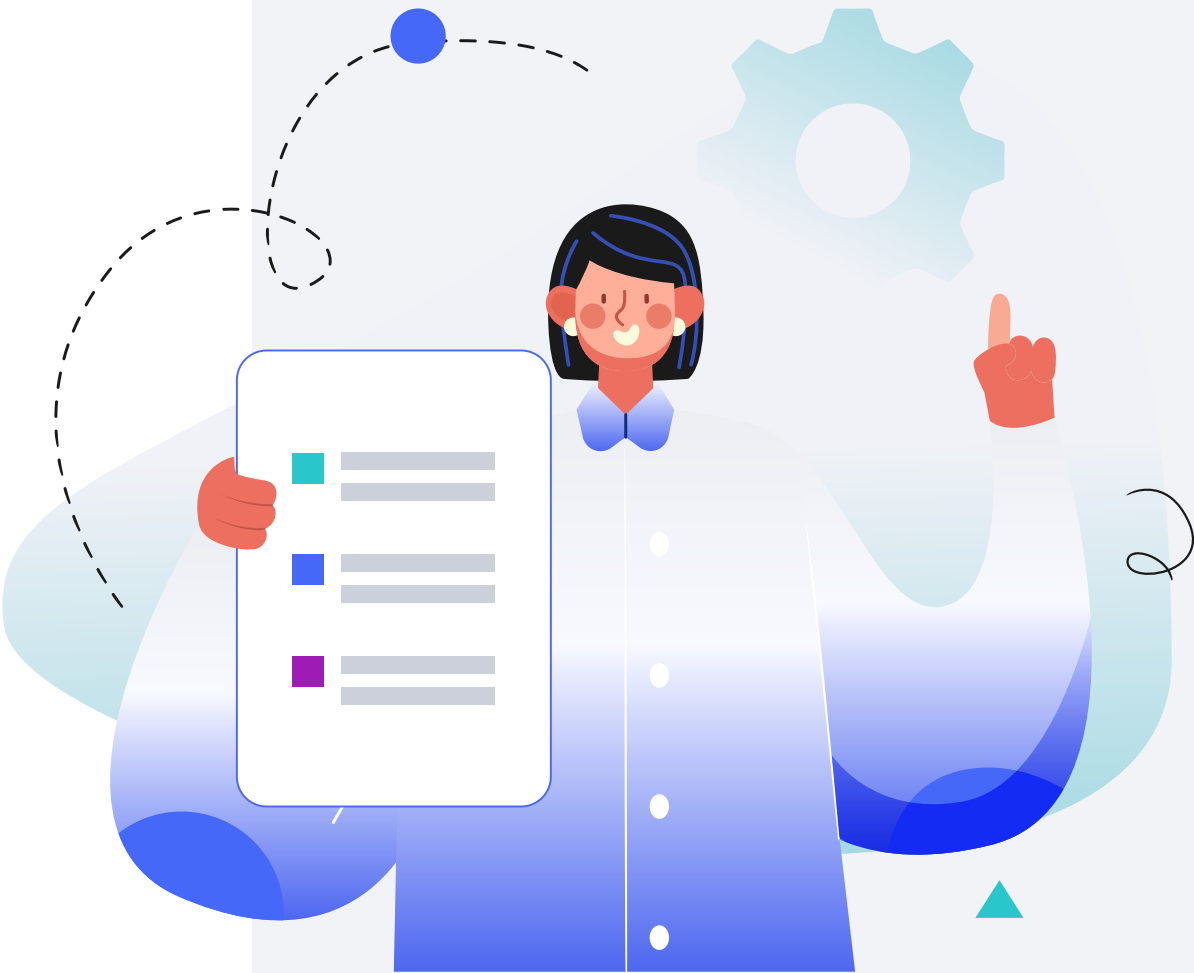
Male

HEIGHT

5ft 5" 165cm

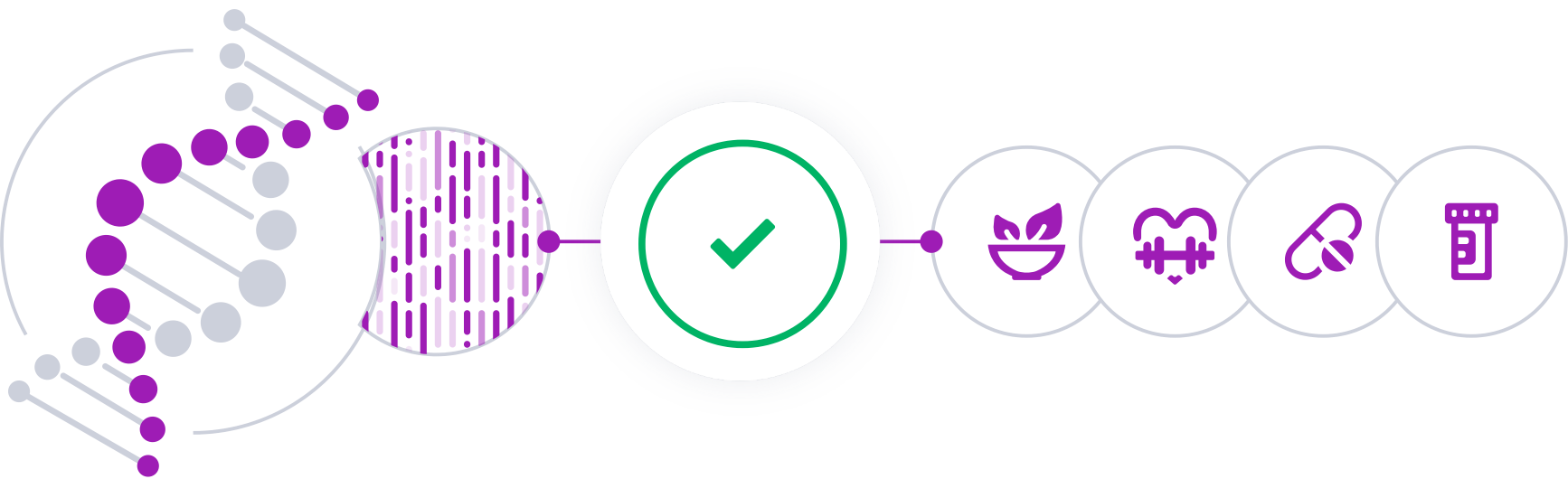
WEIGHT

137lb 62kg



How this works

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

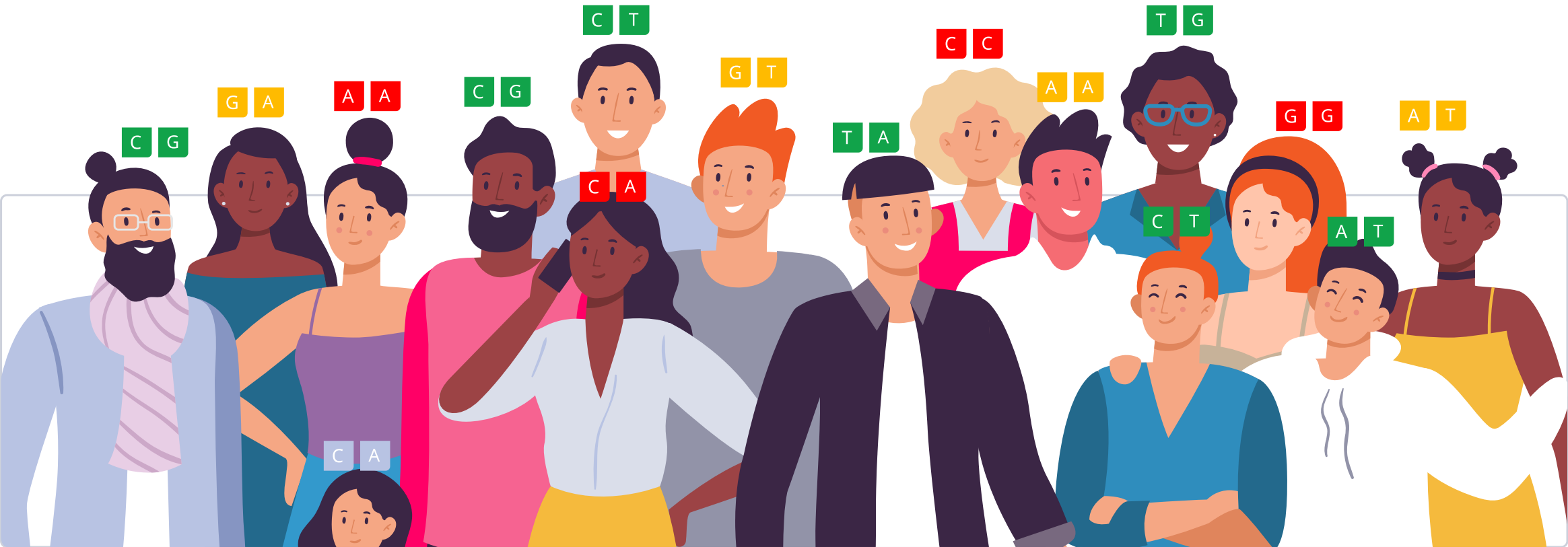


Similarly, our Trait Reports look at how your DNA influences your traits.



Your DNA is like an instruction manual — it contains a lot of information.
You can think of it as a blueprint for your body.

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



We use artificial intelligence and machine learning to analyze all this information.
We then summarize your results as a risk score or display it on a gauge.

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

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



Genotype color info:

AA

You don't have any risk alleles

AA

You have 1 risk allele

AA

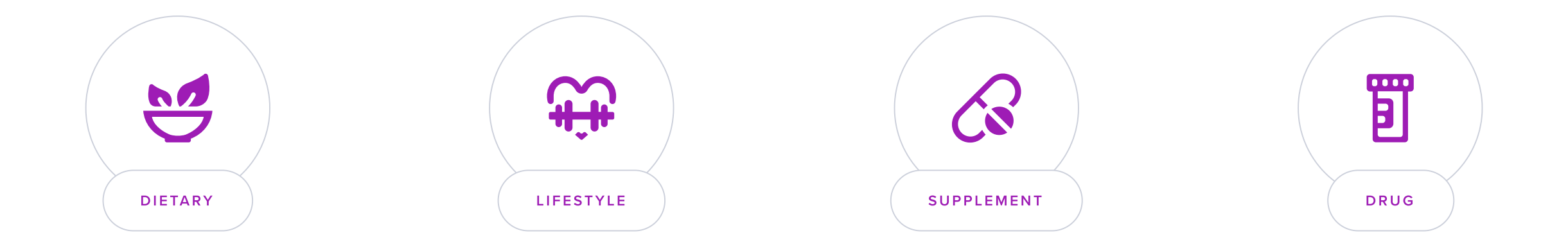
You have 2 risk alleles

Your risk is also displayed as a percentile. This will tell you how your risks compare to our sample population. The lower your percentile number, the lower your risk. The "50th percentile" would be an average risk.

Similarly, the gauge tells you your relative risk score compared to our sample population, or it indicates a specific trait or haplotype you are more likely to have based on your genetic variants.

When applicable, we also list top evidence-based recommendations that may help lower your risk. The focus is on recommendations that may be of benefit to you, based on your genetics.

Our recommendations come in four categories: lifestyle, diet, supplements and drugs.
The following icons tell you which category a recommendation falls into:



Our team of scientists also ranks each recommendation.
We rank based on impact and the strength of evidence in the medical literature.

Impact shows how strongly a recommendation will affect your health in a certain area.
Evidence is how much scientific support there is for the recommendation. Rankings are from 1 to 5 (low to high):



Impact

Impact scores range from 1-5. These scores reflect how much of an effect each recommendation can have. An impact score of 5 predicts the biggest effect.

When a recommendation affects something we can measure, we use those measurements to assign the impact score. For example, a recommendation that decreases cholesterol by 20% will have a higher impact score than one that decreases it by 5%.

Some recommendations affect things that we cannot directly measure, like stress or mood. For these, the impact score is based on how well they work relative to other recommendations and standard treatments. The best ones get the highest scores.

If there is a lot of research that shows a recommendation works especially well for your genotype, the impact score gets increased.

Recommendation Evidence

- 5 / 5
- Recommendations that are considered effective and generally recommended by experts and medical bodies.
-
- 4 / 5
- Recommendations that are considered likely effective and that have multiple independent meta-analyses and a great many studies supporting them.
-
- 3 / 5
- Recommendations that are considered possibly effective and have many studies supporting them
-
- 2 / 5
- Recommendations that have insufficient evidence, with two or several clinical trials supporting them, or many studies but with ambiguous results.
-
- 1 / 5
