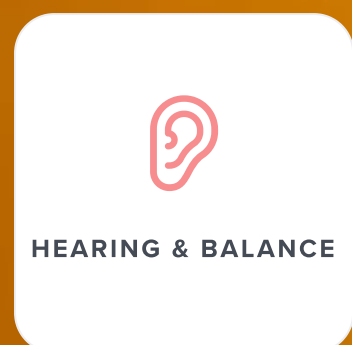


Ear Ringing (Tinnitus)

DNA Health Report

REPORT CATEGORY —



Sample Client

Report date: 15 January 2026

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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.

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

Plugging in your headphones and turning your favorite music all the way up might be one of your favorite ways to relax, but it may not be ideal for your ear health.

Researchers have found that loud noises from things like listening to music or operating heavy machinery at work can damage the cells inside of your ears [R, R].

Ear damage caused by loud noises may lead to tinnitus. Doctors agree that by avoiding loud noises, you can lower your risk [R, R].

But strangely, only certain people exposed to loud noises will develop tinnitus. In fact, when it comes to tinnitus, only around 50% of cases can be attributed to any specific risk factor [R].

So what differences determine whether loud noises will lead to tinnitus? How come some of us can turn up our music carefree, but others do so at the expense of their ear health?

Well, a big part of the answer likely lies in what makes us all unique: genetics.

Researchers have found that the [IL6](#) gene may link tinnitus risk to loud noise. This gene is responsible for making a protein that promotes inflammation. Some people carry a variant of the *IL6* gene that makes them more likely to develop tinnitus if they are exposed to loud noise in the workplace [R].

We don't know for sure why this is the case, but it could be due to a combination of two factors.

Firstly, this particular *IL6* variant may be more active, leading to more inflammatory protein production. Secondly, loud noise stimulates IL6 activity, again leading to more inflammation. Increased levels of these inflammatory markers have been observed in damaged ears [R].

Taken together, this double-dose of inflammation may increase your risk of ear damage relative to those with a less active *IL6* gene.

We're all built differently. The information hidden in your DNA may help identify whether you're at an increased risk of tinnitus, as well as the best strategies to help you live a quieter and less stressful life.

This report focuses on the genetics of tinnitus. Read more to find out:

- The effects of your genes on tinnitus
- Your genetic risk score based on over 420,000 variants
- Personalized recommendations based on your DNA

About Tinnitus

Key Takeaways:

- About **1 in 10 adults** experience tinnitus every year.
- Up to **40%** of differences in people's chances of getting tinnitus may be due to genetics.
- Risk factors include: older age, loud noise exposure, ear infections, head and neck injuries, and earwax blockage.
- High genetic risk may make you more prone to risk factors like noise exposure, so wearing hearing protection may mitigate poor genetics. However, even having a low genetic risk doesn't protect you from excessive noise exposure.
- Click the **next steps** tab for relevant labs and lifestyle factors.

If you sometimes hear ringing, buzzing, or roaring in your ears, you're not alone. Most people will sometimes hear these "ghost sounds". However, if you hear them over long periods or even constantly, you may have *tinnitus*.

Tinnitus is the perception of noise in the absence of external sound. In other words, when you hear a sound that no one else can. The exact sound is different for each person. It may vary in volume, pitch, duration, and location [\[R\]](#), [\[R\]](#).

There are two types of tinnitus: **subjective** and **objective**. It is subjective if only the affected person can hear it; it is objective if a doctor can hear it with a stethoscope [\[R\]](#), [\[R\]](#).

Over 21 million Americans, or about 1 in 10 adults, may experience tinnitus each year [\[R\]](#), [\[R\]](#).

Tinnitus is usually a sign that something is wrong with [\[R\]](#), [\[R\]](#):

- The inner ear,
- The nerve that connects the inner ear to the brain, or
- The part of the brain that processes sounds.

Some common causes of tinnitus include [\[R\]](#), [\[R\]](#), [\[R\]](#):

- [Aging](#)



LESS LIKELY

Less likely to have tinnitus based on **421,613** genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
AQP5	rs426496	CC
IL6	rs1800795	GG
GRM7	rs11928865	AT
CHST13	rs72960531	CC
ADD1	rs4961	TG
BEND5	rs150207602	AA
CLEC3B	rs1532898	AC
KAZN	rs147105595	TT
PDE4B	rs148243998	GG
RIMS3	rs181572556	CC
ZBTB8B	rs116476593	CC
MECR	rs34712782	GG
USP48	rs150153349	AA
NSUN4	rs147541195	AA
AGBL4	rs115315337	GG
AZIN2	rs186592460	TT
AJAP1	rs55852005	GG
RIMS3	rs187931575	CC
SPSB1	rs113629973	GG
AJAP1	rs72636425	GG
F12	rs17876046	GG
PTPN13	rs113655471	TT
RTKN2	rs118053011	CC
ANKRD9	rs4906228	CC

- Exposure to loud noises
- Earwax blockage
- Ear infections
- Head or neck injuries
- Abnormal hardening of the ear bones (*otosclerosis*)

If you have tinnitus, your doctor can help you find and treat the underlying cause. However, the cause sometimes can't be found. In this case, a doctor may suggest using devices like [\[R\]](#):

- White noise machines
- Hearing aids
- Sound-masking devices

If tinnitus doesn't go away on its own, it can be very stressful. Some people may develop mental health problems as a result. They may end up needing cognitive-behavioral therapy or medications [\[R\]](#), [\[R\]](#).

