

A Primer on Living With Hearing Loss

Stephen O. Frazier, Hearing Loss Support Specialist



If you are hard of hearing,



**YOU
ARE
NOT
ALONE**





HEARING LOSS STATISTICS

- There are 48 million Americans with measurable hearing loss.
- Only 1 out of 5 people who could benefit from wearing hearing aids actually wears them.

Hearing loss affects all age groups

- 65% of people with hearing loss are under age 65.
- 15% of school age children have a measurable hearing loss.

SOURCE: Better Hearing Institute



What are the causes of hearing loss ?

Cause of Hearing Loss	Percent Due to Cause
At birth	4.4%
Ear infection	12.2%
Ear injury.....	4.9%
Loud brief noise	10.3%
Other noise	23.4%
Getting older.....	28.0%
Other.....	16.8%

Source: Ntnl. Center for health statistics, data from the National Health Interview Survey Series 10, Number 188, Table



The three types of hearing loss

Conductive hearing loss

Sensorineural hearing loss

Mixed hearing loss



Sensorineural Hearing Loss

Sensorineural hearing loss occurs when the inner ear or the nerve pathways from the inner ear to the brain are damaged. Most of the time, SNHL cannot be medically or surgically corrected. This is the most common type of permanent hearing loss.

SNHL reduces the ability to hear faint sounds. Even when speech is loud enough to hear, it may still not be intelligible.



Some possible causes:

- ✓ Illnesses
- ✓ Drugs that are toxic to hearing
- ✓ Hearing loss that runs in the family (genetic or hereditary)
- ✓ Aging
- ✓ Head trauma
- ✓ Malformation of the inner ear
- ✓ Exposure to loud noise



Conductive hearing loss

Where sound is not conducted efficiently through the outer ear canal to the eardrum and on to the middle ear.

Conductive hearing loss usually involves a reduction in sound level or the ability to hear faint sounds. This type of hearing loss can often be corrected medically or surgically.



Some possible causes:

- ✓ Fluid in the middle ear from a cold
- ✓ Ear infection (otitis media)
- ✓ Allergies (serous otitis media)
- ✓ Poor eustachian tube function
- ✓ Perforated eardrum
- ✓ Benign tumors
- ✓ Impacted earwax (cerumen)
- ✓ Infection in the ear canal (external otitis)
- ✓ Infection in the outer ear canal - Swimmer's Ear (otitis externa)
- ✓ Presence of a foreign body
- ✓ Absence or malformation of the outer ear, ear canal or middle ear



Mixed hearing loss

Conductive hearing loss in combination with a sensorineural hearing loss (SNHL).

Damage in the outer or middle ear and inner ear (cochlea) or auditory nerve.



Here's one solution

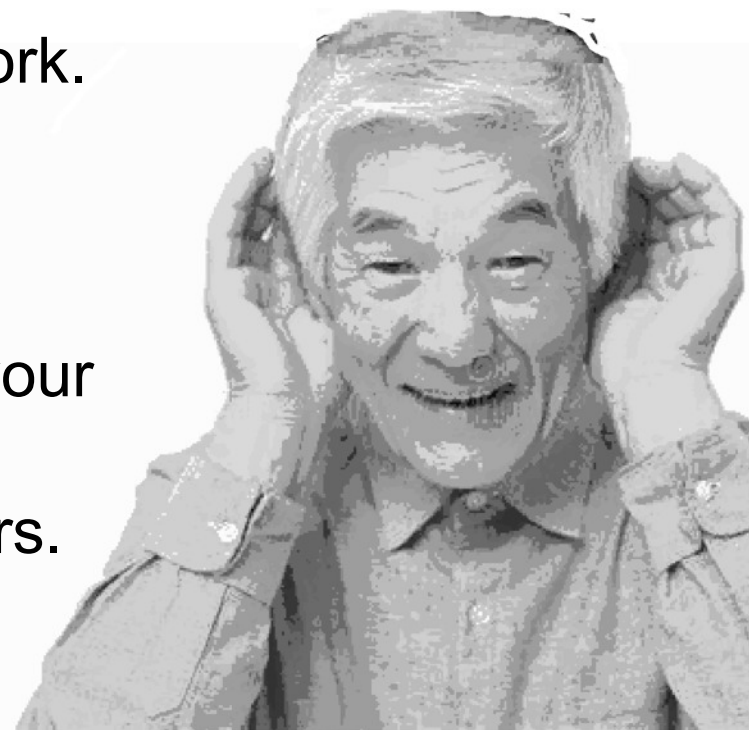
Soon to be available and they really does work.

