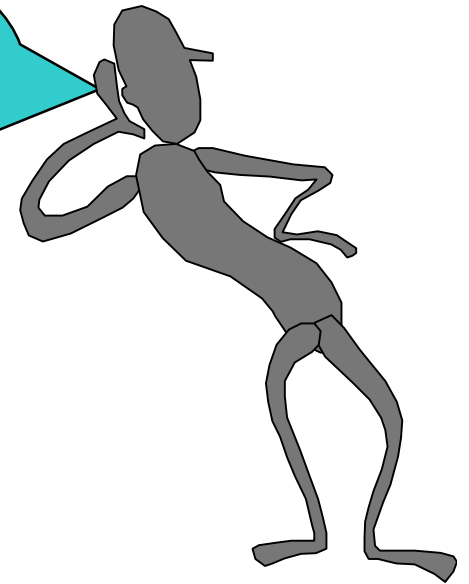


~ **Basic Understanding of Hearing Loss** ~
~ **Coping Techniques** ~
~ **Assistive Technology** ~

A WORKSHOP FOR ANYONE
INTERESTED
IN LEARNING MORE ABOUT
HEARING LOSS



Contributing pictures and text: Beth Wilson, Steve Barber, Mike Gravitz, Sam Trychin, Debra Myers, Jennie Bourgeois, Bob MacPherson from BH news list-serve, Ultratec, Advanced Bionics, HLAA and the N.C. Hearing Loss Org.

Deaf* vs. “Hard of Hearing”

INTRODUCTION

- Most hard of hearing people have residual hearing that is, or can be, augmented by technology such as hearing aids
- It must be noted that the Hard of Hearing communicate through the auditory process and the deaf* through a visual one.

While there are superficial similarities between these 2 groups, there are profound differences as well and to ignore them is a great injustice to hard of hearing people

* **deaf (small d) meaning complete lack of hearing and "Deaf" (capital D) “as a cultural identify” implying sign language as a primary language).**

Hearing Loss Prevalence



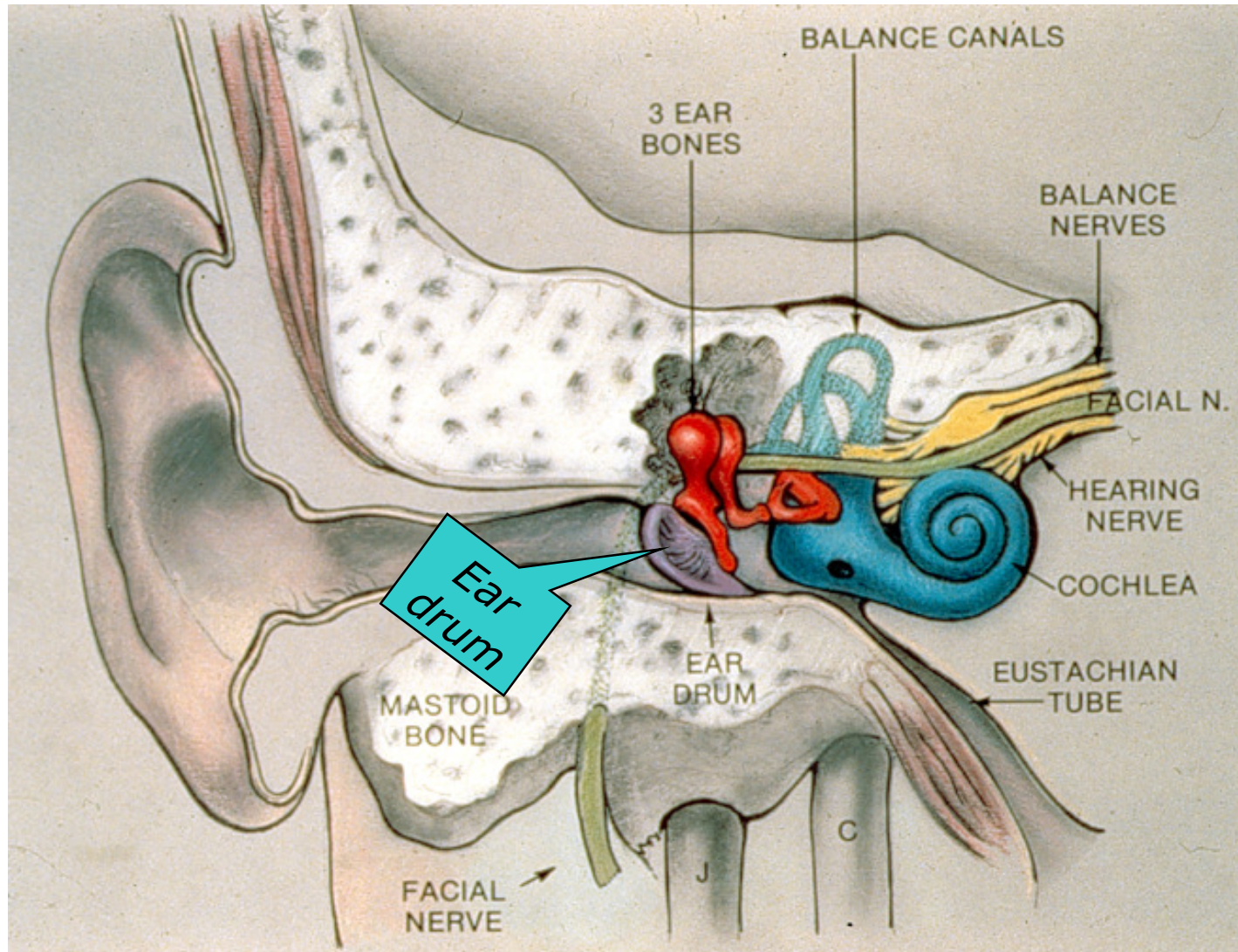
Hearing loss:

- Is one of the most prevalent chronic conditions in the United States, affecting more than nine million Americans over the age of 65 and 10 million Americans age 45 to 64.
- Approximately three out of five older Americans with hearing loss and six out of seven middle-aged Americans with hearing loss do not use hearing aids.