- Recommendations that have insufficient evidence, with a single clinical trial, or with many studies most of which didn't find support for the recommendation.
-
- 0 / 5
- No evidence in humans.

Genotype-specific Evidence

- High-quality
- Direct evidence that a recommendation helps more in people with your gene variant (many clinical trials, a few large clinical trials, or a meta-analysis).
-
- Medium-quality
- Direct evidence that a recommendation helps more in people with your gene variant (a few clinical trials or one large clinical trial).
-
- Low-quality
- Direct evidence that a recommendation helps more in people with your gene variant (a single clinical trial or more trials with inconsistent results).
-
- Indirect
- A recommendation may help more in people with your gene variant because it targets a specific gene or protein affected by your variant (e.g., MTHFR, dopamine).
-
- In theory
- A recommendation may help more in people with your gene variant because it targets a specific mechanism affected by your variant (e.g., inflammation, oxidative stress).

Some things to keep in mind:

- Genetics doesn’t play a considerable role in a condition or a trait.
- There is not enough research available to estimate a genetic predisposition.
- There are technical limitations to estimating or presenting a genetic predisposition.
- The topic is sensitive, and a genetic predisposition should only be estimated and presented by a healthcare professional.

Introduction

Testosterone is the major male sex hormone. It is mainly produced in the testes and helps men develop masculine features like increased muscle mass and body hair [R].

Males begin producing testosterone when they are still in the womb. Testosterone helps develop a normal male reproductive system and produces some of the changes males experience during puberty [R].

Normal testosterone levels are important for maintaining bone health and a healthy sex drive in all people [R].

Excessive testosterone levels are rare in men. One common cause of excessive testosterone in men is steroid misuse. Problems linked with high testosterone include [R]:

- Acne
- High blood pressure and high cholesterol
- Irritability and mood changes

Men produce less testosterone as they age. They may lose 1% of their testosterone per year after the age of 30. Symptoms of low testosterone in men include [R, R]:

- Reduced body and facial hair
- Loss of muscle mass or muscle strength
- Low sex drive or erectile dysfunction
- Irritability, poor concentration, and depression
- Bone brittleness and increased risk of fracture

For men with severe symptoms of low testosterone, a doctor may prescribe testosterone replacement therapy [R].

Along with age, risk factors for low testosterone include [R]:

- Injury or trauma to the testes
- Obesity
- Chronic health conditions such as chronic kidney disease or diabetes
- Previous steroid use
- **Genetics**

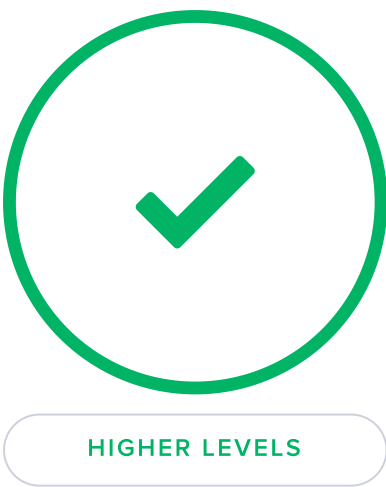
Genetics, Environment and Testosterone

Testosterone is the major male sex hormone. It is mainly produced in the testes and helps men develop masculine features like increased muscle mass and body hair. Males begin producing testosterone when they are still in the womb and lose 1% of their testosterone per year after the age of 30. Testosterone helps develop a normal male reproductive system and produces some of the changes males experience during puberty [\[R\]](#), [\[R\]](#).