OR

you can just cup your

hands behind your behind your ears.

but... there are better solutions.



A better solution is
hearing aids



or,
if the hearing loss is severe,
a cochlear or anchored implant



Some benefits of wearing hearing aids:

- ✓ Hear much better in 1 on 1 conversations or in small groups.
- ✓ Hear the phone ringing and hear better on the phone.
- ✓ Hear the door bell or a knock on the door
- ✓ Have a better relationship with your family
- ✓ Feel better about yourself
- ✓ Improve your mental health
- ✓ Improve your ability to concentrate and remember
- ✓ Feel more independent and secure
- ✓ Feel less tired or exhausted
- ✓ Be more able to participate in social gatherings
- ✓ Be able to increase your social contacts



What's a cochlear implant?

An implanted electronic device that produces useful hearing sensations to a person with severe to profound nerve deafness by electrically stimulating nerves inside the inner ear.

- The externally worn microphone, sound processor and transmitter system.
- The implanted receiver and electrode system, which contains the electronic circuits that receive signals from the external system and send electrical currents to the inner ear.

A magnet that holds the external system in place next against the implanted internal system. The processor can be worn entirely behind the ear or be worn in a pocket, belt pouch, or harness.

You're never too young or too old... for a cochlear implant



Hearing aids and cochlear implants
are simply that,
an AID.



Unlike eyeglasses, they
cannot restore hearing to

Hearing aids are most effective in 1 on 1 settings



Good directional mics have an effective hearing range of six feet or less

(Etymotic Research, 2000a)

Beyond hearing aids – laugh at yourself



Or

“Not Very Far”



Communication Strategies

Hearing loss impacts not just the person who is hard of hearing, it's a problem for those who interact with with them.

Both should try to use these strategies whenever possible.

First and Foremost

Get my attention before your talk to me and don't try to talk to me from another room



Face me and maintain eye contact

Face the person with hearing loss. Make eye contact. Your facial expressions and body language add vital information to the communication. For example, you can “see” a person’s anger, frustration, and excitement by watching the expression on his or her face.


Keep hands away from face

When talking, try to keep your hands away from your face.

If you are a smoker, hold the cigarette in your hands while talking. You will produce clearer speech and allow the listener to make use of those visual cues.




Avoid covering or changing the shape of your lips and mouth

- Many HoH read lips (sometimes without realizing it).
 - Avoid overdoing or creating odd lip shapes
 - Do not talk with food in your mouth or chew gum.
 - heavy beards and moustaches can also hide your mouth.
- 



Speak naturally

- Speak distinctly, but without exaggeration.
 - You do not need to shout. Shouting actually distorts the words.
 - Try not to mumble - this is very hard even for those with normal hearing to understand,
 - Speak at a normal rate, not too fast or too slow.
 - Use pauses rather than slow speech to give the person time to process speech (more processing later).
- 




Rephrase rather than repeat

If the listener has difficulty understanding something you said, find a different way of saying it. If he or she did not understand the words the first time, it's likely he or she will not understand them a second time. So, try to rephrase it.



Avoid or eliminate background noise

- Turn off the radio or television.
 - Move to a quiet space away from the noise source.
 - When going to a restaurant or making dinner reservations, ask for a table away from the kitchen, server stations, or large parties.
 - Look for and sit away from muzak speakers.
 - Ask that the music be turned down.
- 



Talk away from background noise

If the conversation is critical, move to a quieter setting/room to talk.

