



Finally You Can Get **Relief** From **Tinnitus**

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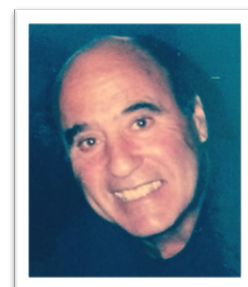
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Introductory Letter from Dr. Cardano

If you or a loved one suffer with this noise in the ears or the head that no one else hears you know it can be extremely frustrating and sometimes debilitating. What can be done about it?

I have worked with patients who suffer with this condition - called tinnitus - for many years. Tinnitus sufferers have always elicited my empathy and compassion. However, I gained a new perspective when my late father developed debilitating tinnitus a number of years ago, before we knew what we know today about treatment.

My dad was always the kind of person who could make people feel like he was their best friend after meeting them for the first time. Anyone could easily tell that he cared deeply about his family, knew how to have fun, and sincerely wanted to find ways to make other people happy. Tinnitus changed his personality. It led to frustration, withdrawal from social activities, difficulty with concentration, loss of sleep, depression, and other difficulties. I only wish we knew then what we know now about how to provide relief from tinnitus



Dad

Too many people dismiss tinnitus. In fact, this sound essentially represents an **internal alarm** alerting you that something is not as it should be. Whether the tinnitus is constant, only noticeable in a quiet room, pulsating or seems to have certain triggers (i.e., exercise or caffeine), it is important that the root cause of the problem be determined and a proper treatment plan be put in place.

In this report, *'Finally, You Can Get Relief from Tinnitus'* I will give you the basics you should know about tinnitus such as: what causes tinnitus, what can make it worse, what treatments have been shown to be effective and which have not. Although this report only provides basic information, my hope is that you will use what you find here to better understand the tinnitus you or a loved one may have so that you can take action to get a proper evaluation and to get relief. If you have any questions or comments, please contact my office at **(516) 405-6845**.

Sincerely,



Lawrence Cardano, Au.D.

Dr. Lawrence Cardano, Au.D.

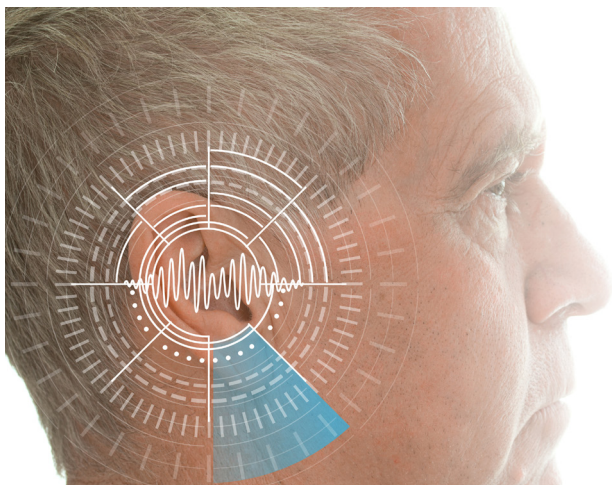
Director

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Finally You Can Get Relief From Tinnitus

The Impact of Tinnitus



Tinnitus can be described as the experience of hearing a phantom sound in your ears or in your head. It is currently estimated that nearly 50,000,000 American adults live with tinnitus. Surveys indicate that about 54% of those with tinnitus find that it has a significant impact on their daily life.

The experience of tinnitus is unique to each individual. I have seen patients who describe their tinnitus as sounding like anything from hissing or buzzing to screeching or pounding. I have actually seen a few patients who said their tinnitus sounded like music. Some people only notice their tinnitus only in a quiet room and find that it is not much of a bother to them. Others experience the sound all day long. – and it can interfere with daily life.

The three main ways that tinnitus can impact your quality of life are through its effect on 1) your concentration, 2) your hearing, 3) your sleep and 4) your emotions. The sound of tinnitus can get so distracting that concentrating on anything can become nearly impossible. In some cases, the sound of tinnitus can interfere with your ability to hear things you would like to hear – like conversation. For many people, their tinnitus is most noticeable and most bothersome when there is no other noise around to “drown it out.” This usually describes the environment in which they try to sleep. It is not uncommon for tinnitus to disrupt sleep. Of course, lack of sleep or poor-quality sleep itself can lead to a myriad of health and mental acuity problems. Lastly, tinnitus can affect your emotions. Any combination of

the previously mentioned effects of tinnitus can certainly lead to frustration, anxiety, and depression as it did for my dad. It is important to note that negative emotions themselves - like anxiety and frustration - can lead to a more bothersome and persistent experience of tinnitus.