Only 1 in 5 use amplification

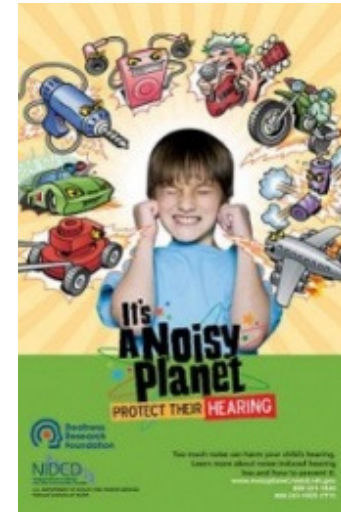
The Human Auditory System



Causes of Hearing Loss



Age related #1
Noise #2
Illness
Drug induced
Genetics -Heredity
Accident



“TREATING” HEARING LOSS

- Some types of hearing loss can be “cured”, others can only be remedied.
- The following 2 frames will deal with both kinds; one is called **SENSORINEURAL** the other called **CONDUCTIVE**



CONDUCTIVE



- Most conductive hearing loss, which occurs in the outer or middle ear, can be cured - either by medical treatment or through surgery. Conductive hearing loss is often temporary, e.g. when due to earwax. Stapes replacement surgery is an option in certain conditions.

SENSORINEURAL

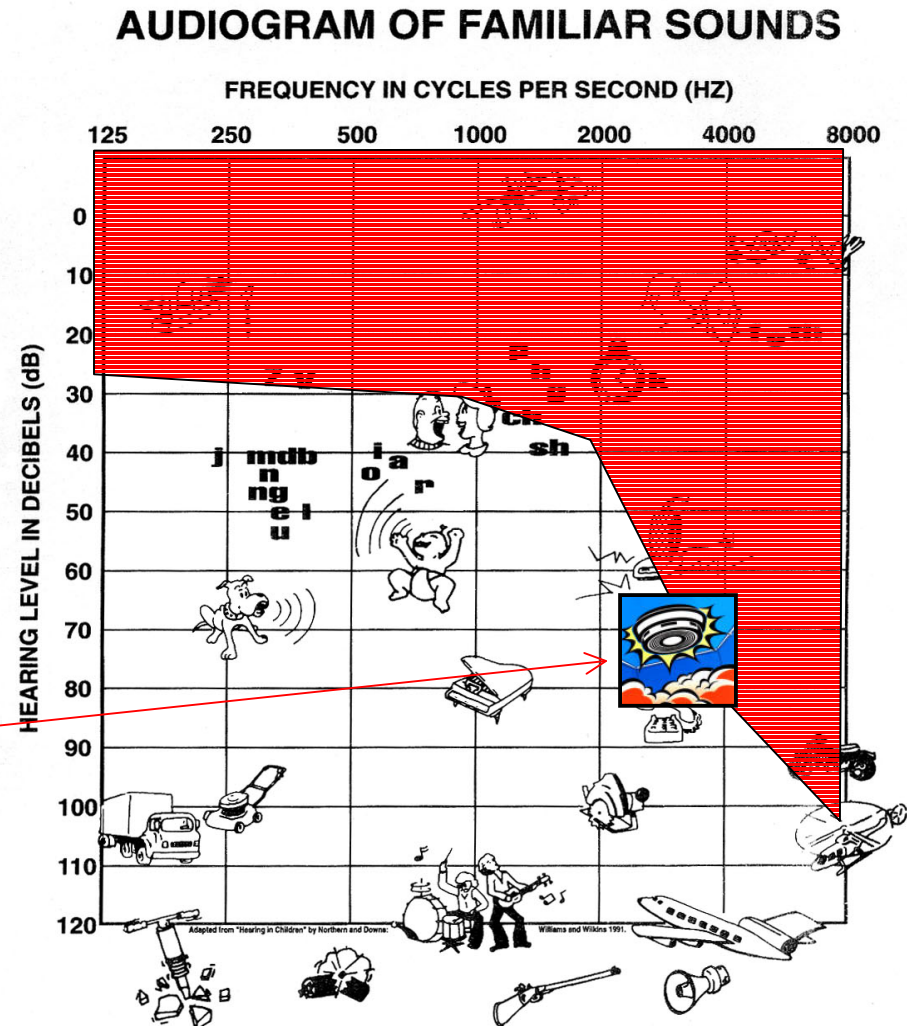


- Sensorineural hearing loss **cannot** be cured, but hearing aids or a cochlear implant can help. Sensorineural hearing loss is due to problems in the inner ear and is most often the result of damage to the tiny hair cells in the cochlea.

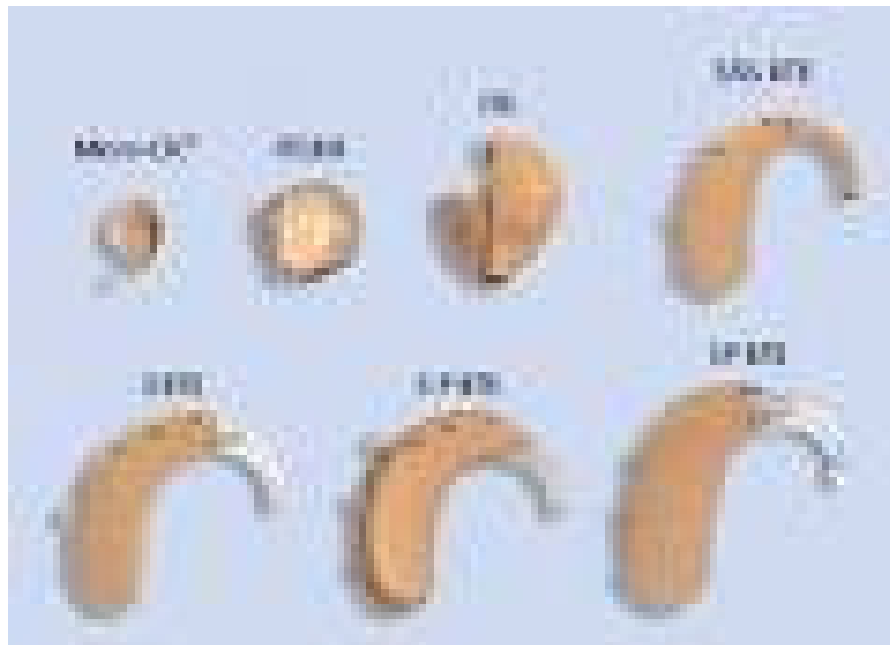
What sounds do we miss with aging?

