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Breaking The Cycle of Tinnitus

Tinnitus is the perception of abnormal ear or head noises. Tinnitus is unpleasant enough itself, and is sometimes a symptom of other problems, including hearing loss, tumors, and narrowing of the blood vessels. Noises may be high pitched and ringing type sounds or sound like clicking noises. Some tinnitus is pulsatile, which means it may be caused by the flow of blood that accompanies each heart beat, and this happens in cases of narrowing of the blood vessels. And according to Sergei Kochcin, Ph.D, the size of the tinnitus population in the United States is nearly 30 million people—or about 10% of the entire population—and the incidence of tinnitus is as high as 26.7% for people ages 65-84 years of age.

Severe tinnitus patients often report the do not sleep well at night. They often report missing deadlines at work and have a lot of trouble concentrating. Tinnitus disrupts their quality of life. With the severe tinnitus patient, there are three elements at work: auditory input, attention or awareness, and the emotional response. The emotional response can often be the heaviest-weighted aspect of the cycle and the one that has the most impact on the patient.

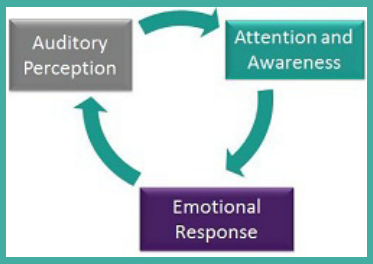

Figure #1 Cycle of Tinnitus

"Breaking the Cycle of Tinnitus" by:
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Auditory Input

It is well known that most tinnnitus patients have evidence of damage to the auditory system, resulting in a hearing loss and the tinnitus. The brain, being the magnificent structure that it is, knows that it is not getting the input that it should. It is either getting a bad message or, in some cases, no message at all. The auditory centers are often starved for input, and can trigger a compensation mechanism in the brain. This can lead to over-excitation of neurons, and generate a tinnitus signal (Shim, Kim, Park, Lee, Yoon, Ki, et al., 2009).

Attention and Awareness

Attention and awareness is the second part of the tinnitus cycle (Figure 1). The brain filters and categorizes all the sounds that we hear on a day-to-day basis. There are some sounds that make it straight up to our awareness centers. Then there are some sounds that require an action on our part or sounds we have to do something about, and then there are other sounds that never make it to our focus of attention. They get filtered out to other subconscious brain centers.

In the severe tinnitus patient, the brain has an incorrect label on their perception of tinnitus. Their brain is categorizing the tinnitus signal as something harmful, something threatening, which is incorrect.

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In This Issue

Suffering From Fall Allergies

BY: Christine Lupienski, FNP

Fall time can produce severe allergy symptoms. Fall allergies are often triggered by ragweed and outdoor molds. Specific allergens may be different in the Fall, however the stress and suffering they cause will be very much the same.

Symptoms:

-runny nose/congestion
-sneezing
-itchy/water eyes
-sinus headache

You may sneeze a lot and have an itchy, runny, or stuffy nose. Your eyes may also be itchy, red, swollen, burning, or watery. Other signs are an itchy throat or coughing. You may also have plugged ears or decreased taste or smell.

Symptoms that last a long time can be mistaken for a cold that does not go away. Some people may not sleep well or feel unusually tired during the day. Symptoms can be severe enough to cause learning problems in school age children.

Preventative:

-Antihistamines: These medicines work well and quickly to treat most symptoms. Some antihistamines can make you sleepy. It is recommended to take this medication at night/ bedtime.

-Decongestants: These medicines are used to treat a stuffy nose. Do not use OTC decongestant nose sprays for more than a few days because your symptoms may get worse.

-Nasal corticosteroids: These medicines are used to decrease swelling in the nose.

Christine Lupienski, FNP

She has been working in the nursing field since 1994. She joined the practice one year ago.

-Allergy panel blood work - if results are above normal- allergy extract can be given (allergy shot)

-Immunotherapy (allergy shots): These shots may be given if your symptoms do not get better with other medicine. Allergy shots may help your immune system to become resistant (not react) to allergens over time. They may also help to decrease the need for allergy medicines in the future.