For those with “normal” hearing, speech must be 12 decibels louder than the background noise to hear and understand what’s being said to them.

For the hard of hearing it may need to be 25 decibels louder.

An increase of 10 decibels is perceived as being twice as loud.

25 decibels would seem like more than 4 times as loud.



Look for good lighting


When in a restaurant or other social gathering, sit where there is good lighting so that your face can be more easily seen. Also, avoid strong lighting coming from behind you, such as through a window.

Writing, texting, using visual media (such as pictures, diagrams and charts) and assistive devices can be effective when hearing is just too difficult.





Speech processing

- Recognize that hard of hearing people hear and understand less when they are tired or ill.
 - As we age, the brain's ability to process sounds into speech slows down, avoid talking too fast.
- 




Coping Strategies–Behavior

Used both by the hard of hearing and those who interact with them

- Get my attention before your talk to me.
- Face me when talking to me.
- If you cover your lips I can't see them.
- Make certain the lighting is good with no glare facing me so I can see your face.



Coping Strategies-Behavior

- Keep so called “background” music in the background or, better yet, turned off.
 - To talk to me, please turn of the TV.
 - Avoid cross talk.
 - Talk to me in the same room.
 - If we're going out to lunch and you're picking the place – pick a quiet one.
- 



Assistive Technology

Amplified telephones

Captioned telephones

Personal amplifiers

Personal FM

Hearing loops

Neck Loops

Bluetooth

More.....

Amplified telephones

Must have volume control

Should have speaker (headset) jack..

Good to also have a tone control



Must be hearing aid compatible - HAC
(T and M ratings or 3 or more)



Captioned telephones



FREE

CaptionCall phone

Free from CaptionCall

www.captioncall.com





Personal Amplifiers

Often referred to as a
“Pocket Talker.”

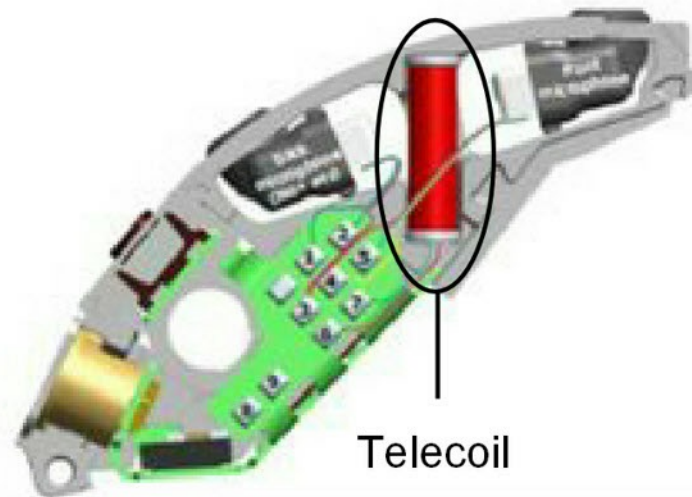


Eliminates background sounds
while amplifying the speaker’s
voice and sends it through a
headset or magnetic
transmission to the
telecoils in hearing
aids.

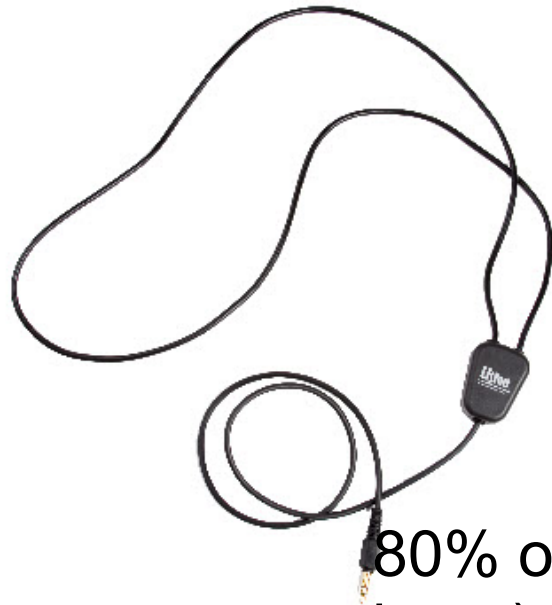


What's a Telecoil ?