- The red area reflects the sounds lost with age-related high frequency hearing loss (*Presbycusis*)

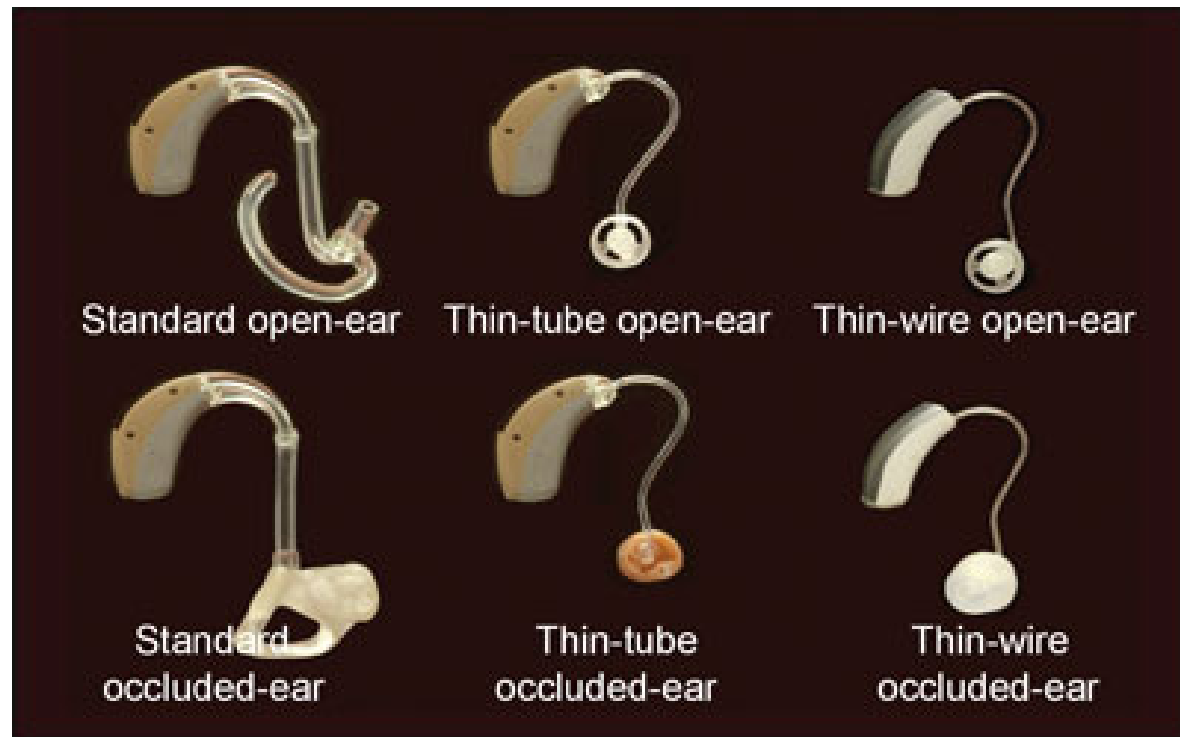
Commercial Smoke Alarms:
Barely audible to an 80 year
old and certainly will not wake
them!



HEARING AIDS COME IN MANY SIZES, COLORS AND SHAPES



6 new styles of BTE Hearing Aids





MAJOR HEARING AID FEATURES THAT HAVE BEEN DEVELOPED IN RECENT YEARS

- Directional microphone
- Compression amplification
- Feedback management
- Noise reduction circuits
- Multiple memories



TAKE CARE OF YOUR HEARING AIDS, SO THEY TAKE CARE OF YOU

1. Invest in a hearing aid dehumidifier
2. Clean away ear wax.
3. Clean the hearing aid's microphone screen
4. Replace BTE hearing aid tubing.
5. Before you go to sleep let a little air in.
6. Avoid extreme heat or cold.

LITERALLY DOZENS OF HEARING AID MANUFACTURERS



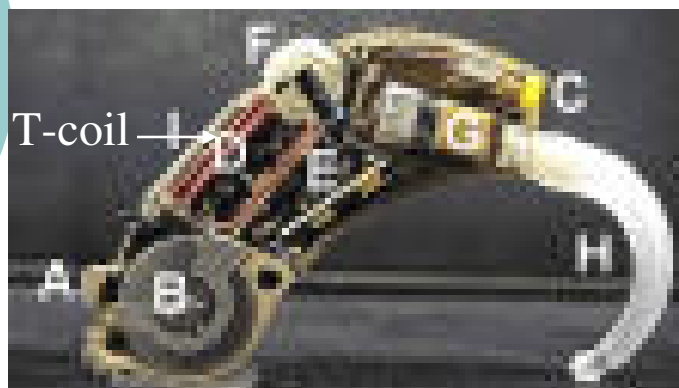
SOME NAMES YOU MAY RECOGNIZE:



Siemens
Phonak
Audina
Starkey
Beltone

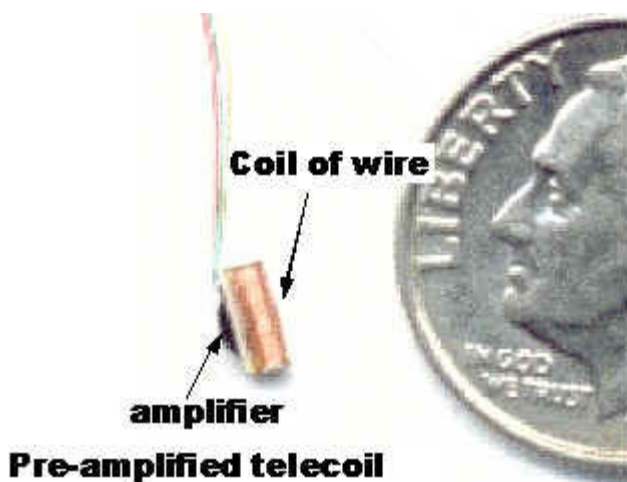
Oticon
Widex
Resound
Sonnovation
Bernafon

What is a Telecoil?