Up to 40% of people's chances of getting tinnitus may be attributed to genetics. Genes that may be involved in tinnitus influence [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Ear bone health ([ANKH](#))
- Communication between nerve cells ([KCNQ4](#), [KCNE1](#), [KCTD12](#), [SLC6A4](#))
- Nerve cell survival ([ADD1](#), [SLC12A2](#), [BDNF](#))
- Inflammation ([IL6](#))

GENE	SNP	GENOTYPE
XKR6	rs4370496	GG
E2F7	rs7314493	AA
CTRC	rs151263233	GG
CITED4	rs189988349	GG
NEGR1	rs185057892	GG
MACF1	rs149854261	AA
C1ORF94	rs12401343	GG
RPE65	rs188455857	GG
WNT4	rs76326464	CC
C1ORF94	rs12410128	CC
TMEM51	rs78030874	TT
TNFRSF9	rs138987053	AA
DEPDC1	rs112185052	AA
IL23R	rs41313262	GG
WDTC1	rs117368515	CC
CITED4	rs72951059	GG
TNFRSF18	rs148132814	CC
TMEM51	rs1883763	CC

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

Your Recommendations

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

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

		DOSAGE			DOSAGE
1	Relaxation Techniques	30 minutes	2	Avoid Loud Noises	
3	Cognitive-Behavioral Therapy (CBT)		4	Red Light Therapy	20 minutes
5	Melatonin	500 mcg	6	Nerve Stimulation	30 minutes
7	Transcutaneous Electrical Nerve Stimulation (TENS)	30 minutes	8	Sound Therapy	30 minutes
9	Applied Relaxation	30 minutes	10	Breathing Techniques	10 minutes
11	Acupuncture	1 hour	12	Vitamin B12	10 mcg
13	Hypnosis	20 minutes	14	Pycnogenol	100 mg
15	Hearing Aids		16	Ginkgo	120 mg
17	Eat More Protein and Less Fat		18	Biofeedback	
19	Transcranial Direct Current Stimulation (tDCS)	30 minutes	20	Mindfulness	30 minutes
21	Yoga	30 minutes	22	Neurofeedback	1 hour
23	Meditation	30 minutes	24	Cold Exposure	1 minutesute
25	Whole-Body Cryotherapy	2 minutes	26	Cistanche	300 mg
27	Zinc	10 mg			

1



Relaxation Techniques

IMPACT

4 / 5

EVIDENCE

4 / 5

How to implement

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

TYPICAL STARTING DOSE

30 minutes

Description

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

We all get stressed from time to time.

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

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

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

- Anxiety
- Depression
- Chronic pain

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

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

How it helps

Severe tinnitus can cause emotional stress and lower the quality of life. Some studies suggest that stress may also cause and worsen tinnitus [\[R, R, R, R, R, R\]](#).

Experts agree that stress and tinnitus go hand-in-hand [\[R, R\]](#).

Relaxation techniques can help manage stress. The ones that may improve tinnitus include:

- **Mindfulness:** helps you be aware of the present moment without any judgment [\[R, R, R, R, R, R, R\]](#)
- **Applied relaxation:** combines muscle relaxation and breathing exercises to calm you down [\[R, R, R, R, R\]](#)
- **Biofeedback training:** measures bodily functions (such as breathing, heart rate, and muscle tension) and teaches you how to control them [\[R, R, R, R, R\]](#)
- [Yoga](#): combines breathing, stretching, and meditation [\[R, R, R\]](#)

Relaxation techniques may also help by lowering high blood pressure, which may play a role in tinnitus [\[R, R\]](#).



PERSONALIZED TO YOUR GENES

The [SLC12A2](#) gene encodes NKCC1, a protein required to produce the fluid contained in the inner ear (the *endolymph*). Alterations in its levels or activity may cause hearing loss by changing the ion composition of the endolymph [\[R, R, R, R, R\]](#).

Your genotype for [rs10089](#) ('CC'; *homozygous major*) has been associated with higher NKCC1 levels, and an increased risk of hearing loss and tinnitus in people exposed to loud noises [\[R, R\]](#).

In animal studies, chronic stress increased brain NKCC1 levels [\[R, R\]](#).

The [TNF gene](#) encodes [TNF-alpha](#), a crucial inflammatory protein that may cause inflammation of the inner ear in response to loud noises [\[R, R\]](#).

Your genotype for [rs1800629](#) may increase or decrease TNF-alpha levels depending on the tissue. It's been associated with a higher risk of tinnitus in people with occupational exposure to noise [\[R, R\]](#).

Severe tinnitus is often associated with [stress](#), which in turn increases TNF-alpha production and may worsen its symptoms. A relaxation training program reduced stress, tinnitus disturbances, and TNF-alpha levels in tinnitus sufferers [\[R, R, R\]](#).

>>> To learn about other conditions associated with the TNF gene, check out the SelfDecode blog posts [here](#).

The [COMT](#) gene encodes an enzyme that helps break down the neurotransmitters [dopamine](#), [norepinephrine](#), and epinephrine. A decrease in dopamine transmission has been suggested to reduce tinnitus perception [\[R, R, R\]](#).

Your genotype for [rs4680](#) encodes a COMT enzyme with reduced activity, potentially impairing stress response. As a result, it has been associated with higher tinnitus loudness in people with severe hearing loss [\[R, R\]](#).

Severe tinnitus often causes [stress](#), which may further worsen the symptoms. [Meditation](#) helps bust stress, especially in carriers of this gene variant [\[R, R\]](#).

>>> To learn about other conditions associated with the COMT gene, check out the SelfDecode blog posts [here](#).

The link between tinnitus and stress may be stronger in people with your [BDNF](#) gene variant [\[R\]](#).