At our office we use a well-researched and standardized questionnaire to assess each of these four areas of potential impact of tinnitus before and after treatment.

Causes

The most common cause of tinnitus is damage to the sensory organ of hearing, the cochlea (i.e., the inner ear). This results in a breakdown in the neural connections from the ear to the brain. A smaller percentage of tinnitus cases are the result of other medical conditions that include: hypertension (high blood pressure), acoustic neuroma (tumor on the hearing nerve), thyroid disease, vascular disorder, temporomandibular joint (TMJ) disorder, ear infection, impacted cerumen (ear wax), nutritional deficiency, aneurysm, multiple sclerosis and other disorders. In some patients, prescription and over-the-counter drugs can result in damage to the auditory system and cause or exacerbate tinnitus. Ironically, several hundred drugs listed in the Physician's Desk Reference (“PDR”) cite tinnitus as a side effect. In some, but very few, of these cases, the tinnitus may reduce or disappear when the prescribed medication is discontinued.

I hope this explanation makes it clear that ‘What is causing my tinnitus?’ is not a simple question to answer as it can be the result of any number of conditions, or by something as simple as ‘too much wax in your ears’. This may also help you understand the seriousness of experiencing tinnitus and the why your Doctor of Audiology must carefully evaluate and counsel you if you have tinnitus.

As I mentioned earlier, the most common cause of tinnitus is damage within the inner ear. The result is reduced auditory stimulation to the brain. This causes a situation that is analogous to Phantom Limb syndrome. Phantom Limb syndrome can occur when a person has an arm or a leg amputated but still feels “pain” in that missing limb as if it were still there. In this case the brain



... the most common cause of tinnitus is damage within the inner ear.

is not getting the neurological stimulation it is expecting from the missing limb and re-creates it. The analogy to tinnitus is that when there is damage to the inner ear, the brain is missing some of the stimulation it would normally get from the inner ear and re-creates it.

The most common cause of damage in the inner ear is aging. As we get older, we tend not to see as sharply as we used to, especially in low-light environments. Unfortunately, the same process happens in our ears as we age; we tend not to hear as clearly, especially in noisy situations.

Other causes of tinnitus that result in inner ear damage include excessive noise exposure – either a single intense noise (like a shotgun blast) or long-term exposure either from work or play (e.g. musicians, concert attendees, carpenters, machinist, landscapers, etc.). Tinnitus can also result from physical trauma to the head or neck. Tinnitus is commonly found in individuals that have been in a car accident or for those who have had a serious fall.

Triggers – what can make it worse?

For some people, tinnitus can be virtually undetectable until a certain ‘trigger’ makes it more noticeable. Below is a list of the most common triggers patients report as influencing their tinnitus:

Loud noise. Avoid loud sounds at all costs! The use of power tools, guns, motorcycles, noisy vacuum cleaners, etc., must require the use of hearing protection. While the ringing that occurs after exposure to loud sounds and concerts may seem temporary (often referred to as the ‘hearing hangover’), the damage to the inner ear is PERMANENT. Hearing protection comes in many forms - each with its own advantages and disadvantages. Ask your Doctor of Audiology which is best for you and your hearing needs.

Excessive use of alcohol can exacerbate tinnitus for some people. Toxins introduced to the body can have a range of effects on our nervous system. Alcohol and



drugs exert their effects on people by influencing neural activity; thus, tinnitus is a potential side-effect of these toxins.

Caffeine, found in coffee, tea, chocolate, and some cola drinks, can also increase tinnitus. Caffeine, a nervous system stimulant, can ramp increase neural activity resulting in increased perception of tinnitus. Fortunately, when tinnitus results from the ingestion of caffeine, the simple fix is to reduce your intake.

Nicotine has a direct effect on our vascular system. Changes to our vascular system, which are often permanent from nicotine and smoking, can influence blood flow to the ears – which will have a direct effect on the health of the cochlea and hair cells. This impact can lead to a ‘suffocation’ of required oxygen to the ear, and thereby compromise neural connections to the brain; thus, resulting in tinnitus.

Aspirin, quinine, some antibiotics, and hundreds of other drugs are causative tinnitus agents and can make existing tinnitus worse. If you are prescribed medication, always inform your physician and pharmacist of your tinnitus and discuss the drug and dosage options.

Stress can make tinnitus worse and make it harder to ignore. Most of us can benefit from stress management methods like meditation, exercise, or progressive muscle relaxation whether we have tinnitus or not. We do know that excessive stress can cause or exacerbate for many medical conditions, including tinnitus.

