

Otosclerosis

Disease Report

REPORT CATEGORY —



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

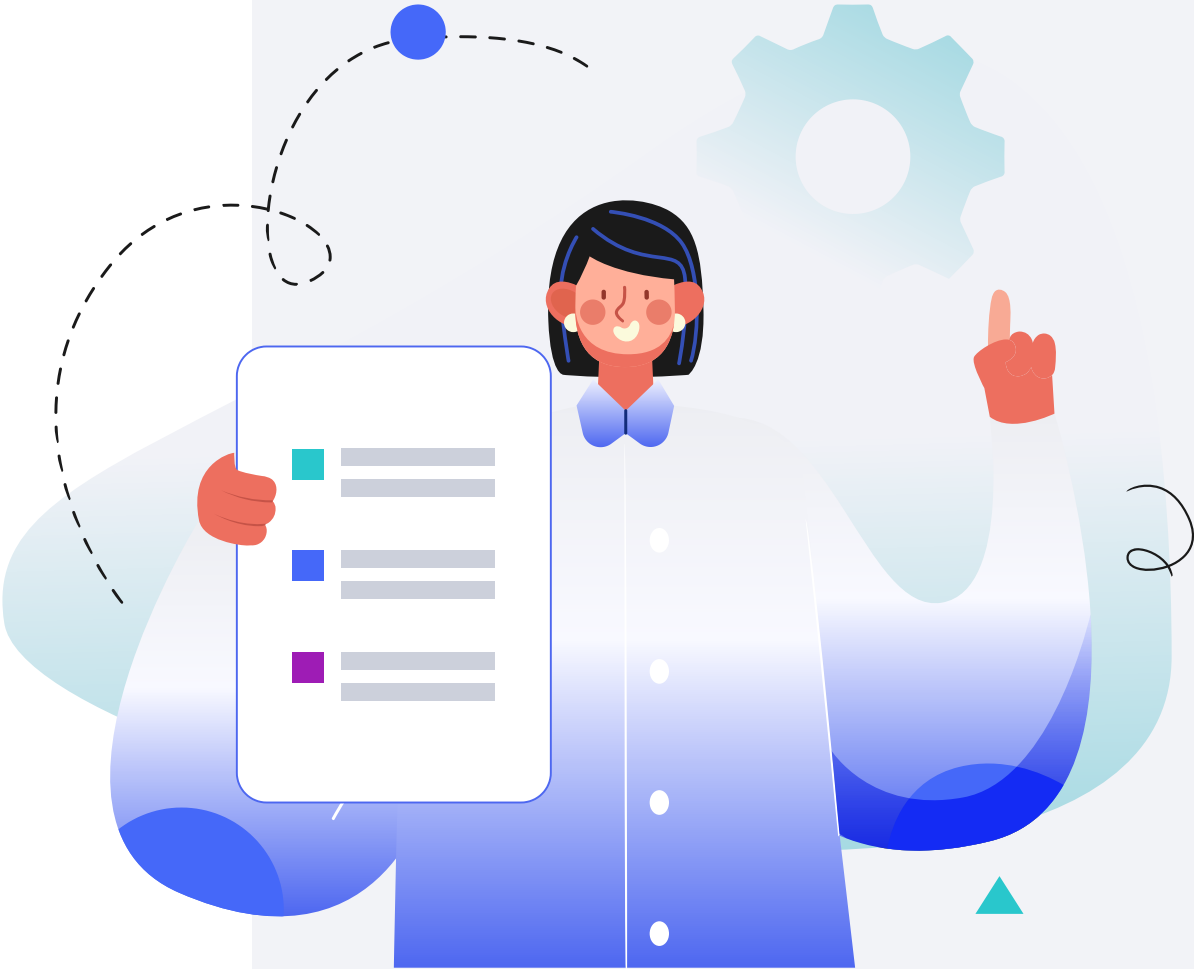
Male

HEIGHT

5ft 5" 165cm

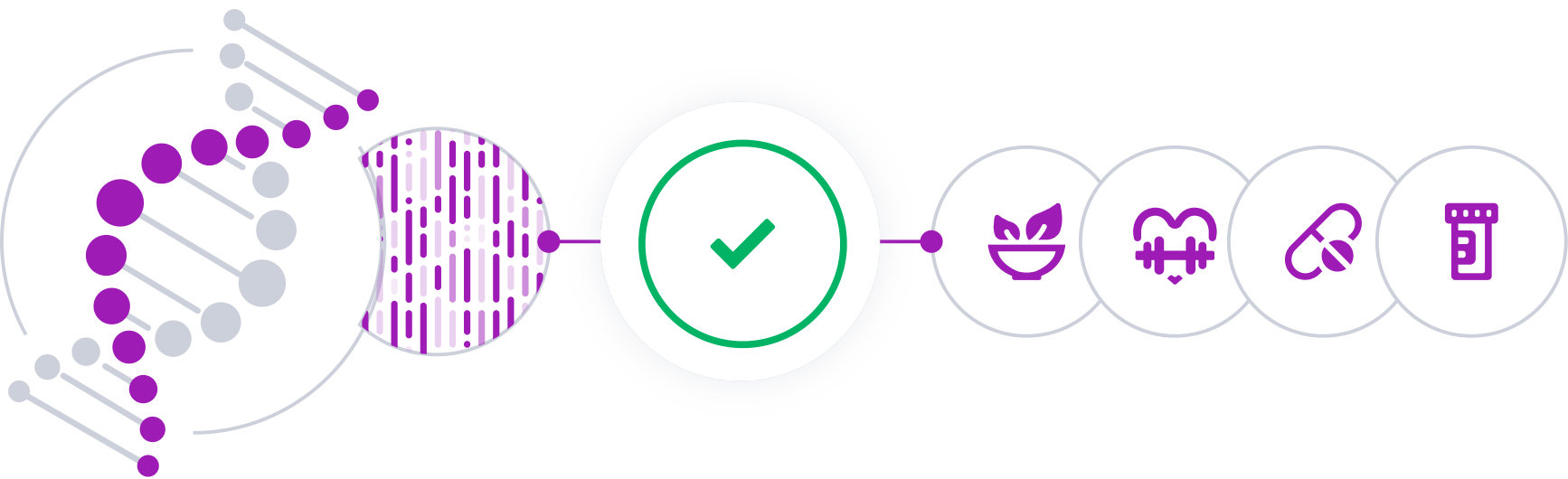