The telecoil (also called a T-coil or T-switch) is a circuit in your hearing aid designed to pick up a magnetic signal.

The magnetic signal is created by an induction field from hearing aid compatible telephones, neck loops, silhouettes, and loop systems.

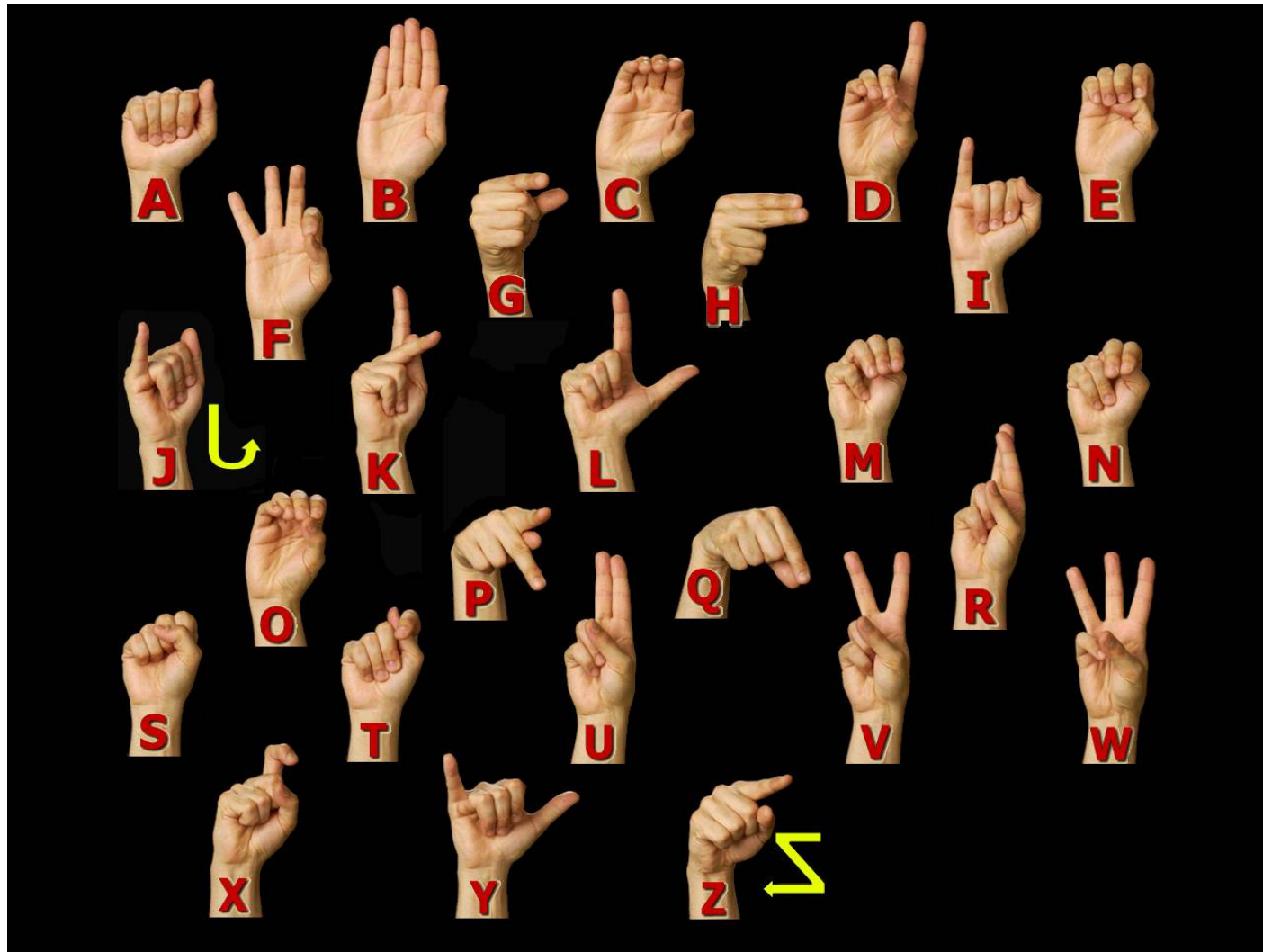


BEYOND HEARING AIDS

- Signing
- Lip (or Speech) Reading
- Use of Assistive Device
- Service Animals
- Cochlear Implant & BAHA