Think of it as an antenna that receives a magnetic signal that the hearing aid turns into sound.



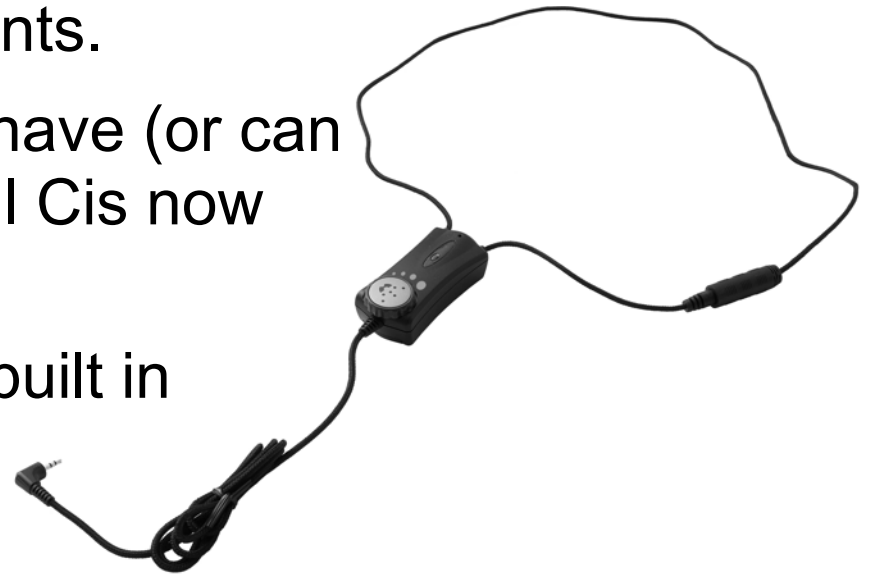
Neck Loops



Transmit sound from any device with a speaker/headset jack via a magnetic signal to telecoil equipped hearing aids or cochlear implants.

80% of hearing aids have (or can have) telecoils and all Cis now have them.

Some have mic and built in amplifier.



Personal FM



Miniature radio transmitter and receiver used with headset, ear buds or neck loop.