Up to 60% of differences in people’s testosterone levels may be due to genetics. Genes involved may influence testosterone metabolism [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Testosterone levels are also influenced by your environment and lifestyle habits. Ways to balance your testosterone include [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Exercising
 - Maintaining a healthy weight
 - Improving your sleep quality
 - Eating a healthy diet that includes healthy fats.
- Testosterone is made from cholesterol, and low-fat diets have been linked to low testosterone levels



HIGHER LEVELS

Predisposed to higher testosterone levels based on 1,655 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
FKBP4	rs56196860	CC
SERPINA1	rs28929474	CC
XDH	rs77775907	GG
EDA2R	rs141086308	C
TNFSF12	rs727428	TT
PDE7B	rs7774640	GG
FAM9A	rs5934505	T
ATP1B2	rs11078694	CT
TDGF1P3	rs5942977	G
TNFSF12	rs12946520	TG
NR2F2	rs8023580	TT
MYPOP	rs35318830	TT
/	rs7097842	GG
NRBF2	rs7084569	AG
KANSL1	rs62062271	TT
UGT2B17	rs9884390	TT
HACE1	rs11156429	TT
SLCO1B1	rs4149056	TC
GNGT2	rs11655704	CT
GCKR	rs1260326	TC
DGKB	rs10278686	TC
STAT6	rs7484541	TA
SS18	rs600619	AG
SAT2	rs10468481	AG
CERS5	rs28849840	AG
JHY	rs11218882	TC
ZBTB4	rs12944954	AA
DNAH2	rs117387630	CC
TACR3	rs17289915	CC
WRAP53	rs183855978	GG
WDR72	rs79391862	AA
SHBG	rs6258	CC

GENE	SNP	GENOTYPE
TNFSF12	rs12150660	GG
ARL14EP	rs10835638	GG
LCMT2	rs143875230	GG
YIPF6	rs7052964	T
FAM214A	rs77255942	CC
UBQLN2	rs6651991	T
/	rs6484426	TT
BAIAP2L1	rs34785619	II
PNPLA3	rs738409	GG
GPR139	rs2764772	AA
MRAS	rs7626388	AA
HSD17B13	rs6811902	TT

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

Your Recommendations

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

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

		DOSAGE			DOSAGE
1	Exercise At Least One Hour a Day	1 hour	2	Zinc	10 mg
3	Aerobic Exercise (Cardio)	1 hour	4	Strength Training	1 hour
5	Avoid PAHs Exposure		6	Tongkat Ali	200 mg
7	DHEA (Dehydroepiandrosterone)	25 mg	8	Avoid Opioid Drugs	
9	Sleep for 7+ Hours		10	Avoid Organophosphate Pesticide Exposure	
11	Limit Calorie Intake		12	Fenugreek	500 mg
13	Avoid Cold Exposure		14	Betaine (TMG)	500 mg
15	Avoid PBDE		16	Creatine	2 g
17	Bromelain		18	Boron	3 mg
19	Extra Virgin Olive Oil (EVOO)		20	Tribulus	250 mg
21	Shilajit	500 mg	22	Royal Jelly	300 mg
23	Pycnogenol	100 mg	24	Blood Flow Restriction Training	15 minutes
25	Geranylgeraniol	150 mg	26	Pomegranate Peel and Cocoa Extracts	
27	Forskolin	500 mg	28	L-Carnitine	500 mg
29	Black Seed (Black Cumin)	1000 mg	30	Ashwagandha Shoden	125 mg
31	Colostrum	20 g	32	Magnesium	250 mg

33	Avoid Phthalate Exposure		34	Ashwagandha	120 mg
35	Flower Pollen Extract and Black Seed (Black Cumin)	1000 mg	36	Ginger	500 mg
37	Avoid Perchlorate		38	Mucuna Pruriens	300 mg
39	Chewing		40	Avoid Dioxin	
41	Maintain Optimal Vitamin D Levels	1000 iu	42	Fadogia Agrestis	

1



Exercise At Least One Hour a Day

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

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

TYPICAL STARTING DOSE

1 hour

Description

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

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

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

How it helps

Moderate-high-intensity exercise may increase total testosterone levels within the first 30 minutes. Studied types of exercise include [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Cardio (e.g., running)
- High-intensity interval training (HIIT)
- Strength

More studies are needed to determine the amount and type of exercise that may offer the greatest benefits [\[R\]](#), [\[R\]](#).

Exercise may help by directly increasing testosterone production [\[R\]](#).

2



Zinc

IMPACT

3 / 5

EVIDENCE

2 / 5

How to implement

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

TYPICAL STARTING DOSE

10 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

The analysis of 8 studies concluded that zinc deficiency may reduce testosterone levels. In line with this, zinc supplementation may improve them [\[R\]](#), [\[R\]](#). However, the combination of zinc and folate may not offer the same benefits in subfertile men [\[R\]](#).

Please note: *A high intake of zinc may cause stomach pain and gut irritation. Medical bodies recommend against taking more than **40 mg** of zinc per day* [\[R\]](#), [\[R\]](#).

3



Aerobic Exercise (Cardio)

IMPACT

2 / 5

EVIDENCE

3 / 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

Aerobic exercise (for at least 12 weeks) may temporarily increase total testosterone levels. The increase may last for about 30 minutes and require moderate-high intensity exercise [\[R\]](#), [\[R\]](#), [\[R\]](#).

4



Strength Training

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Engage in strength training exercises, such as weight lifting or bodyweight exercises, for 60 minutes per session, 2 to 3 times per week. Ensure you work all major muscle groups and rest each muscle group for at least 48 hours before exercising it again.

TYPICAL STARTING DOSE

1 hour

Description

Strength training, also called resistance or *anaerobic* training, contracts the muscles against an external resistance for short periods of time. This helps gain muscle strength, tone, and mass. This can include activities like weight lifting, pushups, and crunches.

Strength training, also known as resistance training, is a type of physical exercise that uses resistance to build strength, anaerobic endurance, and size [R]. Some of the most common strength training methods include [R]:

- Weight lifting
- Bodyweight exercises like push-ups, pull-ups, squats, and lunges.
- Resistance bands
- Plyometrics or explosive force exercises

The benefits of strength training are numerous, and include [R]:

- Increased muscle strength
- Improved bone health
- Reduced risk of injury
- Improved balance and coordination
- Enhanced mood
- Boost metabolism

Consult with a doctor before starting any new exercise program, especially if you have any health conditions.

How it helps

Moderate-high-intensity exercise may increase total testosterone levels within the first 30 minutes. Studied types of exercise include [R, R, R, R, R, R, R, R]:

- Cardio (e.g., running)
- High-intensity interval training (HIIT)
- Strength

More studies are needed to determine the amount and type of exercise that may offer the greatest benefits [R, R].

Exercise may help by directly increasing testosterone production [R].

5



Avoid PAHs Exposure

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Minimize your exposure to Polycyclic Aromatic Hydrocarbons (PAHs) by avoiding or reducing consumption of charred, grilled, or smoked foods, not smoking or avoiding secondhand smoke, and limiting time spent in areas with heavy traffic or industrial fumes. Use exhaust fans in kitchens and ensure proper ventilation when cooking at high temperatures to reduce indoor levels of PAHs.

Description

PAHs or Polycyclic Aromatic Hydrocarbons are harmful substances found in smoke and grilled foods. Try to limit exposure to them for better health. For example, avoid inhaling smoke from cigarettes or barbeques and choose alternative cooking techniques over grilling. Minimizing PAHs can reduce the risk of several health issues, particularly lung and skin diseases.

