

Ear Pain

DNA Health Report

REPORT CATEGORY —



PAIN

Sample Client

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Table of Contents

03 How this works

- 04 Impact
- 05 Evidence
- 06 Some things to keep in mind

07 Introduction

08 Your genetics

09 Your recommendations

20 Next Steps

- 20 Your Lab Results

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

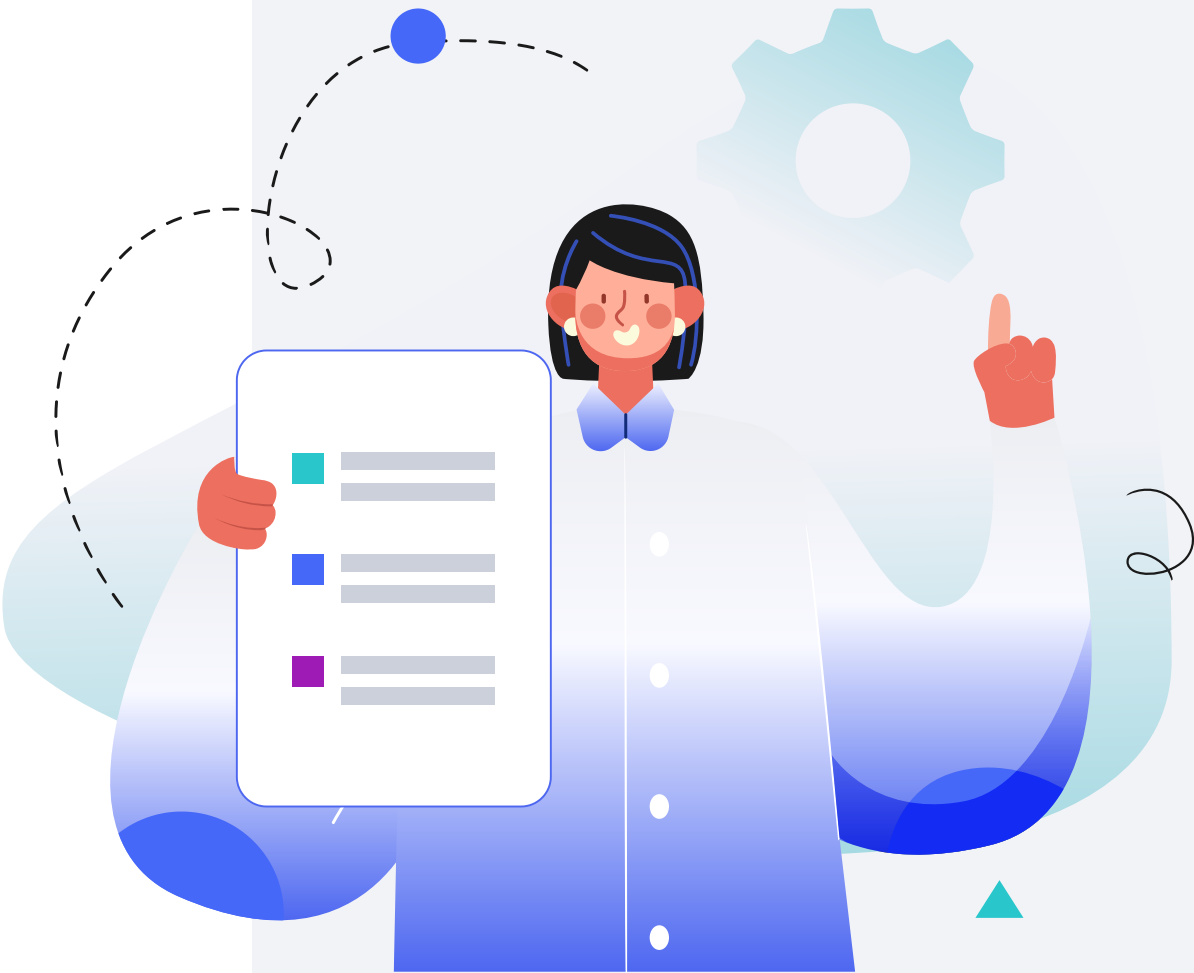
Male

HEIGHT

5ft 5" 165cm

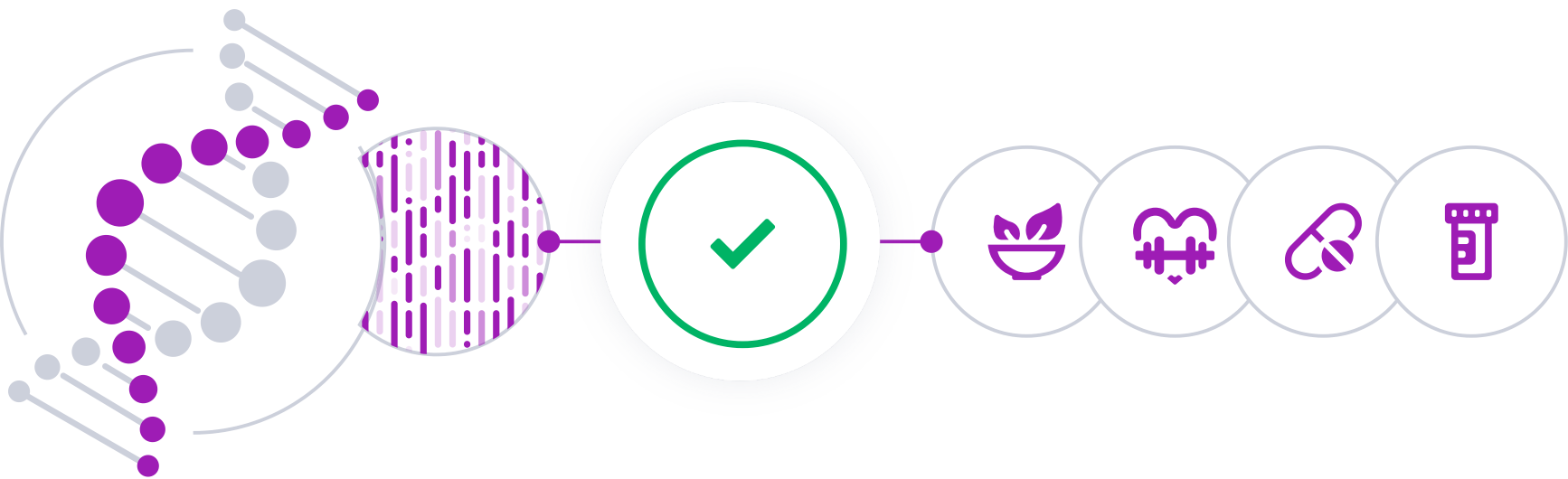
WEIGHT

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.

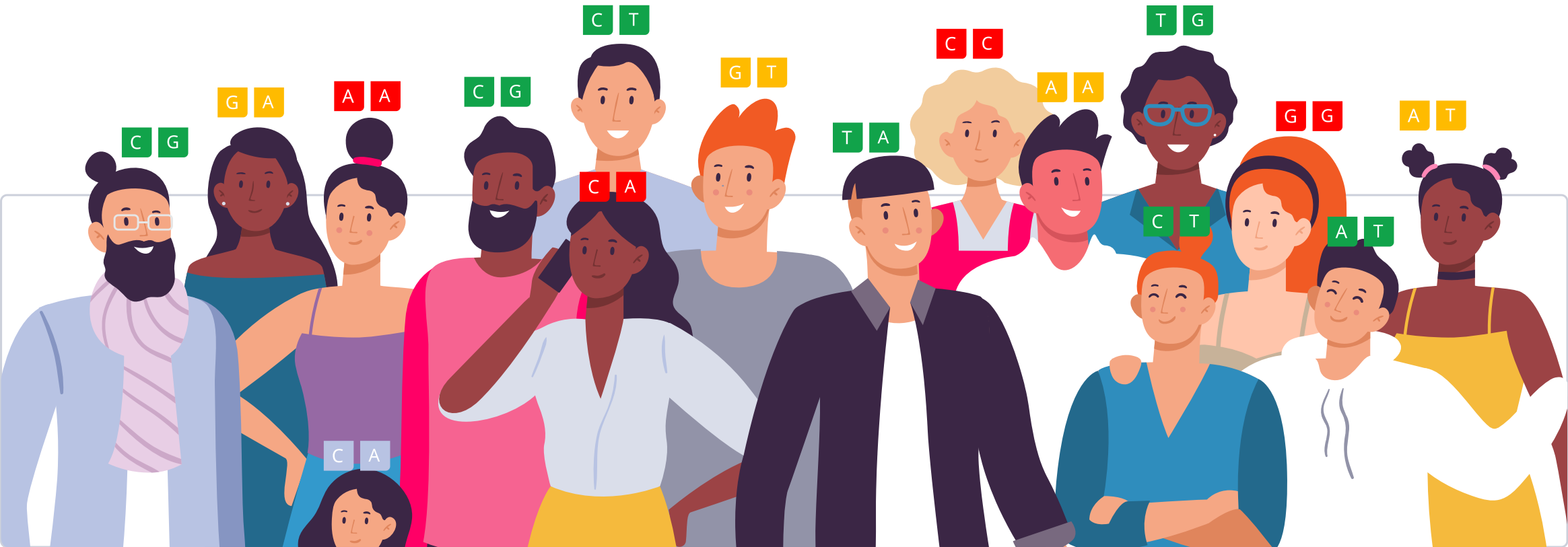


Similarly, our Trait Reports look at how your DNA influences your traits.