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
SLC12A2	rs10089	CC	
TNF	rs1800629	GG	
COMT	rs4680	AG	
BDNF	rs6265	TC	

2



Avoid Loud Noises

IMPACT

4 / 5

EVIDENCE

3 / 5

How to implement

Limit exposure to loud noises by keeping the volume down on personal audio devices, wearing earplugs at concerts or noisy work environments, and taking breaks in quiet areas when possible. Attempt to maintain noise levels below 85 decibels, especially for prolonged periods, to protect your hearing.

Description

Most sounds you’re exposed to daily are quiet. However, there are times when sounds can be uncomfortably loud. **Exposure to loud noise for long periods of time can damage the cells of the inner ear.** This may lead to hearing impairment and conditions like tinnitus.

Exposure to loud noises may damage the inner ear or the auditory nerve. This may lead to hearing impairment or conditions like tinnitus [\[R, R\]](#).

Potentially damaging noises can be anything at a volume **above 70 decibels** (dB). The louder the noise, the less time it takes to cause damage to your ear. For reference, some volume levels of common sounds include [\[R, R\]](#):

- Whispering (30 dB)
- Normal conversation (60-70 dB)
- Motorcycle (95 dB)
- Ambulance siren (110-129 dB)
- Fireworks, gunshots (140-165 dB)

How it helps

Long-term exposure to loud noise is a potential cause of tinnitus. It damages the cells in your ears that allow you to hear things [\[R, R\]](#).

Experts agree that avoiding loud sounds can help prevent damage to your hearing and lower the odds of tinnitus [\[R, R\]](#).

People exposed to a lot of noise in the workplace are at especially high risk of tinnitus. This includes [\[R, R\]](#):

- Factory and construction workers
- School teachers
- Soldiers

Listening to music at a very high volume may also increase the risk of tinnitus [\[R\]](#).

You can reduce your exposure to noise by wearing **protective hearing equipment** at work. To shield your ears from loud music, you can **turn down the volume** or **wear ear plugs** [\[R\]](#).



PERSONALIZED TO YOUR GENES

Your ***IL6*** variant has been linked to tinnitus in people exposed to loud noises [R].
People with your ***SLC12A2*** gene variant may be more prone to tinnitus after exposure to loud noises [R].
The ***TNF*** gene encodes **TNF-alpha**, a crucial inflammatory protein that may cause inflammation of the inner ear in response to loud noises [R, R].

Your genotype for **rs1800629** may increase or decrease TNF-alpha levels depending on the tissue. It's been associated with a higher risk of tinnitus in people with occupational exposure to noise [R, R].

Reducing your exposure to occupational and leisure noise by wearing protective equipment and turning down music volume can help lower TNF-alpha levels and prevent tinnitus [R, R].

>>> To learn about other conditions associated with the *TNF* gene, check out the SelfDecode blog posts [here](#).

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
IL6	rs1800795	GG	
GENE	SNP	GENOTYPE	EVIDENCE
SLC12A2	rs10089	CC	
GENE	SNP	GENOTYPE	EVIDENCE
TNF	rs1800629	GG	

3



Cognitive-Behavioral Therapy (CBT)

IMPACT

3 / 5

EVIDENCE

5 / 5

How to implement

Schedule weekly sessions with a certified cognitive-behavioral therapist for a period of 5 to 20 weeks. Engage actively in exercises assigned by your therapist both during sessions and as homework to apply CBT strategies to daily life.

Description

Cognitive-behavioral therapy (CBT) is a psychotherapeutic approach that has been effective in treating various mental health conditions by helping individuals identify and change negative thought patterns and behaviors. It is widely used for conditions like depression, anxiety, and phobias.

Psychotherapy (talk therapy) involves talking about your health with a licensed therapist. It may improve the way you react to certain experiences [\[R\]](#).

Talk therapy is a great way to improve many conditions, including [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Depression
- Anxiety disorders
- PTSD
- OCD
- Substance use disorder
- Bipolar disorder

Cognitive-behavioral therapy (CBT) is a type of talk therapy. CBT aims to change the way you think about your life and yourself. Through CBT, a therapist can help you develop healthy coping mechanisms [\[R\]](#).

How it helps

Chronic tinnitus can affect mental health and well-being. It has been linked to [\[R\]](#), [\[R\]](#):

- Anxiety
- Depression
- Attention problems

Experts recommend cognitive-behavioral therapy (CBT) for tinnitus. It supports your mental health and helps you cope with the symptoms [\[R\]](#), [\[R\]](#), [\[R\]](#).

CBT may boost your mood and quality of life in the short term. Self-help, internet-delivered, and face-to-face therapy may all be helpful for tinnitus [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

The combination of CBT and mindfulness may have similar effects. It may even make the phantom sounds of tinnitus quieter in some people [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

 PERSONALIZED TO YOUR GENES

People with your [COMT](#) gene variant may respond better to CBT [\[R\]](#), [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
COMT	rs4680	AG	

4



Red Light Therapy

IMPACT3 / 5

EVIDENCE3 / 5

How to implement

Position yourself or the specific area of your body that needs treatment about 6 inches away from a red light therapy device. Use the device for 10 to 20 minutes daily. It is recommended to continue this daily regimen for at least several weeks to notice benefits.

TYPICAL STARTING DOSE

20 minutes

Description

Red light therapy involves exposure to low-level red or near-infrared light, which may promote skin rejuvenation, reduce inflammation, and improve circulation when used for therapeutic purposes in skin care and wellness treatments.

How it helps

A systematic review of 26 trials and 1483 patients with tinnitus found photobiomodulation into the inner ear generally effective at improving tinnitus outcomes [R].

5



Melatonin

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Take 500 mcg of melatonin orally, about 30 minutes before bedtime, to help with sleep. It can be taken daily as needed.