WEIGHT

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.

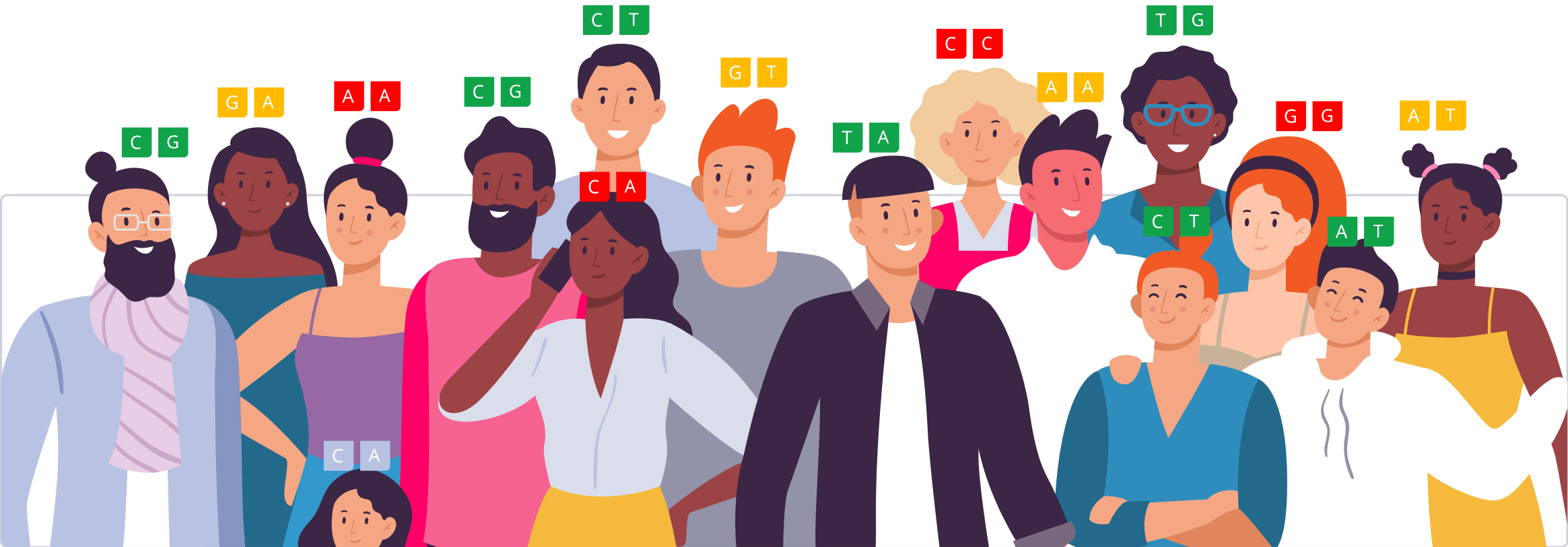


Similarly, our Trait Reports look at how your DNA influences your traits.



