

"For at least 50% of individuals with hearing impairment, the cause is a defective gene."

# Audible Notes

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Audible Difference was founded in 1991 to combine state-of-the art hearing assessment with the best technology available for each individual.

As an independent audiologist, Veronica H. Heide, M. S., CCC-A takes time with each client to discuss concerns and the range of possible solutions.

"I want to make a difference people can hear... an Audible Difference!"

For a personal consultation, call: (608) 273-3036

## Spring Seminar: May 1 & May 2!

Can damaged ears regenerate? What do we know about the genetics of deafness and the different types of sensorineural hearing loss? What causes ringing in the ear? How is this information used to treat tinnitus and hearing loss? What are the latest technologies in hearing instruments, and how can they help you?

If you or someone you know would like the answers to the above questions, plan on attending the annual Spring Seminar: Friday, May 1 Dinner Seminar at 6:30 p.m. **OR** Saturday, May 2 Breakfast Seminar at 10:00 a.m.

This is the perfect opportunity to help procrastinating friends and family take those first steps toward better hearing. It is a unique opportunity to get information in a relaxed and unpressured forum.

Call now to make your reservations. Space is limited.

## Digital Signal Processing Providing Smart Solutions for Hearing Needs

Have you ever wished for a nearly invisible hearing aid that sounded great and had advanced technology? Your wish may have been granted with the most recent digital computer chip technology. Widex has introduced the Senso all-digital completely-in-the-canal (CIC) model. It is hard to believe, but inside this tiny hearing aid is a computer chip performing 40 million calculations a second.

Digital signal processing means turning sound into numbers and back again. The Widex Senso has no analog amplifiers inside. The computer chip *is* the amplifier, tone control, loudness limiter, etc.

By using numbers to manipulate sound, digital

hearing instruments can do things that conventional and programmable hearing instruments cannot do. For example, the Widex Senso analyzes the incoming sound and automatically adapts the amplification to maximize speech and listening comfort. The Senso also monitors the microphone noise (a major source of background hiss in conventional hearing instruments) and automatically reduces it below the user's hearing threshold.



The Widex Senso is aptly named because it senses changes in the sound environment and adjusts to those changes quickly. The Senso is programmed for each individual's hearing loss and can be re-programmed over and over again if your

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**"Hair cells are delicate beasts. They seem to react to biochemical difficulties that other cells shrug off..."**

The Economist, January 31, 1998

## Genetic Factors in Hearing Loss

Bronya J. B. Keats, PhD, professor of Biometry and Genetics, Center for Molecular and Human Genetics at Louisiana State University Medical Center reports that for at least 50% of individuals with hearing impairment, the cause is a defective gene inherited from one or both parents. Even

when an environmental insult is known to have played a major role in a hearing loss, genetic susceptibility is still likely to be a relevant factor.

Researchers estimate that mutations in more than a hundred genes may trigger such a hearing loss. Geneticists offer diagnostic testing to

identify genetic hearing loss and can then counsel patients about the chances of passing on that trait.

So, when you are mapping out your family tree, don't forget to include medical history information, including hearing loss.

## Digital Hearing Instruments, cont.

*(Continued from page 1)*

hearing needs change.

The Widex Senso also senses when the hearing instrument is starting to feedback (whistle), and suppresses the feedback, so that Senso users can hold the telephone up to their ear without turning down the volume.

What about battery life? Widex engineers in

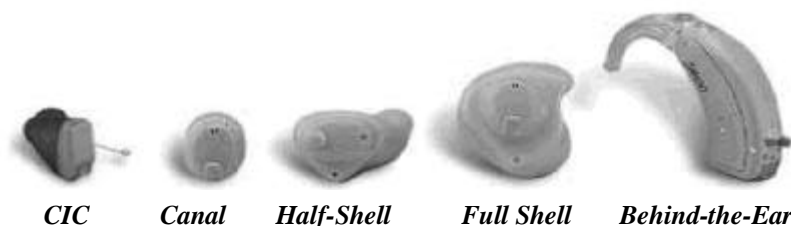
Denmark made sure that there were no compromises in battery life with improved performance. In order to conserve power, they avoided using a digital-to-analog converter and instead sent the digital code directly to the receiver (loudspeaker) of the Senso.

Micro-Tech, Oticon, Siemens, Philips, Maico, and others have also announced the release of

digital hearing aids. It seems that digital is the trend in sound processing in hearing aids.