TYPICAL STARTING DOSE
500 mcg

Description

Melatonin is a natural hormone produced by the pineal gland in the brain that helps regulate the sleep-wake cycle. It plays a crucial role in promoting sleep onset and maintaining a consistent sleep pattern, making it a commonly used supplement for managing sleep disorders and jet lag.

Melatonin is an important sleep hormone. Bright light at night may prevent your body from making enough melatonin [\[R, R, R\]](#).

Your body makes melatonin on its own. However, some people take melatonin supplements to help them sleep. It may help with jet lag in particular [\[R, R, R\]](#).

How it helps

Melatonin levels tend to be lower in people with tinnitus. Because of this, some researchers think melatonin plays a role in hearing [\[R\]](#).

In line with this, **melatonin (3 mg/day for 1-3 months)** may reduce the severity of tinnitus. It may also improve sleep quality and quality of life [\[R, R, R, R\]](#).

Melatonin seems to help by lowering the activity of nerves. It may also prevent cell damage in the ear [\[R\]](#).

Note that experts don’t recommend melatonin for tinnitus. It probably won’t help as much as other strategies [\[R, R\]](#).

Please note: *Melatonin may interact with medications. Avoid melatonin if you are taking blood thinners, seizure medications, blood pressure drugs, diabetes medications, or immunosuppressants. Consult your doctor before taking melatonin* [\[R\]](#).

 PERSONALIZED TO YOUR GENES

The [TNF gene](#) encodes [TNF-alpha](#), a crucial inflammatory protein that may cause inflammation of the inner ear in response to loud noises [\[R, R\]](#).

Your genotype for [rs1800629](#) may increase or decrease TNF-alpha levels depending on the tissue. It’s been associated with a higher risk of tinnitus in people with occupational exposure to noise [\[R, R\]](#).

Multiple trials suggest that supplementation with melatonin may reduce both tinnitus severity and TNF-alpha levels [\[R, R, R, R, R\]](#).

>>> To learn about other conditions associated with the TNF gene, check out the SelfDecode blog posts [here](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
TNF	rs1800629	GG	

6



Nerve Stimulation

IMPACT3 / 5

EVIDENCE2 / 5

How to implement

Nerve stimulation can be implemented by daily sessions of 15-30 minutes using a device specifically designed for this purpose. These devices often use electrical currents to stimulate nerves through the skin, which can be adjusted in intensity according to comfort. It's important to consult a healthcare provider for guidance on the specific type of nerve stimulation that may be most beneficial for your condition.

TYPICAL STARTING DOSE

30 minutes

Description

Nerve stimulation techniques involve the use of electrical impulses, like transcutaneous electrical nerve stimulation (TENS) or other methods to activate nerves, potentially providing relief from chronic pain, improving muscle function, and aiding in physical therapy.

Health professionals can stimulate your nerves using different strategies [\[R\]](#).

Many strategies use magnetic fields or electric currents. Examples include [\[R\]](#), [\[R\]](#), [\[R\]](#):

- [Transcutaneous electrical nerve stimulation](#) (TENS)
- Transcranial direct current stimulation (tDCS)
- Transcranial magnetic stimulation (TMS)
- Transcutaneous auricular vagus nerve stimulation (taVNS)

Nerve stimulation may improve [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Cognition
- Mood
- Pain
- Seizures
- Tinnitus

How it helps

Nerve stimulation affects brain cell activity. In this way, it may help manage tinnitus [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Transcutaneous electrical nerve stimulation (TENS) can be used on areas close to the ear. This may make tinnitus less severe [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Please note: Nerve stimulation may not be safe for people that have metal implanted devices, have epilepsy, or are pregnant. Some types of nerve stimulation should also be avoided by people with bleeding disorders or heart disease. Do not use TENS on damaged or infected skin or on sensitive areas of the body. Consult your doctor before using nerve stimulation devices of any kind [\[R\]](#), [\[R\]](#), [\[R\]](#).

7

Transcutaneous Electrical Nerve Stimulation (TENS)

IMPACT3 / 5

EVIDENCE2 / 5

How to implement

Apply TENS unit electrode pads around the area in pain; begin with the device set to a low setting and gradually increase intensity to a comfortable level. Use the device for 15-30 minutes per session for pain relief, and it can be used multiple times a day as needed.

TYPICAL STARTING DOSE

30 minutes

Description

TENS is a therapy that uses low-level electrical currents to relieve pain by stimulating the nerves. It's commonly used as a non-invasive method to manage various types of pain, such as musculoskeletal pain or chronic pain conditions.

How it helps

Nerve stimulation affects brain cell activity. In this way, it may help manage tinnitus [\[R, R, R\]](#).

Transcutaneous electrical nerve stimulation (TENS) can be used on areas close to the ear. This may make tinnitus less severe [\[R, R, R, R, R, R\]](#).

Please note: Nerve stimulation may not be safe for people that have metal implanted devices, have epilepsy, or are pregnant. Some types of nerve stimulation should also be avoided by people with bleeding disorders or heart disease. Do not use TENS on damaged or infected skin or on sensitive areas of the body. Consult your doctor before using nerve stimulation devices of any kind [\[R, R, R\]](#).

PERSONALIZED TO YOUR GENES

The [IL6 gene](#) encodes [interleukin-6](#) (IL-6), a protein with both proinflammatory and anti-inflammatory effects. IL-6 produced in response to loud noises may damage the inner ear and lead to tinnitus [\[R, R, R\]](#).

Your genotype for [rs1800795](#) ('GG'; *homozygous major*) may increase IL-6 levels. It's been associated with approximately 6-fold higher odds of tinnitus from lifelong occupational exposure to noise [\[R, R\]](#).