Why the Typical “Complete Hearing Evaluation” is Not Enough

Effective treatment of tinnitus depends on proper evaluation. The most common “complete audiological evaluation” protocol does not include more advanced testing needed to document the cause of tinnitus in many cases.

Effective treatment of tinnitus starts with a thorough evaluation. **At our office, evaluation for patients with tinnitus includes:**

- A standardized tinnitus assessment questionnaire - to evaluate the impact of your tinnitus on your ability to concentrate, your hearing, your sleep, and your emotions. This questionnaire is completed again after treatment has begun to monitor effectiveness of the treatment.
- Thorough case history - including information such as the characteristics of your tinnitus, balance issues, noise exposure, and any head trauma, noise exposure or infection in the past as well as a review of your medications.
- Otoscopy – visual inspection of your ear canals and ear drums. In our office we use video otoscopy that allow you, the patient, to see inside your own ears.
- Otoacoustic Emissions Testing - this crucial test identifies breakdowns in the ear-to-brain connections that can trigger tinnitus and which often

begin long before measurable hearing loss show up on standard tests.

- Cognitive function screening – to identify possible cognitive impairment that could be the result of auditory damage. We use the only FDA cleared technology for this purpose.
- Pure tone audiometry – to assess any loss of loudness perception and whether that loss may be due to damage to the cochlea (inner ear) or not
- High frequency testing audiometry – evaluates hearing thresholds for sounds above the frequency range of testing for the standard “complete audiological evaluation” protocol. This is important because the damage to the inner ear that can result in tinnitus often starts with the part of the inner ear responsible for hearing sounds above the frequency range of testing for the standard protocol.
- Loudness discomfort level testing – to determine if damage to the inner ear may be resulting in abnormal loudness perception.
- Word recognition testing in quiet and in noise - this provides insight into how any damage to the auditory system is affecting you the brain’s ability to focus and decipher words.

TREATMENT OPTIONS

Unfortunately, too many patients have said to me ‘I have tinnitus, and I’ve been told there is nothing that I can do about it’. I emphatically say to each of these patients, and to you – that is not true. Is there a cure for Tinnitus? No. But there are valid, F.D.A. approved treatment options available to reduce, and in some cases, eliminate, your perception of tinnitus.

Below are some of the most often asked about treatment options available for managing tinnitus.

Treatments With Limited or No Effectiveness

Surgery

Many patients that are desperate to reduce their tinnitus will ask if cutting or severing the hearing nerve will eliminate their tinnitus. This permanent, deafness-

“ The most common “complete audiological evaluation” protocol does not include more advanced testing needed to document the cause of tinnitus in many cases.



producing procedure is not a dependable means of reducing tinnitus. In fact, the surgical destruction of a person's hearing nerve can often leave the tinnitus as the only sound heard (see my description above of the analogy to 'Phantom Limb').

Medication

Put bluntly - there are currently NO FDA-approved drugs specifically for treating tinnitus. However, there are pharmacological options to address the stress, anxiety, and depression that are caused by (and can sometimes exacerbate) tinnitus. For some people, treatment with low doses of anti-anxiety drugs – such as Valium or antidepressants such as Elavil – can help reduce the impact of tinnitus on daily life.

It should be noted that there are no herbal remedies, vitamins, or supplements that have any significant scientific evidence to substantiate claims of effectiveness in treating tinnitus – in spite of any advertising hype you might see.

Acupuncture

Acupuncture has not been shown to have a significant effect on tinnitus. The British Tinnitus Association recently reviewed the research on acupuncture for tinnitus and concluded "there is no evidence that this treatment is effective"

Cognitive Behavior Therapy (CBT)

CBT is a type of psychotherapy, most often performed by a psychologist, that is designed to identify negative thoughts that lead to behaviors which are problematic, and to help the patient modify those thoughts and the behaviors that result. For example, a tinnitus sufferer may be thinking; "I can't go out to dinner because I won't be able to hear over my tinnitus." The result could be reduced quality of life because that person misses

the experience of going out to dinner and the pleasure and socialization that goes with it. With CBT this person might change that thought to "I might not be able to hear over my tinnitus, but I might still enjoy the food and the atmosphere."

A CBT program usually consists of 8 to 24 weeks of 60 to 120 minute sessions. Research indicates that CBT can have a significant effect on improving the quality of life for people suffering with tinnitus, but not on the loudness perception of the tinnitus itself.