What does the future hold? Directional microphones are being added to behind-the-ear and full shell models to improve performance in background noise. Learn more at the Spring Seminar or call Audible Difference for a personal consultation.

### WIDEX SENSO DIGITAL HEARING AID STYLES



## EAR Facts

- The average human ear contains around 16,000 outer hair cells and about 3,500 inner hair cells.
- The correct degree of stiffness is critical to outer hair cell function which is detecting vibrations.
- Sharks produce hair cells throughout their lives.
- Birds can regrow damaged outer hair cells.
- Researchers have postulated that disturbances in calcium metabolism increase susceptibility of the auditory and vestibular systems to malfunction.
- Decrease of calcium results in increase of outer hair cell diameter and a decrease of outer hair cell length.

## “Voice Carry Over (VCO) Telephones are like closed captions for the TV!”



Audible Difference provides a variety of telephone equipment including:

- Ameriphone VCO
- Walker Clarity
- WilliamSound Teletalker
- Amplified handsets
- Custom and non-custom telephone headsets
- Induction loops and direct audio input connectors to connect your hearing aids directly to the phone
- Counseling about options to help with the phone
- Guidance to other facilities and resources
- 30-day money back trial on phone equipment

Call today for your free consultation.



## New Telephone Helps

*“I can now make calls to anyone. I don’t have to wait for my wife to make important calls. I feel like a tremendous burden has been lifted from my ears”*

New models of telephones, called Voice Carry Over (VCO) Phones are available to help the hard of hearing. These new phones look and work just like a regular phone, but in addition to the usual phone features, the new phones allow you to READ what someone is saying to you on the phone. It is like closed captions for the telephone!

Here is how it works:  
The person you are calling hears your voice just as they always do. When they talk, you can **read** what they are saying. An operator, called a “calling assistant (CA) types what the caller is saying so you can read it.

This phone service is available in one line or two line models. The difference is that in a one line model, you cannot hear the voice of the person talking if you use the text feature because there is only one phone line on which to transmit information to you (voice or text). With 2-phone line VCO, you can both

hear and read what someone is saying to you.

These new phones also have built in volume controls for regular phone calls.

This phone qualifies for the Telephone Equipment Purchase Program which is governed by Wisconsin Administrative Codes s.160.07 and 160.071. This program is not based on income. You apply for a voucher and pay the first \$100 for a hearing assistance phone. The balance is paid with the voucher.

To find out if this or other phone equipment would

## An Ounce of Prevention: Earplugs

About 10 million Americans work at jobs that expose them to hazardous noise levels that damage their hearing. The delicate outer hair cells of the inner ear react like palm trees in gale-force winds; some are broken off and others are bent over and damaged. While the ear has some ability to recover, this ability is reduced with each subsequent exposure, and eventually the

damage becomes permanent.

Fortunately, this type of damage can be prevented or reduced with the use of hearing protection devices (HPDs) such as earmuffs, earplugs, or a combination of plugs + muffs.

How do you know if HPDs are required? If you have to shout to be heard, you need hearing protection. The Occupational Safety

and Health Administration (OSHA) has established guidelines based on duration and level of sound. For example, you could be in a level of 90 dB for 8 hours, but at 100 dB, you would only be safe for 2 hours. You can reduce the risk of damage by reducing the level and duration of exposure.

So whether you are mowing the yard, target

Audible Difference™

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# Audible Notes

## You are invited... Spring Seminar - May 1 or May 2

**Friday, May 1**

**6:30 p.m.**

**or**

**Saturday, May 2**

**10:00 a.m.**

**Sheraton Inn  
John Nolan Drive  
Madison, WI**

It's time to dust off your spring wardrobe and get ready to attend Audible Difference's annual Spring Seminar.

This year there is an evening dinner seminar on Friday, May 1 at 6:30 p.m. or a morning breakfast seminar Saturday, May 10th at 10:00 a.m. Come to learn the latest information about the ear and how we hear. Find out about new

technologies in hearing instruments including tiny completely-in-the-canal (CIC) instruments and digital hearing instruments.

This year's event promises to be filled with fun, learning, and door prizes galore. There are only a certain number of seats, so call Audible Difference (273-3036) today to reserve a place for you and a friend. Lead the way to better



*photo by Oticon*