Transcutaneous electrical nerve stimulation ([TENS](#)) on the [vagus nerve](#) and other areas close to the ear may improve tinnitus severity and lower IL-6 levels [\[R, R, R, R, R, R\]](#).

>>> To learn about other conditions associated with the IL6 gene, check out the SelfDecode blog posts [here](#).

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
IL6	rs1800795	GG	

8



Sound Therapy

IMPACT3 / 5

EVIDENCE2 / 5

How to implement

Engage in sound therapy sessions by listening to calming and therapeutic sounds for at least 30 minutes a day. You can do this by using apps that offer sound therapy tracks, attending sound therapy workshops, or using sound therapy machines at home. Try to incorporate this practice into your daily routine for a continuous period to observe benefits.

TYPICAL STARTING DOSE

30 minutes

Description

Sound therapy involves the use of sound frequencies, music, or specific sounds to promote relaxation, reduce stress, and alter how a person experiences sound.

Sound therapy changes the way a person experiences tinnitus by exposing them to different sounds [\[R, R, R\]](#).

Sound therapy uses **hearing aids** and different **sound-masking devices** [\[R, R, R\]](#).

How it helps

Experts recommend sound therapy to improve tinnitus. It can relieve stress and make people less aware of phantom sounds [\[R, R, R\]](#).

One type of sound therapy involves **hearing aids**, which correct hearing loss [\[R, R, R\]](#).

Another type of sound therapy involves **sound-masking devices**. These devices may help by [\[R, R, R\]](#):

- Covering up the noise from tinnitus
- Taking the attention off the symptoms of tinnitus
- Changing the way the brain reacts to sounds
- Reducing stress

Tinnitus retraining therapy is a program that combines sound therapy and counseling. It may be more effective than sound therapy alone [\[R\]](#).

Note that the quality of studies on sound therapy is low. Thus, researchers aren’t sure if it really works for tinnitus [\[R, R, R, R\]](#).

9



Applied Relaxation

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

Practice applied relaxation by dedicating 15-30 minutes each day to learning and practicing relaxation techniques, such as deep breathing, progressive muscle relaxation, or guided imagery. Consistency is key, so aim to incorporate these practices into your daily routine for an ongoing period to effectively manage stress and anxiety.

TYPICAL STARTING DOSE

30 minutes

Description

Applied relaxation is a stress management technique that involves systematically tensing and then relaxing muscle groups in the body to reduce tension and promote relaxation. It can be effective in reducing anxiety and stress-related symptoms.

How it helps

Severe tinnitus can cause emotional stress and lower the quality of life. Some studies suggest that stress may also cause and worsen tinnitus [R, R, R, R, R, R].

Experts agree that stress and tinnitus go hand-in-hand [R, R].

Relaxation techniques can help manage stress. The ones that may improve tinnitus include:

- **Mindfulness:** helps you be aware of the present moment without any judgment [R, R, R, R, R, R, R]
- **Applied relaxation:** combines muscle relaxation and breathing exercises to calm you down [R, R, R, R, R]
- **Biofeedback training:** measures bodily functions (such as breathing, heart rate, and muscle tension) and teaches you how to control them [R, R, R, R, R]
- **Yoga:** combines breathing, stretching, and meditation [R, R, R]

Relaxation techniques may also help by lowering high blood pressure, which may play a role in tinnitus [R, R].



PERSONALIZED TO YOUR GENES

The [SLC12A2](#) gene encodes NKCC1, a protein required to produce the fluid contained in the inner ear (the *endolymph*). Alterations in its levels or activity may cause hearing loss by changing the ion composition of the endolymph [\[R, R, R, R, R\]](#).

Your genotype for [rs10089](#) ('CC'; *homozygous major*) has been associated with higher NKCC1 levels, and an increased risk of hearing loss and tinnitus in people exposed to loud noises [\[R, R\]](#).

In animal studies, chronic stress increased brain NKCC1 levels [\[R, R\]](#).

The [TNF gene](#) encodes [TNF-alpha](#), a crucial inflammatory protein that may cause inflammation of the inner ear in response to loud noises [\[R, R\]](#).

Your genotype for [rs1800629](#) may increase or decrease TNF-alpha levels depending on the tissue. It's been associated with a higher risk of tinnitus in people with occupational exposure to noise [\[R, R\]](#).

Severe tinnitus is often associated with [stress](#), which in turn increases TNF-alpha production and may worsen its symptoms. A relaxation training program reduced stress, tinnitus disturbances, and TNF-alpha levels in tinnitus sufferers [\[R, R, R\]](#).

>>> To learn about other conditions associated with the TNF gene, check out the SelfDecode blog posts [here](#).

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
SLC12A2	rs10089	CC	

GENE	SNP	GENOTYPE	EVIDENCE
TNF	rs1800629	GG	

10

Breathing Techniques

IMPACT

2 / 5

EVIDENCE

3 / 5

How to implement

Practice deep breathing exercises for 10 minutes daily, preferably in a quiet space where you won't be disturbed. Sit or lie down in a comfortable position, slowly inhale through your nose, allowing your chest and lower belly to rise, hold the breath for a moment, and then exhale slowly through your mouth or nose. This can be done at any time of day to reduce stress and improve focus.

TYPICAL STARTING DOSE

10 minutes

Description

Breath awareness and specific breathing techniques, such as deep breathing or mindfulness-based practices, can help reduce stress, improve focus, and enhance overall mental well-being. These techniques are valuable tools for managing anxiety and promoting relaxation.

Most breathing techniques involve taking slow and even breaths. Their main goal is to prevent rapid breathing (**hyperventilation**) [\[R\]](#).