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

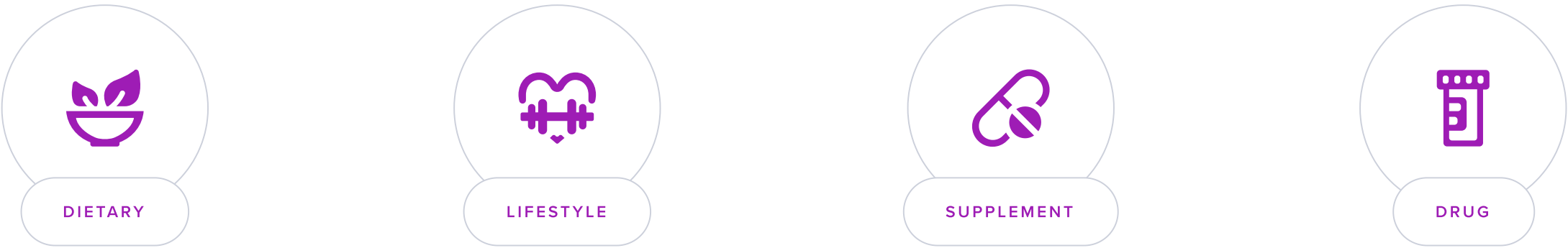
You have 2 risk alleles

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

Ear pain, medically referred to as *otalgia*, can be a debilitating condition that affects individuals of all ages. The pain may originate from inside the ear due to issues such as infections of the middle ear (otitis media) or external ear canal (otitis externa), injury, or blockage by earwax.

It might manifest as a sharp, dull, or burning sensation and can vary from mild to severe intensity. The discomfort can be constant or intermittent, and in some cases, may be accompanied by other symptoms such as hearing loss, discharge, or a feeling of fullness in the affected ear.

Causes and Management

Ear pain may not always be caused by problems within the ear itself; it can sometimes be a result of referred pain from conditions that affect the jaw, teeth, or throat, known as referred otalgia. Sinus infections, temporomandibular joint disorder, dental issues, and throat infections like tonsillitis can refer pain to the ear.

Diagnosis of the underlying cause of ear pain often involves a comprehensive examination, which may include an otoscopic exam, audiometric testing, and sometimes additional imaging studies. Treatment strategies vary depending on the underlying cause but may include antibiotics for infections, decongestants for sinus-related issues, or pain relievers to manage the discomfort.



MORE LIKELY

More likely to have ear pain based on 1,675 genetic variants we looked at



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	Serrapeptase	2	Topical Chamomile
3	Topical Tea Tree Oil	4	Anti-Inflammatory Diet
5	Topical Clove Oil	6	Avoid Loud Noises
7	Good Oral Hygiene	8	Nasal Cleansing
9	Apply Heat	10	Topical Garlic
11	Stress Management Therapy	12	Ginger
13	Topical Peppermint Oil		

1



Serrapeptase

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take serrapeptase on an empty stomach, which means at least 2 hours after eating and 30 minutes before eating. The typical dosage ranges from 10,000 to 60,000 units per day, depending on the specific health condition being addressed. It is often recommended to start with a lower dose to assess tolerance and then gradually increase as needed. This supplement is usually taken in capsule form once daily.

Description

Serrapeptase is an enzyme derived from the silkworm and is used today as a dietary supplement for its potential anti-inflammatory properties, supporting joint health and reducing inflammation.

Serrapeptase is an enzyme that helps the body break down some types of protein. This might help **decrease inflammation and mucus**.

People use serrapeptase for conditions like back pain, joint pain, and other conditions involving pain and inflammation. It may also relieve cough by breaking down mucus. However, there is weak evidence to support these uses.

How it helps

In a placebo-controlled trial of 193 participants with acute or chronic ear, nose, or throat disorders, supplementation with serrapeptase for 7-8 days improved symptoms such as inflammation or swelling and was well-tolerated [\[R\]](#).