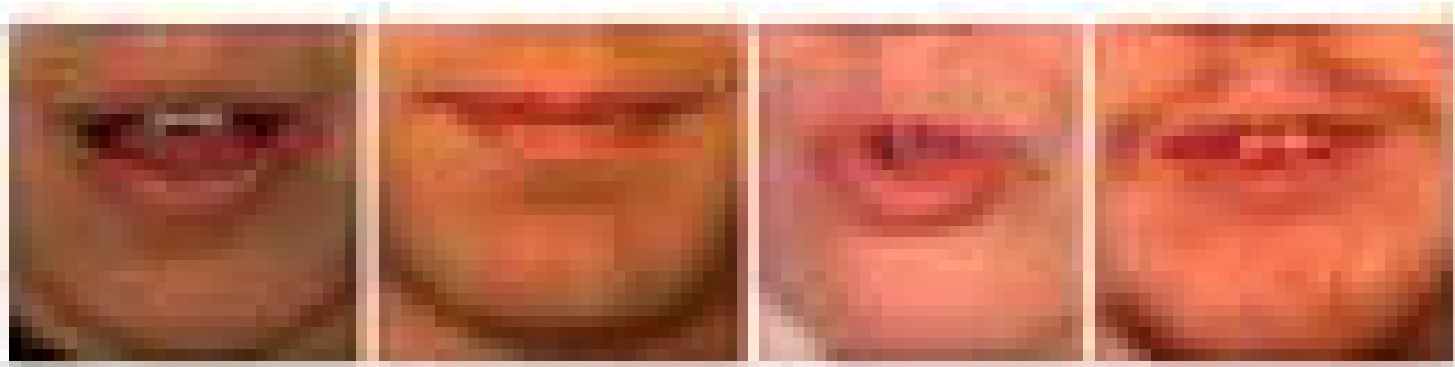


SIGNING THE ALPHABET



LIP READING

- Lip reading is now called Speech Reading.
- Accuracy is estimated to be 30-35%



SERVICE ANIMALS

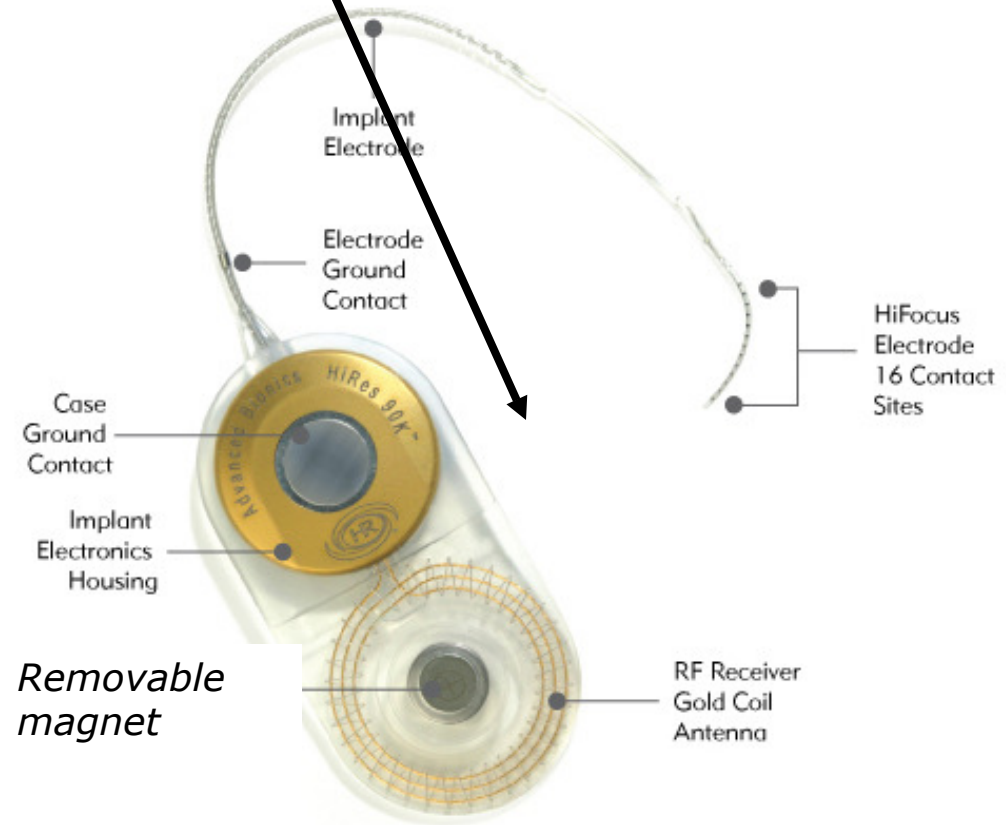
- **Service animals trained to assist people with a multitude of handicaps, including hearing loss**



COCHLEAR IMPLANT (External & Internal Devices)