The Most Commonly Effective Treatment: Our Approach

Our approach uses advanced hearing aid technology with features specifically designed to treat tinnitus and customized for the individual. Depending on individual needs we also include elements of Cognitive Behavior Therapy and other counseling techniques. When used properly by experts, this is the single most effective treatment option available for the largest percentage of people suffering with tinnitus. The F.D.A. (Food and Drug Administration) has approved use of this technology for individuals with tinnitus. It is designed to provide the brain with restored stimulation. While most people with tinnitus also suffer with hearing loss that is detected on standard hearing tests, that is not always the case. The breakdown of neural connections from ear to brain resulting in tinnitus often starts before hearing loss can be measured on standard tests. Fortunately, this technology has been designed for people with audiometric 'normal hearing'.

Many studies show that patients who use this tinnitus support technology have a significant reduction in their daily tinnitus experience – with some even reporting that 'the ringing is gone all day.' We use this technology in our advanced treatment process to restore the neural activity the auditory system. This customized, targeting stimulation helps to retrain the auditory system to properly identify sounds and suppress the mistaken increase in neural activity. This approach significantly reduces or eliminates the perception of tinnitus for about 80% of patients.

There are number of ways this technology can be used as part of an effective treatment program and there are some features available that are necessary for some

tinnitus sufferers but of no use to others. The experience and expertise of your Doctor of Audiology in specifically treating tinnitus is crucial to your success.



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YOUR NEXT STEP TO REDUCING OR ELIMINATING YOUR TINNITUS SYMPTOMS FOREVER: A CONVERSATION

Effective tinnitus treatment is not magic. It requires the care of a tinnitus expert. Our tinnitus treatment plan will be customized for you to ensure maximum effectiveness. Here is a sample of what patients say about our treatment:



David Weeks

Before I came to Hearing Center of Long Island, my tinnitus was getting so bad that I was hearing the ringing more than I was hearing people talk. I was told that there was no treatment for it. Other doctors told me you're just kind of stuck with it because there is no surgery for it or anything like that.

Then I came to Hearing Center of Long Island. They were able to basically solve the whole problem. Instead of hearing the ringing at a level of six out of ten I now hear it at a level of about one. That is incredible.

The advice I would give others with tinnitus is to get it treated at Hearing Center of Long Island. You will see nothing but improvements in your day-to-day life. It really helped me. I can hear life again! – **David Weeks**, Woodmere, NY

HERE'S MY GUARANTEE!

I personally guarantee that if you don't reduce your tinnitus symptoms, hear more clearly and without distraction, and live a happier and healthier life in the first 60 days of treatment we will issue a prompt and courteous refund.



Your first step to true relief from your tinnitus is to call one of our highly trained patient care coordinators at (516) 219-8768.

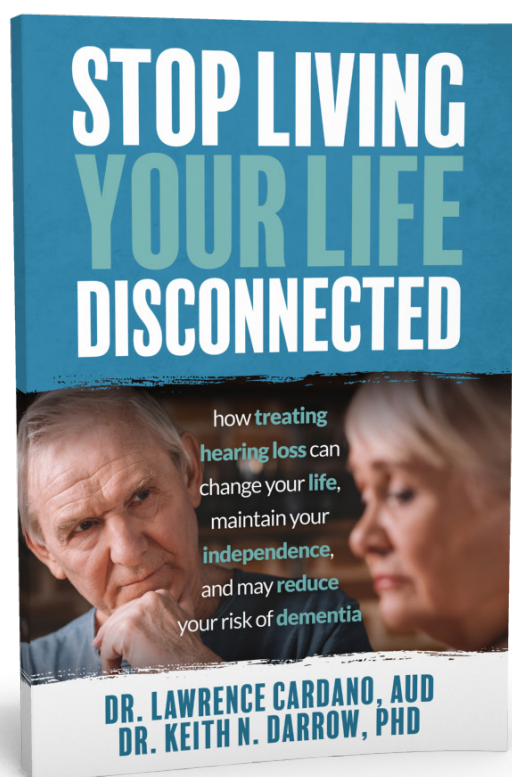
We guarantee our treatment because it is based on the best science and is proven effective - but also because we only treat a patient when they are a good candidate for our treatment and are likely to be very successful. *That means that before we even schedule an appointment for your complimentary evaluation and consultation, we want to get to know about you and your symptoms.*

Your first step to true relief from your tinnitus is to call one of our highly trained patient care coordinators at (516) 219-8768. You will have a conversation that allows us to get to know you and will allow you to get to know more about effective treatment in your case. If you are not a good candidate for our treatment you will at least come away from the conversation with a better understanding of your condition. If you are a good candidate, you can take the next step to schedule a complimentary full evaluation and consultation.

So, call (516) 219-8768 today for an enlightening tinnitus conversation. We look forward to hearing from you.



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FREE BOOK

by Dr. Lawrence Cardano, Au.D.
and Dr. Keith Darrow, Ph.D

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