How it helps

A study of 967 male adolescents associated urinary 2-Hydroxynaphthalene, 1-Hydroxyphenanthrene, 2&3-Hydroxyphenanthrene with decreased estradiol levels and 2-Hydroxynaphthalene with decreased total testosterone [\[R\]](#).

A study of 648 premenopausal and 370 postmenopausal women associated exposure to PAH metabolites with decreased E2, TT, FAI, and TT/E2, and increased SHBG levels [\[R\]](#).

A study of 4,654 participants associated urinary 2-hydroxynaphthalene and 3-hydroxyfluorene with increased testosterone levels in men, while 1-hydroxyphenanthrene increased estradiol in women [\[R\]](#).

A study of 1102 men associated urinary 3-hydroxyfluorene and 2-hydroxyfluorene with higher serum testosterone [\[R\]](#).

PAHs can interfere with hormone production, potentially leading to testosterone imbalance.

6



Tongkat Ali

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take 200-400 mg of Tongkat Ali extract daily, preferably in the morning, to maintain consistent levels in your body. This dosage is typically taken in a single dose or divided into two doses throughout the day. Use for a period of 5-9 weeks followed by a break or as advised by a healthcare professional.

TYPICAL STARTING DOSE
200 mg

Description

Tongkat Ali is a plant native to Southeast Asia. Traditionally and today, its roots have been used as a herbal remedy to boost energy, improve libido, and support overall vitality. It's typically consumed as a tea or in powdered form. The main compounds in Tongkat Ali are quassinoids, which are believed to have potential benefits for hormonal balance and sexual health.

[Tongkat ali](#) or longjack (*Eurycoma longifolia*) is a plant native to Southeast Asia. It has a long history in traditional medicine [\[R\]](#).

Today, people mainly use extracts from its root to support erectile function and fertility [\[R\]](#).

How it helps

Supplementation with tongkat ali (200-600 mg/day for 2-12 weeks) may increase testosterone levels in both healthy and hypogonadal men [\[R\]](#).

Please note: *Tongkat ali may interact with medicines for high blood pressure such as propranolol. If you are taking medicines for high blood pressure, consult your doctor before consuming tongkat ali* [\[R\]](#).

7



DHEA (Dehydroepiandrosterone)

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Take 25-50 mg of DHEA orally with water daily, preferably in the morning to mimic the body's natural rhythm of DHEA production. It is advisable to start at the lower dose to assess tolerance and adjust as needed. Consult a healthcare provider for personalized advice and before starting a new supplement regimen.

TYPICAL STARTING DOSE

25 mg

Description

DHEA is a hormone produced by the adrenal glands and has been used as a dietary supplement for various purposes, including supporting hormonal balance and energy levels. It may have potential benefits for specific individuals, but its use should be supervised by a healthcare professional due to its hormonal nature.

DHEA is a steroid hormone produced primarily by the adrenal glands. It is also produced to a much lesser extent by the testes and ovaries and, possibly, the brain [\[R\]](#), [\[R\]](#).

DHEA helps make the sex hormones [testosterone](#) and [estrogen](#). DHEA is important for [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Mood
- Immunity
- Muscle strength
- Bone health
- Skin health

DHEA is released in response to stress. In fact, one of DHEA's important roles is to protect against the adverse effects of prolonged and excessive exposure to cortisol, the stress hormone [\[R\]](#), [\[R\]](#), [\[R\]](#).

How it helps

A meta-analysis of 9 trials and 793 elderly women found that supplementation with DHEA increased testosterone levels (by 17.52 ng/dL) while decreasing BMI (by 0.39 kg/m2) [\[R\]](#).

DHEA may act as a precursor to testosterone in the body.

Please note: *DHEA has been banned by sport associations and anti-doping agencies. DHEA should not be used at high doses or long-term and is contraindicated in patients with hormone-responsive cancers. DHEA supplements should only be used with the prescription of a medical professional. Discuss risks and side effects with your doctor* [\[R\]](#).

8



Avoid Opioid Drugs

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Do not use opioid medications unless prescribed by a healthcare provider for specific medical conditions where pain management is necessary, and even then, use them only as directed for the shortest possible duration.

Description

Avoiding the misuse and addiction to opioids is essential for physical and mental well-being, as these drugs can lead to dependence, overdose, and serious health consequences. Responsible use and adherence to medical advice are crucial for managing pain and avoiding opioid-related risks.

How it helps

Research on above 2,700 people concluded that opioid use may reduce testosterone levels in men [\[R\]](#).

9



Sleep for 7+ Hours

IMPACT2 / 5

EVIDENCE2 / 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

Sleep alterations are associated with lower testosterone levels, including [\[R, R, R\]](#):

- Sleep deprivation (24-48 h)
- Short and long sleep duration

However, not all studies found this association for long sleep duration [\[R\]](#).

Severe sleep apnea may also reduce testosterone levels [\[R, R\]](#).

10

Avoid Organophosphate Pesticide Exposure

IMPACT

2 / 5

EVIDENCE

2 / 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

Reducing exposure to organophosphate pesticides can help increase testosterone levels, as these chemicals have been linked to decreased testosterone in men. By lowering your exposure, your body will be less likely to produce hormones disrupting compounds, supporting healthier testosterone production.

A [study of 1438 participants](#) associated high levels of **urinary organophosphate metabolites with reduced estradiol and free androgen index in men, and free androgen index, total testosterone, and total testosterone to estradiol ratio in women** [\[R\]](#).

A [study of 356 men](#) found a **significant inverse relationship between diethyl phosphate and testosterone levels** [\[R\]](#).

11



Limit Calorie Intake

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Consume fewer calories than your body needs for maintenance. Calculate your daily caloric needs using an online calculator based on your sex, age, weight, height, and activity level, then reduce that number by 500-1000 calories per day to safely lose 1-2 pounds per week. Adjust the caloric intake as needed based on your progress.

Description

People often limit their calorie intake to help them lose weight [R, R]. However, moderate calorie restriction may also help you stay healthier and age better [R, R, R, R, R].

There are different ways to take in fewer calories. You can:

- **Eat low-calorie foods**, such as those rich in proteins, fiber, and water. Avoid fatty and sugary foods, which tend to be high in calories [R].
- Try [intermittent fasting](#), which involves changing how often you eat [R].

If you are restricting your calories, make sure your diet remains healthy and balanced. Experts also recommend being physically active, to prevent the loss of muscle and bone mass.

How it helps

Reducing calorie intake may help to maintain a healthy body weight, which indirectly supports testosterone levels as obesity can lower these levels. However, extreme calorie restriction can lead to a decrease in testosterone levels due to the body's response to the perceived state of starvation.

12



Fenugreek

IMPACT

2 / 5

EVIDENCE

1 / 5

How to implement

Take a 500 mg fenugreek supplement daily, preferably with a meal to aid in digestion and absorption.

TYPICAL STARTING DOSE

500 mg

Description

Fenugreek is an herb and spice commonly used in traditional medicine for its potential to support digestive health, regulate blood sugar levels, and promote lactation in nursing mothers. Its compounds, such as soluble fiber and fenugreek seeds, contribute to its various health benefits.

[Fenugreek](#) is a leafy green legume originating from central Asia. Its leaves and seeds are both used in cooking. Some people also use the seeds to make tea [[R](#), [R](#)].

People use fenugreek tea or supplements for [[R](#), [R](#), [R](#), [R](#)]:

- Reproductive health
- Blood sugar control
- Decreasing cholesterol

How it helps

Fenugreek is believed to enhance testosterone levels by inhibiting enzymes that convert testosterone into estrogen, effectively raising your body's overall testosterone availability. It's also thought to help with sexual function and boost strength.

13



Avoid Cold Exposure

IMPACT

2 / 5

EVIDENCE

1 / 5

How to implement

Minimize your time outdoors during cold weather. When you must go out, wear appropriate clothing such as insulated jackets, hats, gloves, and waterproof boots to protect against the cold. It's especially important to keep your extremities covered to prevent frostbite. Aim to limit outdoor exposure on very cold days and try to stay indoors, where it's warm, as much as possible.