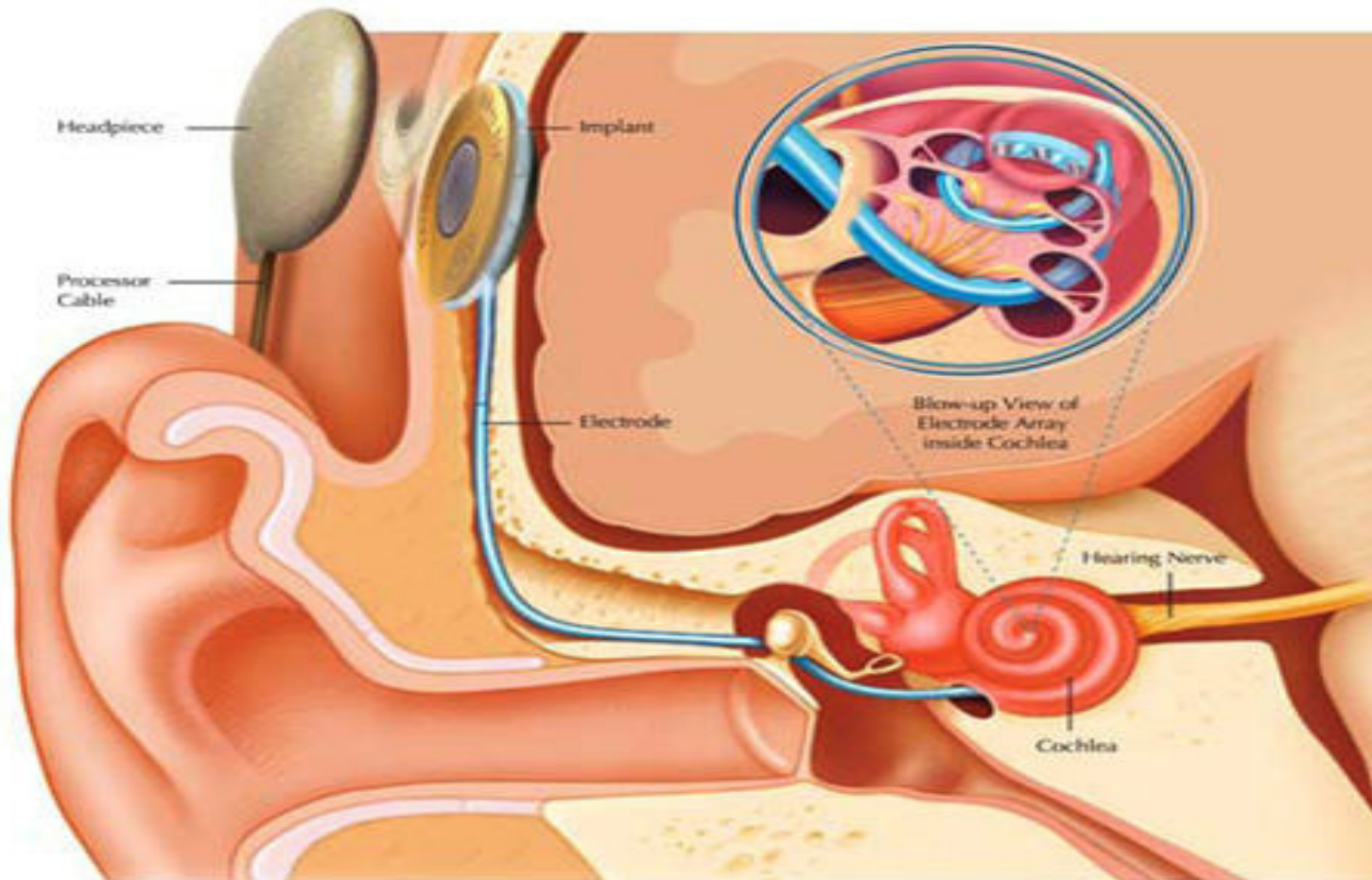


BTE Processor



Implanted Array

COCHLEAR IMPLANT



Advanced Bionics

Close up view of both external attachment and internal wiring

CAUTION: BUMPS IN THE “HEARING” ROAD AHEAD



MIS-HEAR
PROBLEMS



BLUFFING
Is it ok?

BLUFFING



There may be times when despite the best efforts of both parties to a conversation, the person with hearing loss just doesn't understand what is being said.

This will be more likely to happen when conditions are less than ideal.

It's happens to me often (haven't understood even after repeated requests); how about you-how do you handle this?

Planning Ahead

- Planning ahead is very important for people with hearing loss.
- For an example- lets go to McDonalds and practice on how to mentally prepare yourself for ordering your happy meal



?? HEARING LOSS QUIZ ??

THE PERCENTAGE OF ACCURACY FOR PEOPLE WHO LIP-READ IS BETWEEN 30-40% T/F

A HEARING AID MAKES SPEECH SOUNDS CLEAR AND UNDERSTANDABLE T/F

THERE ARE STATE LAWS PROHIBITING PEOPLE WHO ARE DEAF OR HARD OF HEARING FROM DRIVING T/F

PEOPLE WHO ARE DEAF READ BRAILLE; PEOPLE WITH HEARING LOSS KNOW SIGN T /F

A PERSON WITH HEARING LOSS EXPERIENCES FEWER COMMUNICATION DIFFICULTIES THEN A PERSON WHO IS DEAF T/F

A PERSON WITH A PROFOUND HEARING LOSS CAN STILL ENJOY MUSIC? T/F



DISCUSSING THE QUIZ ABOVE

- THE PERCENTAGE OF ACCURACY FOR PEOPLE WHO LIP-READ IS BETWEEN 30-40% T
- A HEARING AID MAKES SPEECH SOUNDS CLEAR AND UNDERSTANDABLE F
- THERE ARE STATE LAWS PROHIBITING PEOPLE WHO ARE DEAF OR HARD OF HEARING FROM DRIVING F
- PEOPLE WHO ARE DEAF READ BRAILLE; PEOPLE WITH HEARING LOSS KNOW SIGN F
- A PERSON WITH HEARING LOSS EXPERIENCES FEWER COMMUNICATION DIFFICULTIES THEN A PERSON WHO IS DEAF T or F (let's discuss)
- A PERSON WITH A PROFOUND HEARING LOSS CAN STILL ENJOY MUSIC? T or F (let's discuss)
- MOST DEAF CHILDREN ARE BORN TO HEARING FAMILIES T

COPING WITH HEARING LOSS

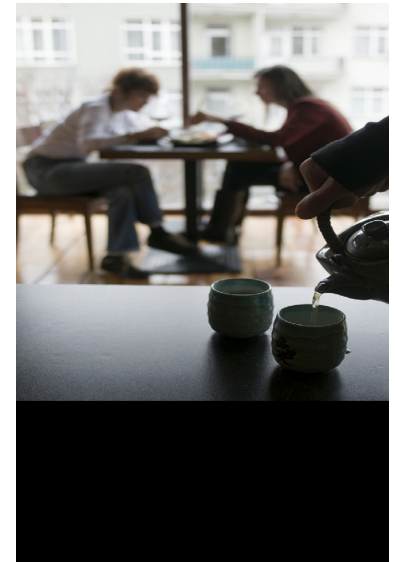
○ Hear we GO...