Breathing techniques tend to help with [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Stress
- Anxiety
- Sleep problems
- Asthma

One example is the **Buteyko breathing technique**. It's often used by people with asthma or other conditions that affect the lungs [\[R\]](#).

Another example is **yogic breathing**. [Yoga](#) is a practice that combines breathing techniques with exercise and meditation [\[R\]](#), [\[R\]](#).

How it helps

Severe tinnitus can cause emotional stress and lower the quality of life. Some studies suggest that stress may also cause and worsen tinnitus [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Experts agree that stress and tinnitus go hand-in-hand [\[R\]](#), [\[R\]](#).

Relaxation techniques can help manage stress. The ones that may improve tinnitus include:

- **Mindfulness**: helps you be aware of the present moment without any judgment [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)
- **Applied relaxation**: combines muscle relaxation and breathing exercises to calm you down [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)
- **Biofeedback training**: measures bodily functions (such as breathing, heart rate, and muscle tension) and teaches you how to control them [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#)
- [Yoga](#): combines breathing, stretching, and meditation [\[R\]](#), [\[R\]](#), [\[R\]](#)

Relaxation techniques may also help by lowering high blood pressure, which may play a role in tinnitus [\[R\]](#), [\[R\]](#).

11



Acupuncture

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Visit a licensed acupuncturist for a session, typically lasting between 30 to 60 minutes, once or twice a week. Depending on your specific condition, a course of treatment might range from a few weeks to several months.

TYPICAL STARTING DOSE

1 hour

Description

Acupuncture is a part of traditional Chinese medicine. It involves inserting thin needles at specific points on the body. People use it to relieve pain and allergies, as well as reduce nausea and improve sleep.

[Acupuncture](#) is a part of traditional Chinese medicine. It involves **inserting thin needles at specific points on the body**. People use it to [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Relieve pain
- Improve sleep quality
- Relieve allergies
- Reduce nausea

How it helps

Acupuncture may help manage tinnitus. It may balance the nervous system and improve blood flow in the inner ear [\[R\]](#), [\[R\]](#), [\[R\]](#).

However, it doesn’t seem to be effective for tinnitus linked to some types of hearing loss [\[R\]](#).

Note that experts don’t recommend acupuncture for tinnitus because the evidence to support it is weak [\[R\]](#), [\[R\]](#), [\[R\]](#).

Please note: *Acupuncture is generally safe for most people. However, it may come with extra risks for pregnant women. People with pacemakers and people with bleeding disorders should also be cautious. Consult your doctor or a [licensed acupuncturist](#) for more information [\[R\]](#).*

12



Vitamin B12

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Take a 50 mcg vitamin B12 supplement daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

10 mcg

Description

Vitamin B12 is a water-soluble vitamin primarily found in animal-based foods like meat, fish, and dairy products. It plays a crucial role in maintaining healthy nerve cells, DNA synthesis, and red blood cell formation. Vitamin B12 deficiency can lead to anemia, neurological issues, and fatigue.

[Vitamin B12](#) is important for [\[R\]](#), [\[R\]](#):

- Building DNA
- Nervous system function
- Energy production

You can get vitamin B12 from [\[R\]](#):

- Animal products (meat, fish, eggs, and dairy)
- Fortified foods
- Supplements

Adults should be getting **2.4 micrograms** of vitamin B12 every day [\[R\]](#).

How it helps

Tinnitus may be more common in people with low vitamin B12 [\[R\]](#).

Eating foods rich in this vitamin may **lower the odds of tinnitus by 15%** [\[R\]](#).

Vitamin B12 may support normal nerve function and blood flow in the inner ear [\[R\]](#).

Please note: *B12 may interact with certain medications, including tetracycline. If you have Leber’s disease please consult your doctor before supplementing with B12.*

 PERSONALIZED TO YOUR GENES

People with your ***MTRR*** gene variant may need more vitamin B12 to support healthy nerves [\[R\]](#), [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
MTRR	rs1532268	CT	

13



Hypnosis

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Engage in a hypnosis session with a qualified practitioner for 20-30 minutes, 1-2 times per week. Consistency over several weeks to months is important for optimal benefits.

TYPICAL STARTING DOSE

20 minutes

Description

Hypnosis is a therapeutic technique that may help individuals manage stress, anxiety, and certain behavioral issues. It involves deep relaxation and focused attention and can be used to address various mental and emotional health concerns.

Hypnosis is a trance-like state meant to [\[R\]](#) [\[R\]](#):

- Promote relaxation
- Sharpen focus
- Make a person more open to suggestions

Despite the way it's often portrayed in the media, hypnosis is a real practice used to support mental health [\[R\]](#) [\[R\]](#).

Only a licensed professional should help you achieve hypnosis.

How it helps

Different forms of **hypnosis (3-20 sessions)** may improve [\[R\]](#) [\[R\]](#) [\[R\]](#):

- The severity of tinnitus symptoms
- Stress related to tinnitus

Hypnosis may help change the way you react to tinnitus. It might make the symptoms less annoying [\[R\]](#).

 PERSONALIZED TO YOUR GENES

People with your [OPRM1](#) gene variant may find it easier to achieve hypnosis [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
OPRM1	rs1799971	GA	

14



Pycnogenol

IMPACT

2 / 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

Pycnogenol (100-150 mg/day for 1-6 months) may help manage tinnitus. It may do this by improving blood flow in the inner ear [\[R, R\]](#).

15



Hearing Aids

IMPACT

1 / 5

EVIDENCE

3 / 5

How to implement

Wear your hearing aids daily, starting from the morning and remove them before bedtime to rest your ears and allow the device to dry. It's recommended to gradually increase wearing time over the first few weeks to adjust comfortably. Ensure proper maintenance by cleaning them as per the manufacturer's instructions.