Description

Avoiding prolonged exposure to extreme cold temperatures is essential for preventing cold-related health issues like fatigue, hypothermia, and slower body functions. Cold exposure may be risky for people with respiratory conditions like asthma and those with blood vessel problems.

Cold exposure occurs when the body is exposed to lower-than-normal temperatures for a prolonged period of time. It can happen when someone is immersed in cold water or outdoors without proper clothing or shelter [\[R\]](#).

Cold exposure may cause the body's core temperature to drop, which results in shivering and muscle stiffness. Prolonged or extreme cold exposure may lead to [\[R, R\]](#):

- Slower body functions
- Fatigue
- Confusion
- Hypothermia

Cold exposure may be risky for people with respiratory conditions like asthma and those with blood vessel problems [\[R\]](#).

How it helps

In one study, elite divers experienced decreased levels of testosterone in cold water (3.3°C, 2x/day), which tended to normalize by the next day [\[R\]](#).

Similarly, studies on athletes found that cold water immersion or exercising at low temperatures prevented testosterone rise after exercise or caused a drop compared to recovery or exercise at regular temperature [\[R, R, R\]](#).

However, some studies on athletes reported no change in testosterone levels after cold exposure or cold water immersion [\[R, R, R\]](#).

14



Betaine (TMG)

IMPACT

2 / 5

EVIDENCE

1 / 5

How to implement

To take Betaine (TMG) as a supplement, consume 500-2000 mg daily, preferably with a meal to enhance absorption. It is recommended to start at the lower end of the dosage range and adjust based on personal tolerance and effectiveness. This supplement can be taken indefinitely for ongoing support of heart health and liver function.

TYPICAL STARTING DOSE

500 mg

Description

Betaine is a compound found in various foods and used in dietary supplements for its potential to support liver health and contribute to healthy homocysteine levels.

How it helps

Betaine (TMG) could potentially enhance testosterone production by reducing the body's homocysteine levels, ultimately aiding in the function of enzymes involved in testosterone synthesis. However, more research is needed to confirm this benefit.

A [double blind, randomized, placebo-controlled trial with 29 young soccer players](#) found that betaine supplementation (2 g/day for 14 weeks) may **increase testosterone and testosterone to cortisol ratio (T/C)**, without changing GH, IGF-1, lean body mass, or body fat [\[R\]](#).

Please note: *Doses above 4 g/day may increase LDL and triglyceride levels. TMG supplementation can cause a person’s urine and sweat to smell fishy* [\[R\]](#), [\[R\]](#).

15



Avoid PBDE

IMPACT

2 / 5

EVIDENCE

1 / 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

Avoiding PBDEs, chemicals often found in household items, can help boost testosterone levels. PBDEs disrupt your hormonal balance, reducing your testosterone and potentially causing health problems.

A [study of 544 adolescents](#) associated exposure to organophosphate esters (a class of PBDE) with **lower total testosterone and estradiol levels, and higher SHBG** [\[R\]](#).

16



Creatine

IMPACT

1 / 5

EVIDENCE

2 / 5

How to implement

Take 4 grams of creatine supplement daily, ideally mixed with water or juice. This dosage can be maintained consistently without needing specific periods of cycling on or off.

TYPICAL STARTING DOSE

2 g

Description

Creatine is a popular dietary supplement among athletes and bodybuilders, known to enhance muscle performance during short bursts of high-intensity activities. It may help improve exercise performance and support muscle growth when used as directed.

[Creatine](#) is a compound naturally produced by the body. It’s stored in the muscles and brain [\[R\]](#).

During exercise, creatine is released to boost performance and help build muscles. For this reason, it’s a popular supplement among athletes [\[R, R\]](#).

Sources of creatine include [\[R\]](#):

- Red meat
- Seafood
- Supplements

How it helps

Creatine doesn't directly treat low testosterone but it can support muscle growth and strength, which can indirectly benefit testosterone levels as resistance training is known to boost this hormone. Just remember, the supplement is mainly known for its direct impact on muscle energy production, not hormone regulation.

17



Bromelain

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 500mg of bromelain supplement two to three times daily, preferably with food to reduce the risk of gastrointestinal discomfort. It is recommended to use for short-term relief, typically not exceeding several months, unless supervised by a healthcare provider.

Description

Bromelain is an enzyme found in pineapple that may have anti-inflammatory and digestive benefits. It's often used as a dietary supplement to aid digestion and reduce swelling associated with injuries or surgery.

[Bromelain](#) is an extract from pineapples. It's rich in enzymes that break down proteins [\[R\]](#).

Bromelain may have some health benefits. People use it to [\[R\]](#):

- Maintain joint health
- Help with burns
- Support heart health

How it helps

A study examined the effects of bromelain (1000 mg/day) on muscle damage and recovery in 15 highly trained cyclists during a six-day race. It found that bromelain prevented a drop in testosterone levels, which occurred in the placebo group. Bromelain also reduced fatigue on the fourth day of the race [\[R\]](#).

18



Boron

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a boron supplement of 3 to 6 mg daily, with food to enhance absorption. This dosage range is commonly recommended for general health benefits, based on nutritional studies. It's advisable to continue this regimen daily for an extended period, as long-term benefits depend on consistent supplementation.

TYPICAL STARTING DOSE

3 mg

Description

Boron is a trace mineral that plays a role in bone health, cognitive function, and hormone regulation.

Boron is a mineral in many foods, including:

- Fruits and fruit juices
- Avocados
- Potatoes
- Legumes
- Drinks (coffee, milk, cider, wine, and beer)

Scientists aren’t sure if boron has any roles in the body, so they don’t consider it an essential nutrient.

Some people take boron supplements to balance hormone levels, increase athletic performance, and more. However, the evidence to support these uses is weak.

How it helps

Boron supplementation (2.5 mg) showed no significant effect on testosterone levels, lean body mass, or strength in male bodybuilders. Both groups demonstrated improvements in these parameters over 7 weeks of training [\[R\]](#).

Acute and weekly boron supplementation (10 mg) led to increased plasma boron levels and significant biological effects. Six hours post-supplementation showed decreased SHBG, hsCRP, and TNF-α levels. After a week, free testosterone increased, while estradiol decreased, along with elevated dihydrotestosterone, cortisol, and vitamin D. Inflammatory biomarkers also decreased [\[R\]](#).

Dietary boron supplementation (3 mg/day) significantly affected mineral metabolism in postmenopausal women, reducing urinary excretion of calcium and magnesium, especially on low-magnesium diets. Boron also elevated serum 17 beta-estradiol and testosterone levels. Aluminum and boron interaction had no effect [\[R\]](#).

19



Extra Virgin Olive Oil (EVOO)

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

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

Description

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

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

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

- Heart disease
- Diabetes
- Cancer

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

How it helps

In a study of 60 men, consuming extra virgin olive oil (for 3 weeks) increased testosterone levels by 17.4% [\[R\]](#).

20



Tribulus

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 250-1500 mg of Tribulus terrestris extract daily, divided into one to three doses, with meals. Start with the lower dose to assess tolerance and gradually increase as needed. This regimen can be followed for up to 90 days, after which a break or reassessment is recommended.

TYPICAL STARTING DOSE

250 mg

Description

Tribulus is an herb commonly used in traditional medicine for its potential to enhance athletic performance and libido. It is believed to contain active compounds like protodioscin, which may contribute to its aphrodisiac and adaptogenic effects.

[Tribulus](#) (*Tribulus terrestris*) grows in parts of Europe, Asia, and Africa. It’s been used in traditional Chinese and Indian medicine for centuries [\[R, R\]](#).

Today, people use tribulus to potentially help with [\[R, R\]](#):

- High blood pressure
- Sexual dysfunction and infertility

How it helps

In 2 placebo-controlled trials of 60 CrossFit-trained men, supplementation with Tribulus (770 mg/day) for 6 weeks failed to improve exercise performance or body composition but improved exercise recovery and testosterone levels while decreasing exercise-induced oxidative stress, muscle damage, and inflammation [\[R, R\]](#).