Some practical suggestions that might help you hear & understand better. Let's discuss



AT THE RESTAURANT

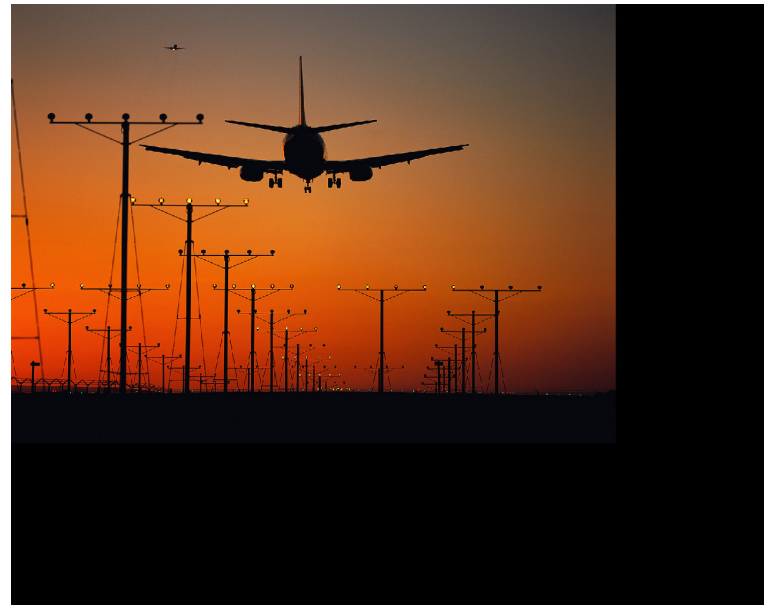
- Arrive early- beat the crowd (and the noise). Avoid kids and parties. Ask for TV to be turned down.
- Sit in “quiet corner”- back to wall. Lip-read where possible. Check lighting.
- Peruse menu beforehand; if waiter recites ‘specials of the day’ ask to read his/her sheet or repeat just to you
- Seating: Face inside; not out the window (glare ☹)



COPING @ THE AIRPORT

- ***"Flight 309 is Now Boarding at Gate 23"***
- **Would you hear this announcement?**

DISCUSSION: Tips for better hearing at the airport



COPING WHILE DRIVING

- **Use ALDs**
- **Defensive driving (mirrors)**
- **Talk to me when at Stop Sign or Traffic Light**
- **Turn off radio**
- **Keep a/c or heater on low / roll up windows if possible**



ANY SUGGESTIONS OR
INPUT ON HOW YOU
COPE WHEN YOU ARE
THE HARD OF HEARING
DRIVER?



More TIPS for HOH Drivers

HEAR A SIREN? But don't know where the emergency vehicle is?

WATCH FOR FLASHING REFLECTIONS, typically in the windows of the buildings on the opposite side of the intersection from me, or from any reflective surface in my line of sight.

WATCH THE TRAFFIC AROUND YOU – especially when the vehicle in front of me suddenly brakes, refuses to move when a light is green or pulls to the side for no apparent reason.

BE AWARE THAT EMERGENCY VEHICLES OFTEN TRAVEL IN PACKS. Thus, if a fire truck goes whizzing past, watch out for other fire trucks, police cars and ambulances.



COMMUNICATION TIPS FOR THE HEARING PERSON

- GET THEIR ATTENTION
- DON'T SHOUT
- MAKE THE SUBJECT CLEAR
- DON'T EXAGGERATE YOUR LIP MOVEMENT
- USE APPROPRIATE GESTURES / FACIAL EXPRESSIONS
- FACE THE PERSON YOU ARE TALKING TO
- CUT OUT BACKGROUND SOUND
- REPHRASE A WORD OF NECESSARY



Signs/ Decals/ Logo's for People with Hearing Loss



*T coil
compatible*



Closed Captioned



Open Captioned



Volume control phone



TTY



*Assistive Listening
System*



*Sign language
Interpretation*



TIPS FOR THE PERSON WITH HEARING LOSS (1)

- *Pick your best spot.*
- Choose a position that's quiet, and has good lighting. If you hear better in your left ear, consider that when choosing your position. Arrive at meetings early and sit where you can hear (and see) best. ***Anticipate your needs!!***
- Think ahead and plan for what is likely to follow. For example, you should certainly expect "Do you want fries with that?"



TIPS FOR THE PERSON WITH HEARING LOSS (2)

- *Pay attention.*
- Concentrate on the speaker ... Even people with normal hearing use visual cues of facial expressions, body language and lip movement to help them understand better. As a hard of hearing person, you must learn to use these as effectively as possible.

BEYOND HEARING AID

the next
step...

WHAT YOU SHOULD KNOW BEYOND getting HEARING AIDS

- Captions: TV, Movies. & Plays
 - Assistive Devices
 - Humor
 - Support Groups
- Using the Internet

Television



- **Closed Captioning**
 - **All TVs since early 1990s have built-in decoder**
 - **Most current TV programming has CC available**
 - **Look for closed-captioning on VHS/DVD movies**

**Looking for a captioned movie?
Check out www.fomdi.com**

A DISCUSSION OF ASSISTIVE DEVICES

- A discussion of devices and instruments to supplement the use of hearing aids.

THESE ARE CALLED ALDs –short for ASSISTIVE LISTENING DEVICES



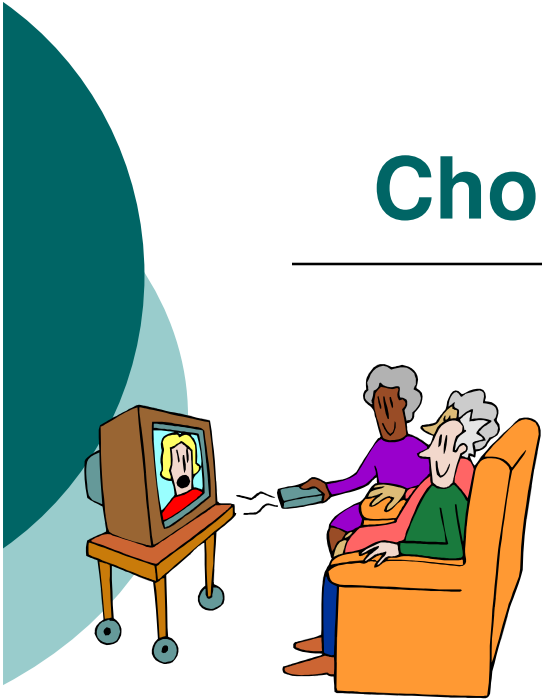
Why Use Assistive Listening Devices?