Description

Hearing aids are devices designed to assist individuals with hearing loss. They can significantly improve communication, quality of life, and mental well-being for those with hearing impairments.

How it helps

Sound therapy with hearing aids and sound-masking devices may help with tinnitus in some people. However, the number of studies is small and they are low-quality. Hence the evidence is insufficient to support the use of hearing aids for tinnitus [\[R, R, R, R\]](#).

Hearing aids may help by correcting hearing loss, which is frequent in people with tinnitus, and raising the volume of environmental sounds to [\[R, R, R\]](#):

- Reduce tinnitus perception and intrusiveness
- Aid habituation
- Distract attention from tinnitus

16



Ginkgo

IMPACT

1 / 5

EVIDENCE

3 / 5

How to implement

Take 120 mg of Ginkgo supplement daily, preferably with meals to aid absorption. This dosage is typically split into two 60 mg doses taken in the morning and evening for best results.

TYPICAL STARTING DOSE
120 mg

Description

[Ginkgo](#) (*Ginkgo biloba*) is an ancient tree used in traditional Chinese medicine [\[R\]](#), [\[R\]](#).

According to limited evidence, ginkgo leaf extract may help with [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Anxiety
- Dementia
- Eye problems
- Blood vessel problems
- Vitiligo

How it helps

Some people use ginkgo to improve blood flow. For this reason, it’s a popular supplement for tinnitus [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

The evidence for ginkgo in tinnitus is mixed. Some researchers found it may improve tinnitus. Others found it doesn’t have any effect on the condition. **Experts therefore recommend against it** [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Please note: Do not consume ginkgo seeds or unprocessed ginkgo leaves. They are poisonous. Ginkgo may also interact with blood thinners. Consult your doctor before taking ginkgo supplements [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

How to implement

Description

- Weight control
- Tinnitus

How it helps

Please note: In the long run, high-protein diets may contribute to heart disease, calcium loss, constipation, and other health problems. If you have problems with kidneys or bones, consult your doctor or dietitian before adopting a high-protein diet [R, R].

18



Biofeedback

IMPACT

1 / 5

EVIDENCE

2 / 5

How to implement

Attend biofeedback sessions once or twice a week for about 8 to 10 weeks. During these sessions, a therapist will guide you through exercises to control different body functions, such as heart rate or muscle tension, using monitors that provide feedback on your physiological state. Practice the techniques learned during sessions at home daily to improve symptoms and manage your condition.

Description

Biofeedback is a type of therapy that teaches people how to control certain body functions, such as heart rate, blood pressure, and muscle tension. It can be used to treat a variety of conditions, including stress, anxiety, and chronic pain.

Biofeedback is a kind of “**brain training**” in which sensors are attached to your body. They detect information like your heart rate, temperature, and breathing rate. By seeing this information, you may be better able to control these functions [\[R\]](#), [\[R\]](#).

Biofeedback is used to help with [\[R\]](#), [\[R\]](#):

- Gut problems
- Chronic pain
- Migraines
- Insomnia
- Attention

[Neurofeedback](#) is a form of biofeedback that measures brain activity in real time [\[R\]](#).

How it helps

Experts suggest that stress may worsen tinnitus. In line with this, yoga, a stress management technique, may offer some relief [\[R\]](#), [\[R\]](#).

Biofeedback training may reduce tinnitus distress and loudness, especially when combined with cognitive-behavioral therapy (CBT) [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

2 / 5



20

Mindfulness

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Set aside 5-10 minutes each day to practice mindfulness meditation. Find a quiet place, assume a comfortable seated position, close your eyes, focus on your breathing, and observe your thoughts and sensations without judgment.

TYPICAL STARTING DOSE

30 minutes

Description

Mindfulness involves paying focused and non-judgmental attention to the present moment. It can reduce stress, improve emotional regulation, and enhance overall mental clarity and well-being.

Mindfulness is the practice of being aware of the present moment. When practicing mindfulness, a person acknowledges their thoughts, feelings, and sensations without any judgment [R].

Mindfulness and other types of [meditation](#) may improve [R]:

- Weight and anxiety
- Low mood
- Sleep disturbances
- Pain
- High blood pressure

How it helps

A study involving 60 people with COVID-19 revealed improvements in tinnitus severity and quality of life with mindfulness-based tinnitus stress reduction through an app [R].

21



Yoga

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Practice yoga for at least 20 to 30 minutes a day, most days of the week. Choose a style that matches your fitness level and goals, and consider attending a class or using online resources to guide your practice.

TYPICAL STARTING DOSE

30 minutes

Description

Yoga is a mind-body practice that combines physical postures, breathing exercises, and meditation. It enhances flexibility, strength, and mental well-being and is used for stress reduction, relaxation, and overall health improvement.

[Yoga](#) combines breathing, stretching, and relaxation techniques. Practicing yoga may help [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Reduce [stress](#)
- Improve fitness
- Lower blood pressure and heart rate
- Manage pain

How it helps

Experts suggest that stress may worsen tinnitus. In line with this, yoga, a stress management technique, may offer some relief [\[R\]](#).

Practicing yoga (for 3 months) may reduce tinnitus. However, it may offer less benefits than cognitive-behavioral therapy (CBT) [\[R\]](#), [\[R\]](#), [\[R\]](#).

22



Neurofeedback

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Attend neurofeedback sessions with a trained therapist, usually once or twice a week, for a minimum of 20 sessions. Each session typically lasts 30 to 60 minutes where sensors are placed on your scalp to monitor brainwave activity, and feedback is given in real-time to help you learn to control or alter your brain functions.