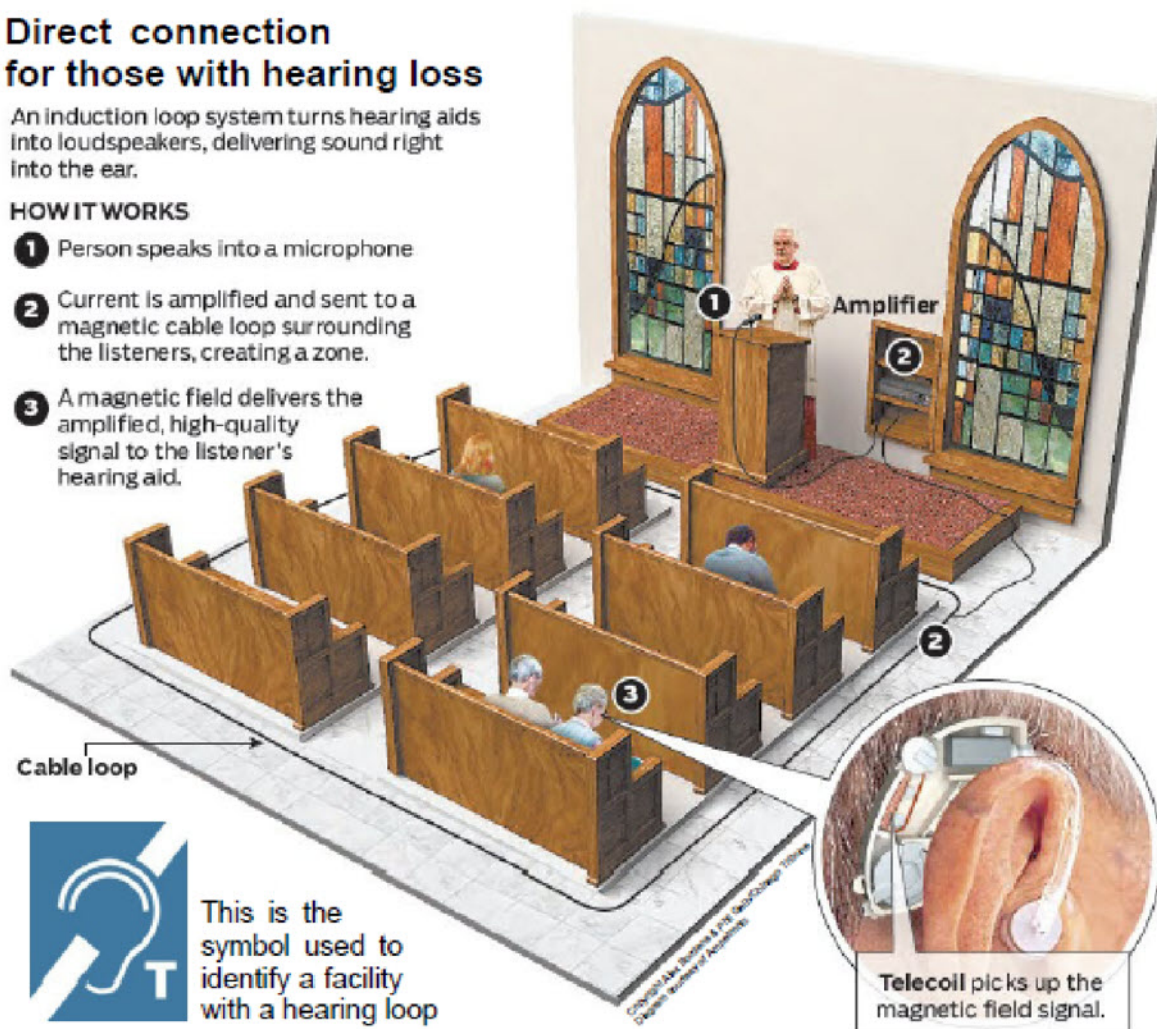
Hearing loops

Direct connection for those with hearing loss

An induction loop system turns hearing aids into loudspeakers, delivering sound right into the ear.

HOW IT WORKS

- 1 Person speaks into a microphone
- 2 Current is amplified and sent to a magnetic cable loop surrounding the listeners, creating a zone.
- 3 A magnetic field delivers the amplified, high-quality signal to the listener's hearing aid.



This is the symbol used to identify a facility with a hearing loop

For help with
communication
problems,
GET SMART!