21



Shilajit

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a pea-sized portion (approximately 500mg) of purified shilajit resin and dissolve it in warm water, tea, or milk. Consume this once daily, ideally in the morning on an empty stomach for best absorption. Continue this routine daily for 6 to 8 weeks to observe benefits.

TYPICAL STARTING DOSE

500 mg

Description

[Shilajit](#), also known as shilaras or bitumen, is a tar-like substance that oozes from sedimentary rocks worldwide, especially in the Himalayas. It is made of rock humus, minerals, and organic substances (e.g., marine organisms) decomposed by microbes and compressed by layers of rock [\[R\]](#).

Shilajit is called a rasayana (rejuvenator) and a maharasa (super-vitalizer) in Ayurveda (indigenous Indian medicine). It is traditionally used to [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Boost energy levels
- Improve memory and focus
- Fight stress
- Manage male reproductive disorders

Shilajit is sold as capsules or powder [\[R\]](#).

How it helps

In a placebo-controlled trial of 75 healthy middle-aged volunteers, supplementation with shilajit (250 mg, 2x/day) for 90 days significantly increased total testosterone, free testosterone, and DHEAS levels [\[R\]](#).

22



Royal Jelly

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a royal jelly supplement daily, starting with a dose of approximately 300 mg to 500 mg. It can be consumed either in capsule form or directly, depending on your preference, for a period ranging from 3 to 6 months to observe the potential health benefits.

TYPICAL STARTING DOSE

300 mg

Description

Royal jelly is a nutrient-rich substance secreted by worker bees to feed bee larvae and the queen bee. Royal jelly contains protein B-vitamins, calcium and iron. It is taken as a supplement for it's potential energy-boosting and immune-supporting properties.

How it helps

In a non-placebo-controlled trial of 61 healthy volunteers, ingesting royal jelly (300 mg in 100 mL liquid) for 6 months increased testosterone levels [\[R\]](#).

23



Pycnogenol

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 100 mg of pycnogenol supplement daily. This can be taken in a single dose or divided into two doses of 50 mg each, one in the morning and one in the evening.

TYPICAL STARTING DOSE

100 mg

Description

Pycnogenol (pine bark extract) is derived from the bark of the maritime pine (Pinus pinaster). It has been used in traditional n European folk medicine for centuries, and more recently as a supplement. The extract contains a group of bioactive compounds known as proanthocyanidins, which may be beneficial in supporting cardiovascular health, promoting skin health, and aiding in the management of various conditions related to inflammation and oxidative stress.

Pycnogenol comes from the bark of pine trees that grow in the Mediterranean [\[R\]](#), [\[R\]](#).

It may improve [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Athletic performance
- Seasonal allergies
- Cognitive function
- Joint health
- Varicose veins

How it helps

In a [placebo-controlled trial of 124 patients with moderate erectile dysfunction](#), taking a supplement with pine bark extract and l-arginine aspartate for 6 months **increased erectile function and serum testosterone (by 3 nmol/L)** [\[R\]](#).

24



Blood Flow Restriction Training

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Wrap a blood flow restriction (BFR) band or cuff around the upper portion of your limbs (arms or legs) at a pressure that feels tight but not painful, aiming for a perceived tightness of 7 out of 10. Engage in low-intensity resistance training, such as lifting weights that are 20% to 30% of your one-rep max, or perform bodyweight exercises. Do this for 15-30 minutes, 2-3 times a week. Always release the bands after each exercise set to restore normal circulation.

TYPICAL STARTING DOSE

15 minutes

Description

Blood flow restriction (BFR) training is a specialized fitness and rehabilitation technique that involves applying pressure to restrict blood flow to specific muscles during exercise. This is typically achieved using cuffs or wraps placed on the limbs and then inflated to a controlled pressure. By temporarily reducing blood flow while allowing arterial inflow, BFR training creates a unique physiological response. It induces metabolic stress and muscle fatigue, leading to muscle growth and strength gains, even with lighter weights.

BFR is widely used in rehabilitation settings to aid in the recovery of injured individuals, helping them rebuild muscle strength without overloading compromised areas. It also has applications in improving muscular endurance and may have potential cardiovascular benefits, such as lowering blood pressure and enhancing vascular function. However, it should be performed under the guidance of a trained professional, as it's not suitable for everyone and has specific safety considerations.

How it helps

In a non-placebo-controlled trial of 25 healthy young men, practicing BFR training increased testosterone levels [\[R\]](#).

25



Geranylgeraniol

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Geranylgeraniol can be taken as a dietary supplement, typically in the form of capsules or softgels. The recommended dosage varies depending on individual health needs and the specific product formulation. It is generally advised to start with a lower dose and gradually increase it, under the guidance of a healthcare professional. Taking it with a meal may enhance absorption and efficacy.

TYPICAL STARTING DOSE
150 mg

Description

Geranylgeraniol is a natural compound found in various plants and herbs, known for its potential health benefits. It plays a crucial role in the body's biosynthesis of essential molecules like CoQ10 and vitamin K2. This compound is noted for its anti-inflammatory, antioxidant, and anti-cancer properties, making it a promising supplement for enhancing overall well-being.

How it helps

Geranylgeraniol (GG) supplementation (150-300 mg) may enhance testosterone levels, particularly in people with baseline levels below 700 ng/dL. It showed significant increases in total, free, and bioavailable testosterone in an 8-week study of 66 healthy men and women [R].

26



Pomegranate Peel and Cocoa Extracts

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a supplement containing pomegranate peel and cocoa extracts once daily, ideally with a meal to enhance absorption. The specific dosage may vary based on the product, so follow the manufacturer's instructions on the label. Generally, it is recommended to continue daily supplementation for at least 8 to 12 weeks to evaluate its effects.

Description

Pomegranate peel extract comes from the pomegranate fruit. Cocoa extractis derived from the cacao bean. Both pomegranate and cacao have long histories of use in traditional medicines of their native lands. Pomegranate peel extract is rich in polyphenolic compounds like ellagic acid and may have anti-inflammatory and anticancer properties. Cocoa extract contains various bioactive compounds, including theobromine and flavanols, which are known for their antioxidant effects and potential cardiovascular benefits.

[Pomegranates](#) are red fruits that contain seeds covered by edible sweet coats. They are rich in antioxidants [\[R\]](#), [\[R\]](#).

Pomegranate may reduce inflammation and support heart health. People use pomegranate seed oil and peel in cosmetics and traditional medicine [\[R\]](#), [\[R\]](#).

[Cocoa](#) comes from the beans of the *Theobroma cacao* tree. It’s often used for making chocolate, hot chocolate, and pastries. People have also used cocoa and cocoa seeds as a medicine for over a thousand years [\[R\]](#), [\[R\]](#).

Cocoa contains many active components that likely help [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Control weight
- Lower fatigue
- Boost mood
- Improve digestion
- Balance blood sugar
- Support heart health

How it helps

In a study on 120 healthy men aged 21-35, a blend of pomegranate peel and cocoa seed extract (200-400 mg/day for 56 days) increased both free and total testosterone levels, with the 400 mg dose also enhancing luteinizing hormone levels and muscle strength [\[R\]](#).

In a similar study of 120 men aged 36-55, the same blend improved general, psychological, and sexual well-being. It also increased free testosterone, total testosterone levels, and muscle strength and reduced stress [\[R\]](#).

27



Forskolin

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 250 mg of a 10% forskolin extract twice a day. For best results, consume it on an empty stomach about 15-30 minutes before meals. This regimen should be followed daily for at least 12 weeks to evaluate its effectiveness.

TYPICAL STARTING DOSE

500 mg

Description

Forskolin is a natural compound found in the roots of the Indian coleus plant, and it has been studied for its potential to support weight management and heart health.