2



Topical Chamomile

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Apply a chamomile cream or ointment directly to the affected area of the skin 2-3 times daily. Ensure the skin is clean before application. Continue use for as long as symptoms persist or according to the product's specific instructions.

Description

Chamomile extract, obtained from the flowers of the Matricaria chamomilla plant, is used topically for its anti-inflammatory and calming properties. It is commonly applied to soothe irritated skin and alleviate conditions like dermatitis.

How it helps

Chamomile has anti-inflammatory and pain-relieving properties, which can help alleviate ear pain and discomfort.

3

Topical Tea Tree Oil

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Apply a few drops of 100% tea tree oil to a cotton swab or ball and gently dab onto the affected area of the skin. Do this 1-2 times daily until improvements are noticeable, usually for a period of 1-4 weeks. Avoid applying tea tree oil to large areas of the skin and test on a small patch of skin first to ensure no allergic reaction occurs.

Description

Tea tree oil is used topically for its antimicrobial and antifungal properties, commonly applied to treat skin conditions like acne, fungal infections, and insect bites. Its main chemical compound of interest is terpinen-4-ol, and it is sourced from the leaves of the tea tree, *Melaleuca alternifolia*.

[Tea tree oil](#) is derived mostly from steaming the leaves of *Melaleuca alternifolia*, a tree native to Australia [\[R\]](#).

It’s used to treat a number of conditions, such as [\[R\]](#):

- Acne
- Dandruff
- Nail fungus
- Lice
- Athlete's foot

How it helps

Tea tree oil has strong antibacterial and antifungal properties. It can help treat infections that lead to ear pain when carefully applied around the ear area.

4



Anti-Inflammatory Diet

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate foods rich in omega-3 fatty acids, such as salmon and flaxseeds, fruits, vegetables, nuts, and whole grains into your daily meals. Avoid processed foods, red meats, and refined sugars. Aim for a balanced diet consisting mostly of plant-based foods and lean protein sources, adjusting portions sizes to meet your individual nutritional needs and health goals.

Description

An anti-inflammatory diet focuses on reducing inflammation in the body by emphasizing foods rich in anti-inflammatory compounds, such as fruits, vegetables, fatty fish, nuts, and seeds, while minimizing processed foods and those high in added sugars and trans fats.

Anti-inflammatory diets use healthy foods to reduce inflammation. These diets are generally high in [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Colorful fruits and vegetables
- Nuts and seeds
- Fish
- Olive oil
- Tea

They also tend to restrict [\[R\]](#), [\[R\]](#):

- Processed food
- Sugar and refined carbs
- Red meat

The [Mediterranean diet](#) and the DASH diet are good examples of anti-inflammatory diets [\[R\]](#), [\[R\]](#).

How it helps

An anti-inflammatory diet may help reduce ear pain by lowering inflammation in the body. Inflammation can exacerbate pain in various conditions, including ear infections or other ear ailments.

5



Topical Clove Oil

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Apply a small amount of clove oil, diluted with a carrier oil such as coconut or olive oil (a 2% solution, which is about 12 drops of clove oil per ounce of carrier oil), directly to the affected area up to three times per day. Avoid contact with eyes and mucous membranes, and do not use on broken skin.

Description

Clove oil, extracted from the cloves of the *Syzygium aromaticum* tree, contains eugenol and is used topically for its analgesic and antiseptic properties. It is applied to alleviate toothaches and can be found in some skincare products for its potential antimicrobial benefits.

Clove is a tropical plant native to Indonesia. The flower buds are often used as a spice [\[R\]](#) [\[R\]](#).

Clove oil is made from clove flower buds. Its active ingredient *eugenol* may help with toothaches and heavy sweating [\[R\]](#) [\[R\]](#) [\[R\]](#).

How it helps

Clove oil has natural analgesic and anti-inflammatory properties that can help soothe ear pain and reduce inflammation when applied externally around the ear.

6



Avoid Loud Noises

IMPACT

0 / 5

EVIDENCE

0 / 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

Exposing the ears to loud noises can increase ear pain and potentially damage hearing. Avoiding loud environments can help reduce this discomfort.

7



Good Oral Hygiene

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Brush your teeth at least twice a day for two minutes each time using fluoride toothpaste. Floss daily to remove plaque from places your toothbrush can't reach and consider using mouthwash. Visit your dentist at least twice a year for professional cleanings and checkups.

TYPICAL STARTING DOSE

2 minutes

Description

Good oral hygiene, which includes regular brushing, flossing, and dental check-ups, is crucial for preventing tooth decay, gum disease, and maintaining overall oral health. A healthy mouth contributes to overall well-being and can prevent dental issues that may impact systemic health.