-Avoid allergens: Avoid things that make your symptoms worse. Some things you can do to avoid possible allergens are:
-Have someone else do the yard work and mow the lawn.
-Change your clothes after you have been outside.
-Do not let indoor pets sleep in the bedroom or sit on furniture.

Don't suffer any longer. Call one of our office and get some professional advice. Don't delay.

Our Offices

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Water Resistant Hearing Aids

BY: J.P. Miller, MS CCC-A, Audiologist/Editor in Chief

Thank goodness it is Fall as we've had another hot summer in North Carolina. The high humidity can make our air conditioning bills skyrocket and make working outside almost impossible at times. Perspiration and high humidity can also have a negative effect upon hearing aids. Hearing aids are like cats as they don't like water.

Luckily, some hearing aid manufacturer's have now come out with water resistance hearing aids. Phonak, a major manufacturer of hearing aids in the world, now offers three hearing aids that now hold an Ingress Protection rating of 67: Phonak M H20, Nios H20, and Naida S CRT.

The **IP Code** (**Ingress Protection Rating**, sometimes also interpreted as **International Protection Rating**[1]) has the letters *IP* followed by two digits or one digit and one letter and an optional letter. As defined in international standard. IEC 60529, IP Code classifies and rates the degrees of protection provided against the intrusion of solid objects (including body parts like hands and fingers), dust, accidental contact, and water in *mechanical casings* and with electrical enclosures. The standard aims to provide users more detailed information than vague marketing terms such as *waterproof.*

The Ingress Protection rating of 67 on the three Phonak products deals with dust and water protection. The #6 rating on dust means no intrusion of dust for 8 hours in a dust chamber. The #7 rating on moisture means temporary immersion in water at 3 feet for 30 minutes with no damage to the unit.

While water resistant properties of hearing aids continue to improve, no device is totally water proof. As a result, we recommend a global Dry and Store box to store your hearing aids in at night. This device helps remove mositure and ear wax that can cause hearing aids to fail.

The new line of water resistant hearing aids from Phonak will hopefully continue to expand in the coming months. These devices now have the capability to resist moisture and dust to a certain degree which should lengthen the life of these devices.

Moisture and heat can damage hearing aids

Phonak's Moisture Resistant Hearing Aids

Naida CRT

M H20 Line

Nios

JP Miller, MS, CCC-A
Audiologist

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ComPilot - The all-in-one accessory from Phonak

The Phonak ComPilot brings together the accessibility of wireless connectivity, the convenience of a remote control and introduces for the first time VoiceAlerts, spoken messages, all in one simple, attractive device.

Phonak ComPilot is your perfect all-in-one companion, offering true convenience, wireless freedom and the reassurance of VoiceAlerts. ComPilot provides easy wireless access to TVs, MP3 players and phones to name but a few. It guarantees stable connectivity, best voice quality for phoning and keeps hands free. The built-in remote control is designed for ease of use with convenient program and volume changes. ComPilot is the first accessory to offer the benefit of VoiceAlerts making it easier than ever to interact with your hearing aids.

Phonak TVLink S - Ideal TV experience

The Phonak TVLink S basestation is the Bluetooth transmitter that turns any CORE, Phonak Spice Generation and Spice + hearing instrument into a lightweight wireless headset. The TVLink S basestation wirelessly sends audio signals from the TV or any other audio source to the ComPilot within a range of up to 30 meters (100 ft.). StereoSound provides a great listening experience as well as a short transmission delay ensuring listening pleasure even for open fittings.