Other Useful Smart Phone Apps

Personal sound amplifier

Background noise reducer

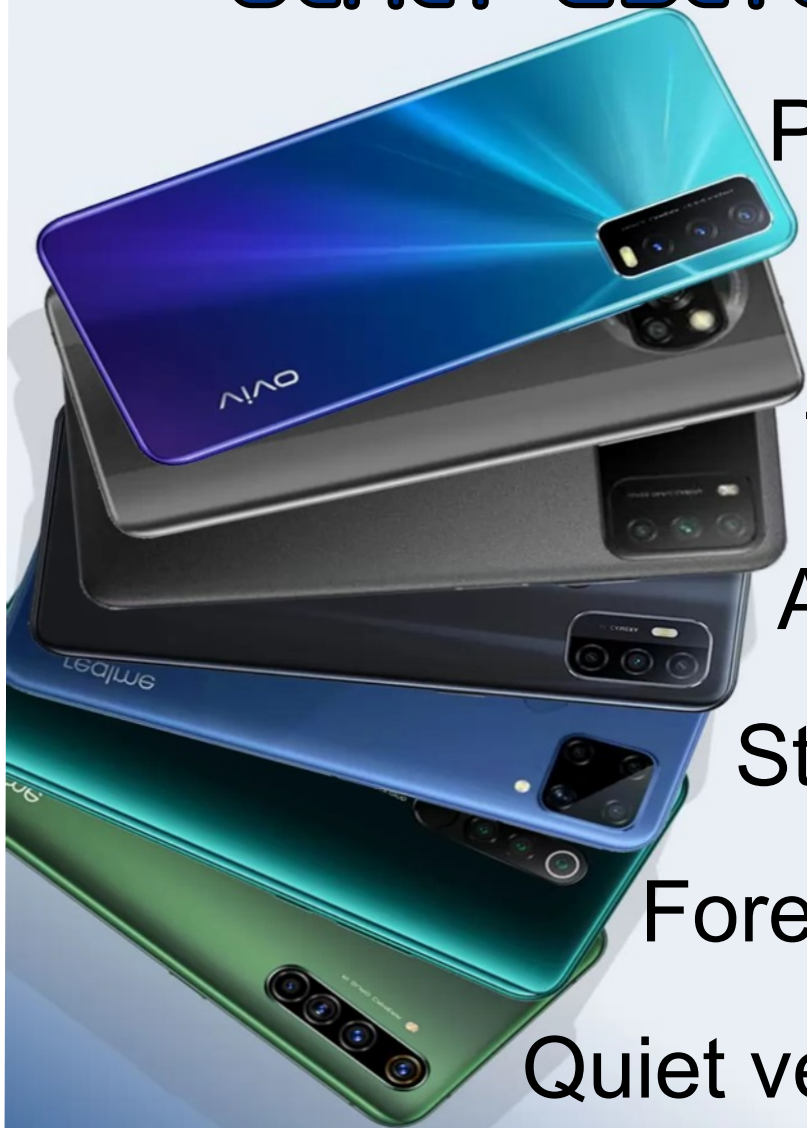
TV watching

Alerting

Streaming

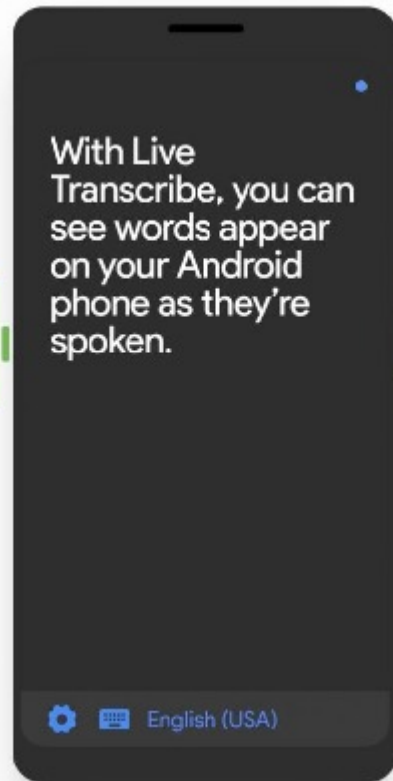
Foreign language translator

Quiet venues/restaurants





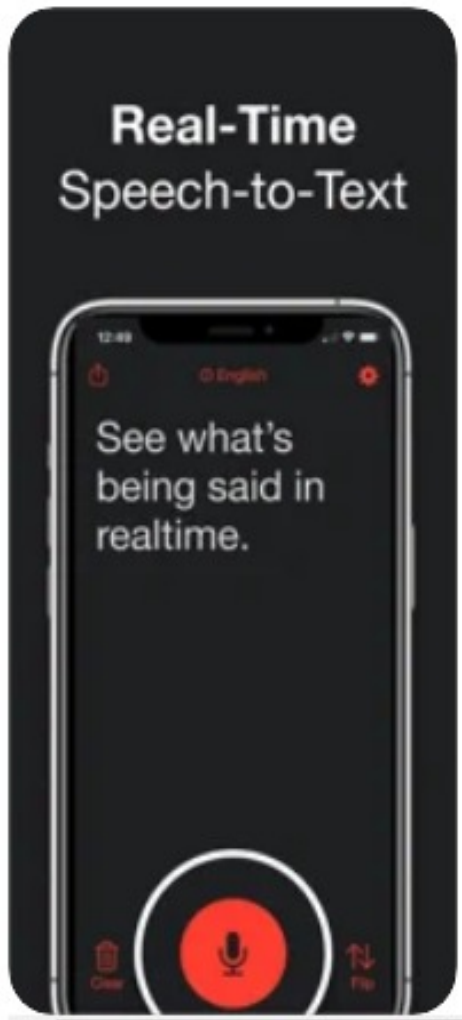
Most Used App – Live Transcribe



- Transcribes in real time. Text appears on your phone as words are spoken.
- Accurately captures the nuances of how words are used in context.
- Choose from over 80 languages and dialects, and quickly switch between two languages.
- Add custom words that you use frequently names or places
- Set your phone to vibrate when someone says your name.
- See the volume of the speaker's voice compared to the loudness in your environment.
- Use external microphones for better audio reception.
- Set your phone to vibrate when someone says your name.
- Choose to save transcriptions for three days so that you can copy and paste them elsewhere. (By default, transcriptions are not saved.)
- Search within saved transcriptions.
- Touch and hold text in transcription to copy and paste.



Most Used App - Speech to Text



Live Transcribe - Android - 3.7 - FREE : transcribes spoken audio into text and also reports many of the background sounds you hear and how loud they are in relation to the speech it is transcribing.

Live Transcribe - iPhone - 4.6 - Free but fee for monthly use: Transcribes spoken audio into text. Save transcripts to any note taking app on your phone and also send transcripts through any message app on your phone

YouMail - Android or iPhone - 4.4 - FREE/Adds: best known as an option for blocking robocalls, it can also block any phone number with your own personal blacklist. Save calls and voicemail forever in custom folders to stay organize and it also offers a voicemail to text feature that is cloud-based.