- ***Hearing aids alone do not work well in these situations: ALDs help!***

- Listening to someone at a distance
- Listening in a noisy environment
- Listening in a room with reverberation (echoing)



Watching TV: Choice of Infra red or FM systems



- IR Uses infrared light to transmit the TV signal.
- FM sends out a FM radio signal
- Both types of transmitters connects to your TV. Use the receiver to hear the TV sound directly in your ears.
- (Rooms may be looped with wire, connected to an amplifier and T Coil activated)

Alarm Clocks

- **Portable Clock**

- **Looks like a travel alarm**
- **Vibrates and/or sounds alarm**



- **Clock System**

- **Adjust loudness and frequency**
- **Connect to lamp**
- **Connect to bed shaker**



Range: \$25-75

Doorbell

- **Doorbell Signalers Connected to Lamp**
 - **Wireless – lamp plugs into receiver**
 - **Simple wiring**
- **Knock Sensor**
 - **Self-contained**
 - **Mounted on door with flashing light**
- **Flashing Light/Chime Pager**
 - **Use transmitter and receiver**
 - **Flashing light and/or chime**



Range: \$50-100

Lifetone HL Bedside Fire Alarm and Clock with Lifetone Bed Shaker

LIFETONE HL
FIRE ALARM
AND
BEDSHAKER



Lifetone HL™ Bedside
Fire Alarm and Clock
with Lifetone Bed Shaker.

WILL YOU WAKE UP DURING A FIRE?

Children, older adults and people with hearing loss can sleep through traditional smoke alarms. Lifetone gives you extra bedside protection.

PROTECT YOURSELF

The Lifetone HL™ Bedside Fire Alarm and Clock's 520 Hz square-wave sound pattern is proven to wake significantly more sleepers — including older adults, people with hearing loss and children.



Telephones “Booster” Accessories and Communication Aids

- Amplification for Phones
 - Amplifier/Booster connected to phone
 - Phone with built-in amplification
 - HATIS attachment for T-coil use
- Caller ID
- Phone Ringer
 - Loud/remote ringer
 - Connected to alerting system/lamp
- Interactive Email/Internet Pagers



Range: \$25-300



CapTel 200 ~ A Captioning Telephone

- Calls are made in a natural manner, simply dial the telephone number directly for the person you are calling
- Users enjoy natural telephone conversations, and can check the captions for added clarity
- Everyone can use the CapTel phone; simply turn off the captions feature to use it as a traditional telephone
- Captions appear nearly simultaneously with the spoken words
- The CapTel phone includes an amplified handset and tone control for clarity

CAPTEL INFORMATION (CONTINUED)

Who benefits from the CapTel phone?

- Anyone with some degree of hearing loss, who finds it difficult to understand telephone conversations
- People using hearing aids or assistive listening devices
- People who are deaf or hard of hearing **and** be able to voice for themselves



2 line CapTel means that ALL calls CAN be Captioned (not just outgoing). One of these lines MAY be Digital (Vonage)

Miscellaneous Notes on CapTel

- For ONE line CapTel- your phone-line must be analog,
- ALL outgoing calls MAY be captioned (your choice), incoming callers need to contact the Relay Service first-*unless have 2 line CapTel*
- The cost to have a CapTel is \$0.00 (it is supplied to you as a LONG term loan). It is also free to use (CT residents) for local calls, (usual long distance rates will apply)



WebCapTel

WebCapTel is a web-based service.

NEEDED

- Computer with DSL or high speed internet connection.
- A regular telephone (cell, landline, portable etc). Analog OR Digital phone-line may be used
- Able to voice for oneself
- Connects to your computer's router or modem

There is NO charge to make WebCapTel calls made within the US

Sign up at www.sprintcaptel.com



Use any kind of telephone

CAPTEL 800i



- Basic Cost is \$99.00
- Newest addition to the CapTel family
- A good alternative for people who have high-speed Internet access and use most any kind of phone service (Note: PBX is not compatible)
- There is no charge for local OR long distance calls (US based)
- Outgoing and INCOMING calls can be captioned (unlike single line CapTel 200)

Brochures and Catalogs

- **We have lots of informative literature for you to take home courtesy of various hearing aid companies, ALD distributors, Support groups (HLAA), NIDCD and other organizations dealing with hearing loss issues**



More True or False Questions??

- Over time your ears can adjust to regular exposure to excessive noise and not suffer any hearing loss T/F
- Putting cotton or tissue in the ear is a good technique for shutting out noises T/F
- Most age-related hearing loss can be reversed by a hearing specialist T/F
- The brain plays a large role in what person hears T/F
- Sounds louder than 80 decibels are potentially harmful T/F
- In many cases, family and friends are the first to become aware of an individual's hearing loss T/F
- Noise pollutions affects only a person's hearing mechanism T/F
- Tinnitus (ringing in the ears) often accompanies hearing loss T/F
- The timing of detecting hearing loss in children is critical T/F
- It's important to wear a new hearing aid 12hr/day at first T/F



DISCUSSION OF PREVIOUS QUIZ

- Over time your ears can adjust to regular exposure to excessive noise and not suffer any hearing loss F
- Putting cotton or tissue in the ear is a good technique for shutting out noises F
- Most age-related hearing loss can be reversed by hearing specialist F
- The brain plays a large role in what person hears T
- Sounds louder than 80 decibels are potentially harmful T
- In many cases, family & friends are the first to become aware of an individual's hearing loss T
- Noise pollutions affects only a person's hearing mechanism F
- Tinnitus (ringing in the ears) often accompanies hearing loss T
- The timing of detecting hearing loss in children is critical T
- It's important to wear a new hearing aid 12hr/day at first F

QUESTIONS?

We're all ears!



Thank you
for having
us visit
with you
today