Phonak ComPilot key features

- Wireless streaming
- Remote control
- VoiceAlerts - The only accessory to offer spoken alerts
- Perfect partner with TVLink S basestation
- More than 8 hours continuous streaming time in StereoSound

Phonak TVLink S key features

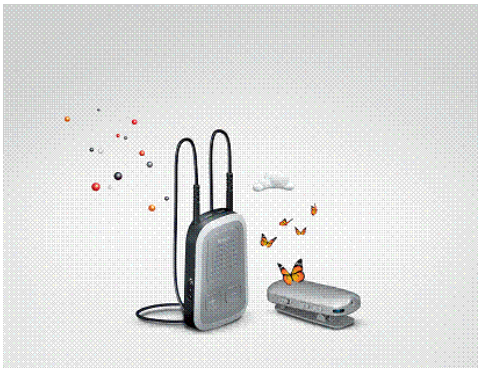
- Specially designed for ComPilot
- Quick and easy installation
- No line of sight to hearing instruments necessary
- Up to 30 meters (100 ft) transmission range
- Digital volume adjustment with audio-visual feedback
- Embedded charging slot for ComPilot

Phonak Adds Wireless Microphone

Phonak announced the release of their remote wireless microphone that enhances all of their Bluetooth compatible hearing aids and accessories.

Hightlights of the Device

- Compatible with all wireless Phonak hearing aids and ComPilot/iCom
- Excellent sound quality thanks to full audio bandwidth streaming
- Stay connected for up to 60 feet
- Over 8 hours of continuous streaming



Remote microphone

CCENT Welcomes Kara Crocker to the Apex Office

Kara Crocker joined the CCENT team this month. She has been a medical assistant for six years. She was born and raised in Wake County. On the weekends, she loves to watch sports.

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But in that labeling, the brain filters that tinnitus perception to their primary focus of attention. It is important that with treatment, we teach the brain to change that categorization of the tinnitus perception. How do we do that? Well, we have to eliminate the stress response.

Emotional Response

Because a patient's brain incorrectly labels the tinnitus as important or threatening, it can be truly a phobic response. This incorrect filtering by the brain activates the autonomic nervous system as well as our limbic system. The autonomic nervous system is where the fight-or-flight response is housed, and this definitely can elicit that response in patients. The limbic system is where our emotions are housed, and that is where a lot of these negative feelings can come from. Those areas are very closely related to the centers in the brain that are generating the tinnitus. Patients may not even realize it, but this response is often physiological. Their heart rate quickens, respiration quickens or they may start to perspire. This helps to illustrate the point that their reaction to tinnitus is not a conscious decision. They do not decide to feel this way about their tinnitus and get worked up about it. It is their body's and their brain's reaction to the sound.

There is a sense of loss of control. Nothing they do makes this any better. They do not have control over it, and that can be a pretty helpless feeling, especially when the tinnitus personality tends to be in control of things. Having the tinnitus control their life impacts them even more negatively than someone else. Guiilt is another big emotional response to tinnitus.

Treatment Considerations

Tinnitus patients can also suffer from hyperacusis which is is a health condition characterized by an over-sensitivity to certain frequency ranges of sound (a collapsed tolerance to usual environmental sound). A person with severe hyperacusis has difficulty tolerating everyday sounds, some of which may seem unpleasantly loud to that person but not to others. A critical piece of treatment when tinnitus is concurrent with hyperacusis is that you have to target the hyperacusis first with treatment, before the tinnitus can be effectively addressed.

Neuromonics Treatment

Neuromonics' treatment is about customized acoustic stimuli. Music is used as the carrier for the treatment, and the music is modified based on the patient's audiogram, including extended high frequencies. The Oasis device which looks like an iPod is an engineered treatment device and can provide a wide-frequency acoustic stimulus all the way out to 12,500Hz. This stimulation often eliminates the compensatory mechanism that the brain activates to the lack of input. As a result, the tinnitus becomes softer and the patients learns to shift the focus of the disturbing noises into the background.

Using the Oasis unit over an extended period helps to habituate and desensitize the system so that the tinnitus is no longer the focus of attention. If the emotional response can be removed, habituation will follow. One goal of the Neuromonics' treatment is rapid relief and a sense of control with improved relaxation and the ability to sleep. The Oasis device also provides improved tolerace to louds sounds.

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