[Forskolin](#) is a popular supplement and research tool that entered medical practice from Ayurvedic medicine. It is obtained from the dried root of an Indian plant known as *Plectranthus barbatus* or *Coleus forskohlii* [\[R\]](#).

Forskolin is especially popular as a weight loss supplement, but the research behind it is limited [\[R, R, R\]](#).

How it helps

Forskolin is believed to increase levels of cyclic AMP, which can stimulate testosterone production, potentially enhancing muscle growth and sexual function. However, more research is needed to confirm these effects.

28



L-Carnitine

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

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

TYPICAL STARTING DOSE

500 mg

Description

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

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

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

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

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

How it helps

L-Carnitine supplementation can support testosterone levels by boosting the concentration of androgen receptors, which testosterone binds to. These increased receptors allow more testosterone to be utilized, effectively elevating its levels and improving related symptoms.

In a study of 143 men, L-carnitine (15 g, 2x/day for 3 months) improved sperm count, motility, and morphology, as well as increased testosterone and luteinizing hormone (LH) levels [\[R\]](#).

In a study of 120 patients, testosterone undecanoate (160 mg/day) and carnitine supplementation (2 g/day propionyl-L-carnitine plus 2 g/day acetyl-L-carnitine) improved erectile function, mood, and fatigue. Carnitines were more effective in some aspects, but testosterone increased prostate volume [\[R\]](#).

This study investigated the impact of L-carnitine L-tartrate (LCLT) supplementation on anabolic hormone response to resistance exercise. LCLT increased IGFBP-3 levels and reduced exercise-induced muscle damage, suggesting its potential as a recovery supplement for hypoxic exercise [\[R\]](#).

29



Black Seed (Black Cumin)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 1000 mg of black seed (black cumin) supplement daily, preferably split into two doses of 500 mg each, one in the morning and one in the evening.

TYPICAL STARTING DOSE

1000 mg

Description

Black seed, also known as black cumin or *Nigella sativa*, has been used for its potential health benefits in traditional medicine. It is believed to have anti-inflammatory, antioxidant, and immune-boosting properties.

[Black seed](#) (black cumin) and its oil are used in cooking and traditional medicine [\[R\]](#).

People use black seed for [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Asthma
- Allergies
- High blood sugar
- High blood pressure
- Joint pain

How it helps

In a placebo-controlled trial of 62 infertile men, supplementation with a combination of palm pollen extract (350 mg) and black seed powder extract (250 mg) 2x/day for 3 months improved sperm count, progressive motility, and rapid progressivity while increasing testosterone, FSH, and LH levels [\[R\]](#).

Black seed contains antioxidants that control harmful free radicals, potentially helping to optimize hormone production.

30



Ashwagandha Shoden

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 125-250 mg of Ashwagandha Shoden extract once daily, preferably with a meal to enhance absorption. This should be continued for at least 8 weeks to observe beneficial effects.

TYPICAL STARTING DOSE

125 mg

Description

[Ashwagandha](#) (*Withania somnifera*) is an herb used in traditional Indian medicine. This herb is known as an *adaptogen* because it helps people adapt to stress.

This herb is known as an *adaptogen* because it helps people adapt to stress [\[R\]](#), [\[R\]](#).

Shoden is a standardized extract of ashwagandha with potential health benefits. It is believed to support stress management, cognitive function, and overall well-being.

How it helps

In a placebo-controlled trial of 50 overweight men, supplementation with ashwagandha Shoden (21 mg of withanolide glycosides/day) for 16 weeks increased testosterone (by 14.7%) [\[R\]](#).

In a placebo-controlled trial of 60 volunteers, supplementation with ashwagandha Shoden (240 mg/day) for 60 days increased testosterone in men but not in women [\[R\]](#).

Ashwagandha Shoden may increase testosterone levels by stimulating the production of LH, a hormone that influences the testes to produce more testosterone.

31



Colostrum

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take colostrum supplements orally, typically 20 to 60 grams daily, split into two to three doses. It is recommended to start with a lower dose and gradually increase as needed. This supplement can be taken for varying durations, from a few weeks to several months, depending on the health goals and responses observed.

TYPICAL STARTING DOSE

20 g

Description

Colostrum is the first milk produced by mammals, including humans, after giving birth. It is rich in nutrients and antibodies and is believed to support newborns' immune systems and overall health.

Colostrum, or “first milk,” is the very first type of milk produced right after a mammal gives birth. It supports the newborn’s immune system and provides a rich source of nutrients and growth factors [\[R\]](#).

People take colostrum to boost immunity and exercise performance [\[R\]](#).

How it helps

Colostrum, a type of milk produced by mammals after giving birth, contains growth hormones which can potentially stimulate testosterone production. However, there isn't solid scientific research backing this, so its effectiveness in boosting testosterone is not definitively established.

In a study with ten male cyclists, bovine CPC supplementation increased cortisol on the first race day and prevented testosterone decrease during a five-day cycle race. It also influenced heart rate variability positively, suggesting potential benefits for endurance athletes' recovery. Further research is warranted [\[R\]](#).

32



Magnesium

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take up to 350 mg of magnesium daily as a supplement, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

250 mg

Description

Magnesium is an essential mineral involved in various bodily functions, including muscle contractions, nerve signaling, and bone health. Maintaining adequate magnesium levels through diet or supplements can support overall well-being and reduce the risk of magnesium deficiency-related health issues.

[Magnesium](#) is an essential mineral. Your body needs it for [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Muscle, nerve, and bone function
- Blood sugar and blood pressure control
- DNA and protein production
- Strong immunity

Women need **310-320 mg** of magnesium per day, while men need **400-420 mg** [\[R\]](#).

Foods rich in magnesium include **nuts, seeds, and leafy greens**. Magnesium is also available as a supplement [\[R\]](#).

How it helps

In a study of 30 healthy men, supplementation with magnesium (for 4 weeks) increased total and free testosterone levels in both sedentary men and athletes. Men who exercise may benefit more [\[R\]](#).

Please note: *Magnesium supplements should not exceed 350 mg/day of elemental magnesium. Higher doses may cause diarrhea, nausea, and abdominal cramps. In addition, magnesium supplements may interact with some medications, including antibiotics and "water pills" (diuretics)* [\[R\]](#).

33



Avoid Phthalate Exposure

IMPACT1 / 5

EVIDENCE1 / 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

This study linked urinary phthalate metabolites to reduced testosterone and estradiol levels in 451 males of reproductive age. DEHP metabolites appeared to be the primary contributors, possibly through ABC gene activation, highlighting phthalate exposure's impact on male hormones [\[R\]](#).

A cross-sectional study examined urinary phthalate metabolites and testosterone levels across various ages and genders. It found phthalates lowered testosterone, especially in women (40-60) and boys (6-12). In adult men, significant effects were seen in the 40-60 age group, emphasizing the need for further research due to testosterone's critical role at different life stages [\[R\]](#).

In a cross-sectional analysis using NHANES data (2013-2016), phthalate metabolites weren't significantly associated with sex hormone levels overall, but age-specific variations were observed. High molecular weight phthalates affected testosterone in men aged 60+, low molecular weight phthalates impacted men aged 20-39, and ΣDINCH was linked to lower testosterone in men aged 40+. This suggests age-related vulnerabilities to different phthalate metabolites, warranting further investigation into their endocrine-disrupting effects [\[R\]](#).

34



Ashwagandha

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 250-600 mg of ashwagandha supplement daily. It can be consumed with water or a meal, depending on your preference or as advised by a healthcare provider.

TYPICAL STARTING DOSE
120 mg

Description

[Ashwagandha](#) (*Withania somnifera*) is an herb used in traditional Indian medicine. This herb is known as an *adaptogen* because it helps people adapt to stress.

This herb is known as an *adaptogen* because it helps people adapt to stress [\[R\]](#), [\[R\]](#).

How it helps

In a placebo-controlled trial of 50 overweight men, supplementation with ashwagandha (21 mg/day withanolide glycosides) for 8 weeks increased DHEA-S and testosterone levels [\[R\]](#).