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

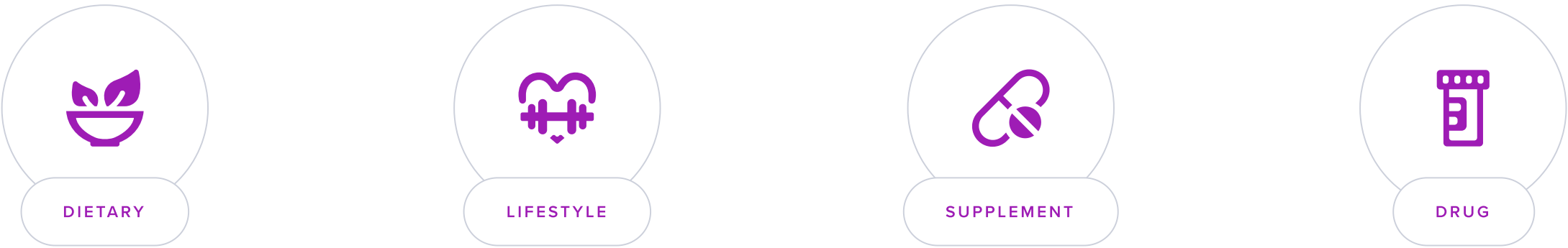
You have 2 risk alleles

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

Otosclerosis is a condition of the middle ear with abnormal bone growth around the stapes bone (one of the tiny bones in the middle ear). It can lead to hearing loss. The abnormal bone growth prevents the stapes from vibrating in response to sound waves, thereby hindering the ability to hear.

Symptoms of otosclerosis include:

- Gradual hearing loss: Often starting in one ear and then affecting both.
- Tinnitus: A ringing or buzzing sound in the ears.
- Dizziness or balance problems.
- Difficulty with sounds that seem low in volume or muffled.

Risk Factors and Treatment

Risk factors for otosclerosis include:

- Age: The onset of otosclerosis usually occurs in young adulthood.
- Gender: Women are more commonly affected than men.
- Pregnancy: Symptoms often worsen during pregnancy.
- Genetics: There's a genetic component, as the condition tends to run in families.
- Race: More prevalent in Caucasians.

Treatment options include:

- Hearing aids to amplify sound for those with mild to moderate hearing loss.
- Sodium fluoride and other medications that may slow the progression of the disease in some individuals.
- Surgical procedures, such as stapedectomy, can be performed to replace the immobile stapes with a prosthesis.

Early detection and treatment can help manage the symptoms and improve the quality of life. Regular hearing tests are recommended if you have a family history of the condition.



TYPICAL LIKELIHOOD

Typical likelihood of having otosclerosis based on 870,182 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SLC7A6	rs543776561	GG
SIN3A	rs543042373	CC
MAML2	rs553652	AA
/	rs10592836	CC
DLEU7	rs2762049	CC
CD109	rs4464751	TT
KANSL1	rs4988900	AA
RELN	rs39375	CA
CSF1	rs3138072	AC
FIBIN	rs11029777	CT
ZC3H11B	rs201694067	TDEL(GA)
ETS2	rs2836775	CT
MERTK	rs11683921	GT
PREX1	rs6066825	GA
/	rs80339979	GDEL(A)
EYA2	rs6066131	CT
/	rs61684469	DEL(ATCTATAAGTGA)T
NR5A2	rs763137008	CC
SPP1	rs181831514	CC
CD200	rs78669079	GG
DPYS	rs182925542	TT
SYCP2L	rs116162923	TT
BIN3	rs73212812	GG
WIP1	rs11868207	TT
UTP23	rs77249084	AA
IRX5	rs4636903	CC
AKAP11	rs73172296	GG
SIPA1L1	rs78287241	TT
FHOD3	rs72893891	AA
FAM167A	rs28606038	CC
AKIP1	rs3751064	TT
SUPT3H	rs13192457	CC

GENE	SNP	GENOTYPE
KRT1	rs73096412	GG
TMEM204	rs67284550	CC
CTSS	rs607518	GG
KDR	rs12505096	CC
EIF3G	rs66487118	GG
CLDN23	rs485107	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	Avoid Noise Pollution	2	Avoid Loud Noises
3	Hearing Aids	4	Auditory Training20 minutes
5	Vitamin D and Calcium	6	Support Groups
7	Sound Therapy30 minutes	8	Stress Management Therapy1 hour

1



Avoid Noise Pollution

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Minimize exposure to loud environments by using noise-cancelling headphones or earplugs, especially in areas known for high noise levels such as construction sites, concerts, and busy urban streets. Aim to keep the volume of personal audio devices below 60% of their maximum. At home, use carpets, curtains, and wall fabrics to reduce indoor noise, and prefer quieter appliances. Try to dedicate at least one hour of quiet time before bed to aid in relaxation and improve sleep quality.