Oral hygiene refers to practices that keep the mouth healthy. Good habits include [R](#), [R](#):

- Gently brushing the teeth and tongue for two minutes, at least twice a day
- Flossing daily
- Using a toothpaste with fluoride and a soft toothbrush
- Replacing a worn toothbrush at least every 3 months

To help maintain good oral hygiene, it is also important to regularly see dental professionals. They can help prevent and address issues with your teeth and gums.

How it helps

Maintaining good oral hygiene helps prevent infections in the mouth that could lead to ear pain. It reduces the risk of toothaches and dental abscesses, which can cause referred pain to the ear.

8



Nasal Cleansing

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Perform nasal cleansing using a saline solution twice a day, in the morning and evening. Tilt your head sideways over a sink and gently pour the saline solution into the upper nostril, allowing it to flow out of the lower nostril, then switch sides.

Description

Nasal cleansing, often done using saline solutions or neti pots, helps clear nasal passages, alleviate congestion, and reduce allergy symptoms, promoting better respiratory comfort and improved breathing.

Nasal cleansing involves rinsing your nasal passages with a sterile salt solution. This is done with a squeeze bottle or a teapot-like container called a neti pot [\[R\]](#), [\[R\]](#), [\[R\]](#).

People mainly use nasal cleanses to relieve a stuffy nose, which may be caused by [\[R\]](#), [\[R\]](#):

- Allergies
- Colds
- Sinus problems

How it helps

Nasal cleansing, such as using saline solutions, can help reduce nasal congestion. This alleviates pressure in the Eustachian tubes that connect the throat and the middle ear, thereby reducing ear pain.

9



Apply Heat

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Place a warm, not hot, heating pad or a warm wet towel on the affected area for 15-20 minutes at a time. Do this several times a day, ensuring there's at least a 1-hour interval between sessions to avoid skin damage.

TYPICAL STARTING DOSE

15 minutes

Description

Applying heat, such as through heating pads or warm baths, can help relieve muscle tension and soothe pain. It is a common method for managing muscle aches, menstrual cramps, and minor injuries.

People use hot applications to relieve pain, improve blood flow, and more [\[R\]](#), [\[R\]](#).

Types of hot applications include [\[R\]](#), [\[R\]](#):

- Heating pads
- Hot baths
- Saunas
- Hot water bottles

How it helps

Applying heat to the area around the ear may help reduce pain by improving blood circulation, which can facilitate the healing process, and by providing a soothing effect that decreases discomfort.

10



Topical Garlic

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Crush or mince fresh garlic and mix it with a carrier oil, like olive or coconut oil, to dilute its strength. Apply this mixture directly to the affected area of the skin, leave it on for about 20 minutes, then rinse off. Repeat this process daily for up to 2 weeks or until you see improvement.

Description

Garlic is a topical application derived from the garlic bulb, known for its potential antibacterial and anti-inflammatory properties. It is commonly used for skin issues like acne and fungal infections due to its main compound, allicin, and its origins can be traced back to the Allium plant family.

[Garlic](#) is a vegetable often used to flavor food. It’s been a part of traditional medicine for thousands of years [\[R\]](#).

Today, people take garlic to help control their blood pressure and cholesterol [\[R\]](#).

The active component in garlic is called *allicin*.

How it helps

Garlic has natural antimicrobial and pain relief properties. Applying garlic oil topically in the ear can help reduce pain and fight infections that cause ear pain.

11



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

Stress management therapy helps reduce overall stress levels, which can potentially lower the occurrence of tension and pain in the ear.

12



Ginger

IMPACT

0 / 5

EVIDENCE

0 / 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

Ginger has anti-inflammatory properties that can help reduce the inflammation causing ear pain. It has been used traditionally as a remedy for various forms of pain, including that in the ear, because of its effectiveness in reducing discomfort.

13



Topical Peppermint Oil

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Apply 2-3 drops of peppermint oil diluted in a carrier oil (such as coconut or jojoba oil) directly to the area of concern. Do this no more than 2-3 times daily. Always perform a patch test on a small area of your skin first to check for any adverse reactions.

Description

Peppermint oil, extracted from the peppermint plant, is used topically for its cooling and soothing properties. It can provide relief from headaches, muscle aches, and skin irritations when applied to affected areas.

How it helps

Peppermint oil contains menthol, which has cooling and numbing effects that may provide temporary relief from ear pain when applied externally.

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.