TYPICAL STARTING DOSE

1 hour

Description

Neurofeedback is a therapeutic technique that helps individuals regulate brain activity, potentially improving focus, reducing anxiety, and enhancing cognitive function by providing real-time feedback on brainwave patterns.

How it helps

Continuous neurofeedback (9-15 sessions) may help reduce tinnitus symptoms by reducing brain activiyy related to tinnitues [\[R\]](#), [\[R\]](#).

Neurofeedback may also improve the benefits of cognitive-behavioral therapy (CBT) [\[R\]](#).

23



Meditation

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

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

TYPICAL STARTING DOSE

30 minutes

Description

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

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

- Mindfulness
- Focused
- Transcendental
- Mantra
- Moving

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

- Stress and anxiety
- Mood
- Sleep disturbances
- Pain

How it helps

Severe tinnitus is associated with emotional stress. A small study found that people suffering from tinnitus had higher blood levels of the stress hormones [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

In line with this, experts suggest that meditation, a stress management technique, may offer some relief [\[R\]](#), [\[R\]](#).

Mindfulness meditation may improve tinnitus severity, anxiety, and depression. Combining mindfulness meditation with cognitive-behavioral therapy (CBT) may also help [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

 PERSONALIZED TO YOUR GENES

The [COMT](#) gene encodes an enzyme that helps break down the neurotransmitters [dopamine](#), [norepinephrine](#), and epinephrine. A decrease in dopamine transmission has been suggested to reduce tinnitus perception [\[R, R, R\]](#).

Your genotype for [rs4680](#) encodes a COMT enzyme with reduced activity, potentially impairing stress response. As a result, it has been associated with higher tinnitus loudness in people with severe hearing loss [\[R, R\]](#).

Severe tinnitus often causes [stress](#), which may further worsen the symptoms. [Meditation](#) helps bust stress, especially in carriers of this gene variant [\[R, R\]](#).

>>> *To learn about other conditions associated with the COMT gene, check out the SelfDecode blog posts [here](#).*

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
COMT	rs4680	AG	

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Cold Exposure

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Gradually expose yourself to cold temperatures for short periods, starting with 1-2 minutes and increasing up to 5-10 minutes. This can be achieved through cold showers, outdoor exposure in cold weather, or ice baths. Aim to do this 2-3 times per week.

TYPICAL STARTING DOSE

1 minutesute

Description

Cold exposure, when done safely and gradually, can have potential health benefits like increased calorie burn, improved circulation, and enhanced resilience to cold temperatures. Cold exposure techniques, such as cold showers or outdoor winter activities, may help boost metabolism and promote overall well-being when practiced mindfully.

Please note: rapid instead of gradual cold exposure causes dangerous, and even fatal, changes in the breath and heart rates, known as the cold shock response. Be cautious with any form of sudden temperature change in your environment, especially if you have heart disease or other chronic conditions [\[R\]](#).

How it helps

In a study with 120 tinnitus patients, the cryotherapy group experienced tinnitus improvement: complete elimination in 4 patients, decreased intensity in 47, maintenance in 13, and a slight increase in 16 after 10 sessions. Additionally, hearing loss and damage decreased after treatment [\[R\]](#).

Whole-body cryotherapy may help by improving circulation and reducing inflammation in the body.

Please note: *Rapid cold exposure can cause life-threatening changes to your breathing and heart rate. This is called the cold-shock response. Be cautious of any form of sudden temperature change to your environment, especially if you have heart disease or other health conditions [\[R\]](#).*

25



Whole-Body Cryotherapy

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Participate in whole-body cryotherapy sessions by entering a cryotherapy chamber for 2-3 minutes, where temperatures drop to between -100°C to -140°C (-148°F to -220°F). These sessions should be performed 2-3 times a week for optimal benefits.

TYPICAL STARTING DOSE
2 minutes

Description

Whole-body cryotherapy involves brief exposure to extreme cold temperatures in a controlled chamber. It is used to reduce inflammation, alleviate muscle soreness, and promote recovery in athletes and individuals seeking pain relief.

How it helps

In a study with 120 tinnitus patients, the cryotherapy group experienced tinnitus improvement: complete elimination in 4 patients, decreased intensity in 47, maintenance in 13, and a slight increase in 16 after 10 sessions. Additionally, hearing loss and damage decreased after treatment [\[R\]](#).

Whole-body cryotherapy may help by improving circulation and reducing inflammation in the body.

Please note: Rapid cold exposure can cause life-threatening changes to your breathing and heart rate. This is called the cold-shock response. Be cautious of any form of sudden temperature change to your environment, especially if you have heart disease or other health conditions [\[R\]](#).

26



Cistanche

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a Cistanche supplement daily with a glass of water, typically in doses ranging from 300 to 600 mg. It is often used continuously for a period of several weeks to a few months to observe potential benefits.

TYPICAL STARTING DOSE
300 mg

Description

Cistanche is an herbal remedy used in traditional medicine for its potential to enhance energy and sexual health. It contains bioactive compounds that may support vitality and overall well-being.

How it helps

In a non-placebo-controlled trial of 89 patients with chronic glomerulonephritis and tinnitus, supplementation with multi-ingredient granules containing cistanche (2 g, 2x/day) for 28 days improved several scores for tinnitus loudness and annoyance [\[R\]](#)

Cistanche may enhance blood circulation and help reduce inflammation, which may indirectly improve the strain on the auditory system associated with tinnitus.

27



Zinc

IMPACT

1 / 5

EVIDENCE

1 / 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

Some people take zinc supplements to improve the symptoms of tinnitus. It might help change the activity of nerves that allow you to hear things [\[R\]](#).

However, experts don't recommend zinc for tinnitus because the evidence doesn't support its use [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

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.