Description

Noise pollution refers to the presence of excessive, disruptive, or unwanted sound in the environment. It often includes sounds from traffic, industrial machinery, construction, loud music, and other sources that exceed acceptable or comfortable noise levels. Noise pollution disrupts normal activities and can have detrimental effects on human health, well-being, and the natural world.

Prolonged exposure to high noise levels can lead to a range of health issues, including:

- Stress
- Anxiety,
- Sleep disturbances
- High blood pressure
- Heart disease
- Impaired cognitive function

How it helps

Avoiding noise pollution reduces stress on the auditory system, which can be especially beneficial for individuals with otosclerosis. By minimizing exposure to loud or disruptive sounds, this strategy helps preserve hearing function and potentially slows the progression of the condition.

2



Avoid Loud Noises

IMPACT

1 / 5

EVIDENCE

1 / 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

Avoiding loud noises helps to protect the delicate structures of the inner ear from additional damage, which is crucial for individuals with otosclerosis. This practice can slow the progression of hearing loss and alleviate symptoms such as tinnitus.

3



Hearing Aids

IMPACT1 / 5

EVIDENCE1 / 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

Hearing aids enhance auditory perception in individuals with otosclerosis by amplifying sound, thereby improving communication and social interactions. This can lead to better overall quality of life and mental health, addressing the functional impact of hearing loss associated with the condition.

4



Auditory Training

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Engage in auditory training exercises for 15-20 minutes daily. These exercises can include using computer programs or apps designed to improve listening skills, practicing listening to audiobooks with varying speeds and pitches, or working with a therapist trained in auditory processing. Continue this practice for at least 3 to 6 months to notice improvements in auditory processing skills.

TYPICAL STARTING DOSE

20 minutes

Description

Auditory training involves exercises and activities designed to improve auditory processing skills, often used in individuals with hearing difficulties or language processing disorders to enhance listening and communication abilities.

How it helps

Auditory training enhances auditory processing skills by engaging patients in exercises that improve their ability to discern sounds, thereby aiding communication. For those with otosclerosis, this therapy can mitigate the impact of hearing loss and foster better listening capabilities.

5



Vitamin D and Calcium

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take 600 IU of vitamin D and 1000 mg of calcium daily. For adults over 70 years, the vitamin D intake should be increased to 800 IU daily. These supplements can be taken together or separately, usually with a meal to enhance absorption, and it is advisable to continue this regimen as part of your daily routine indefinitely unless advised otherwise by a healthcare provider.

Description

Vitamin D plus calcium supplements typically combine vitamin D, often sourced from sunlight exposure or dietary sources, with calcium, primarily found in dairy products and leafy greens. This combination is used to promote bone health, reduce the risk of osteoporosis, and support overall musculoskeletal well-being.

How it helps

This combination supports better bone health and may help slow the progression of otosclerosis by reducing abnormal bone remodeling in the ear.

6



Support Groups

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Attend a support group meeting related to your condition at least once a week. These meetings can be found through local hospitals, online platforms, or health organizations specific to your condition. Participation can be in-person or virtual, depending on what is offered and your preference.

Description

Support groups are gatherings of individuals facing similar challenges, where they can share experiences, emotions, and coping strategies. They offer emotional support, camaraderie, and valuable insights for those dealing with various health conditions or life circumstances.

Support groups involve people with similar struggles helping each other. Support groups usually take place in a casual setting. During sessions, people share their [\[R\]](#):

- Knowledge
- Experiences
- Coping strategies
- Understanding of the recovery process

Support groups may help support recovery from addictions [\[R\]](#).

How it helps

Joining support groups allows individuals with otosclerosis to share experiences and coping strategies. This emotional and psychological support can be invaluable in managing the condition.

7



Sound Therapy

IMPACT

0 / 5

EVIDENCE

0 / 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

Sound therapy can help mask the tinnitus sounds that often accompany otosclerosis. This method uses external noise to make the perception of tinnitus less noticeable, making it easier to focus and sleep.

8



Stress Management Therapy

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Engage in stress management therapy sessions, such as cognitive-behavioral therapy (CBT), for at least 1 hour per week over a course of 8 to 12 weeks. Techniques can include mindfulness, deep breathing exercises, and identifying stressors to develop coping strategies.

TYPICAL STARTING DOSE

1 hour

Description

Stress management therapy refers to various techniques and approaches aimed at reducing and coping with stress. It can improve mental and physical well-being by helping individuals better manage the effects of stress on their health.

How it helps

Managing stress can help reduce the perception of tinnitus, which is a common symptom in people with otosclerosis. Lowering stress levels has been shown to improve overall mental well-being and lessen the impact of hearing difficulties.