Ashwagandha may help by reducing stress and inflammation, which may be hindering your body's natural production of testosterone.

35



Flower Pollen Extract and Black Seed (Black Cumin)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a supplement that combines flower pollen extract and black seed oil. The dosage typically recommended is 500 mg of each, taken twice daily with meals. Continue this regimen for at least two months to evaluate its effects.

TYPICAL STARTING DOSE
1000 mg

Description

Flower pollen extract is sometimes used as a dietary supplement for its potential to support prostate health and reduce symptoms of benign prostatic hyperplasia (BPH) in men. It contains nutrients and compounds that may have anti-inflammatory and antioxidant properties. Black seed, also known as black cumin or *Nigella sativa*, has been used for its anti-inflammatory, antioxidant, and immune-boosting properties.

How it helps

In a study on 62 adult infertile men aged 22 to 42, an herbal blend (350 mg of palm pollen extract and 250 mg of *Nigella Sativa* extract daily for 3 months) increased testosterone levels [\[R\]](#).

36



Ginger

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take a 500 mg ginger supplement daily, preferably with a meal to enhance absorption and minimize potential stomach discomfort.

TYPICAL STARTING DOSE

500 mg

Description

Ginger is a versatile spice known for its potential anti-inflammatory and digestive benefits. It may help alleviate nausea, reduce muscle soreness, and support gastrointestinal comfort when consumed as part of a balanced diet.

[Ginger root](#) is a cooking spice and a traditional remedy. People mostly use it to relieve [\[R\]](#):

- Nausea
- Menstrual cramps
- Joint pain

How it helps

This longitudinal study examined the effects of ginger supplements on semen parameters and hormone levels in 75 infertile men. Ginger treatment led to significant improvements in sperm count, motility, viability, morphology, ejaculate volume, and hormone levels, suggesting its potential as a beneficial supplement for male infertility [\[R\]](#).

37



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 6,201 participants associated high urinary perchlorate with lower total testosterone levels in male adolescents [R].

Perchlorate disrupts the thyroid's iodine uptake, which can in turn impact testosterone production.

38



Mucuna Pruriens

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 300 to 500 mg of standardized Mucuna pruriens extract once daily, preferably with water. For consistent benefits, consider taking it at the same time each day.

TYPICAL STARTING DOSE

300 mg

Description

Mucuna pruriens is a tropical legume known for its seeds, which contain L-dopa, a precursor to dopamine. It is used in traditional medicine for its potential to support mood, cognitive function, and overall well-being.

[Mucuna pruriens](#) is an edible legume native to China and India. It is also known as cowhage or the “velvet bean” [R].

An important compound in *Mucuna pruriens* is *L-DOPA*, which helps make the chemical messenger [dopamine](#). Extracts of *Mucuna pruriens* may support fertility and protect the nerves [R].

How it helps

In a study of 75 infertile men, supplementation with *Mucuna pruriens* (5 g/day for 3 months) improved testosterone levels [R]

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Chewing

IMPACT

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EVIDENCE

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How to implement

Incorporate chewing thoroughly into your daily eating habits by ensuring each bite is chewed 20-30 times before swallowing. Practice this technique at every meal and with snacks to improve digestion and satiety.

Description

Chewing can help to reduce the tendency to overeat by keeping your mouth busy and providing a sense of fullness. It can also help to improve your metabolic rate and increase your energy levels. Additionally, chewing can help to improve your attention span and reduce stress levels.

How it helps

In a non-placebo-controlled trial of 177 participants, chewing gum increased testosterone and estradiol while decreasing IgA [\[R\]](#).

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Avoid Dioxin

IMPACT

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EVIDENCE

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How to implement

Reduce consumption of animal fats, since dioxins accumulate in fat tissue. Choose lean cuts of meat, and opt for organic or pasture-raised when possible to minimize exposure. Additionally, avoid burning trash that contains plastic, treated wood, or chlorinated chemicals to prevent dioxin release into the environment.

Description

Avoiding exposure to dioxin, a highly toxic environmental pollutant, can help protect against serious health risks, including cancer and hormonal disruptions. Reducing contact with dioxin-contaminated sources such as certain foods and industrial emissions is essential for long-term health.

How it helps

A study of 479 participants associated high serum dioxin with 90-150% higher odds of high LH, 2-fold higher odds of high FSH, and 2- to 4-fold higher odds of low testosterone. Similarly, a study of 135 exposed and 184 unexposed men found that exposure to TCDD reduces estradiol and increases FSH [\[R\]](#), [\[R\]](#).

Dioxins can disrupt hormone function, including testosterone production.

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Maintain Optimal Vitamin D Levels

IMPACT

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EVIDENCE

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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

Genetically predicted lower vitamin D levels may be associated with lower levels of total testosterone [\[R\]](#).

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Fadogia Agrestis

IMPACT

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EVIDENCE

0 / 5

How to implement

Fadogia agrestis is typically taken in supplement form, such as capsules or powders. The recommended dosage can vary depending on the product, but a common dosage is around 200-600 mg/day. It's best to start with a lower dose to assess tolerance and gradually increase if needed. Some people prefer to take it with food to minimize any potential stomach discomfort. As with any supplement, it's important to follow the manufacturer's guidelines and consult a healthcare provider before starting, especially if you have underlying health conditions or are taking other medications.

Description

Fadogia agrestis is a plant native to Africa, commonly used in traditional medicine for its potential health benefits.

It's primarily known for its purported ability to enhance male sexual health, including improving libido and supporting testosterone levels.

Some studies suggest that it may aid in increasing muscle mass and strength, making it popular among athletes and bodybuilders.

Additionally, *Fadogia agrestis* is thought to have anti-inflammatory and antioxidant properties, which may help in reducing oxidative stress and supporting overall wellness.

How it helps

In a study in male rats, the aqueous extract of *Fadogia agrestis* stem increased blood testosterone levels [\[R\]](#).

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.

✓	FSH	2.46 mIU/mL	✓	9 Nov 2025
✓	LH	2.73 mIU/mL	✓	9 Nov 2025
✓	SHBG	39.3 nmol/L	✓	9 Nov 2025
!	Testosterone, Total	1500 ng/dL	!	9 Nov 2025
!	Testosterone, Free (Direct / Labcorp)	150 pg/mL	!	9 Nov 2025

Your Lifestyle Assessments

Ever heard of the term Nature vs. Nurture?

The thing is, both DNA and environment play a role in determining your health risks. The following assessments shows how much of an impact your lifestyle, environment and medical history are having on your health risks.

LIFESTYLE

You have a **reduced risk** of low testosterone based on the answers you provided.

Your Lifestyle Risk

Low

Decreased

Average

Increased

High

Factors impacting your risk:

What is your age?	Increasing Risk	!
41		
Have you recurrently been diagnosed with high cholesterol?	Increasing Risk	!
Yes		
Have you ever been diagnosed with diabetes?	Decreasing Risk	✓
No		
In a typical week, how many times do you participate in any physical activities or exercise for 30 minutes at a time? (such as walking, running, bike riding, weight training, yoga, etc.)	Decreasing Risk	✓
*Note: longer exercise equals more sessions (e.g., 1 hour = 2 sessions)		
8 or more		
Do you smoke tobacco?	Decreasing Risk	✓
No, never		
Have you recurrently been diagnosed with high triglycerides?	Decreasing Risk	✓
No		
Have you ever been diagnosed with high blood pressure (hypertension)?	Decreasing Risk	✓
No		
Have you ever been diagnosed with a stroke?	Decreasing Risk	✓
No		
Have you ever been diagnosed with prostate disease (prostatitis, benign prostate hyperplasia, prostate cancer)?	Decreasing Risk	✓
No		
Your BMI:	Decreasing Risk	✓
22.77		
What is your height?	No impact	−
165 cm		

What is your current weight?

62.0 kg

No impact