PERSONAL SOUND AMPLIFICATION APP

Use Bluetooth[®], a neckloop or earbuds and turn your smartphone into a “pocket talker” to amplify sounds you want to hear around you. Try Apple’s **EarMachine** or Google’s **Sound Amplifier**. In addition to volume control, both have a fine-tuning feature that lets the user control which frequencies get boosted, a little or a lot.



- If using a neckloop, if it has an “L” shaped jack it may not make a connection if the phone is in a case.
- Best to get an amplified neckloop.

EAR SCOUT

Super Hearing



Android - 4.4 - Free

Pair your phone with Bluetooth HAs or plug in a neckloop or ear buds.

- Click on the center button and you can hear what your phone's microphone is picking up.
- It's also possible to set up a noise-trigger for audio recordings and have them sent to your email.
- Whether you want to monitor your environment, hear the TV and conversations better or just listen to birds singing, this app works.

EQUALIZER and VOLUME CONTROL



To avoid feedback, connect earphones, neckloop or Bluetooth hearing aids first:

SAFETY FEATURE. After starting the app the volume increases gently to the set level. This way you have time to adjust to high gain settings from the previous sessions.

Ear Scout amplifies sound coming through your phone's microphone straight to your earphones or neckloop (direct mic-to-headphones audio routing). To fine-tune the incoming signal, use the audio equalizer.

Nearby sound VERY loud when focusing on distant sounds.



EarMachine - iPhone - 3.3 - Free

Useful in situations ranging from talking in noisy restaurants to watching television at home.

Contains a recommendation engine called EarShare that will listen to the sounds around you and use that information to recommend wheel positions.

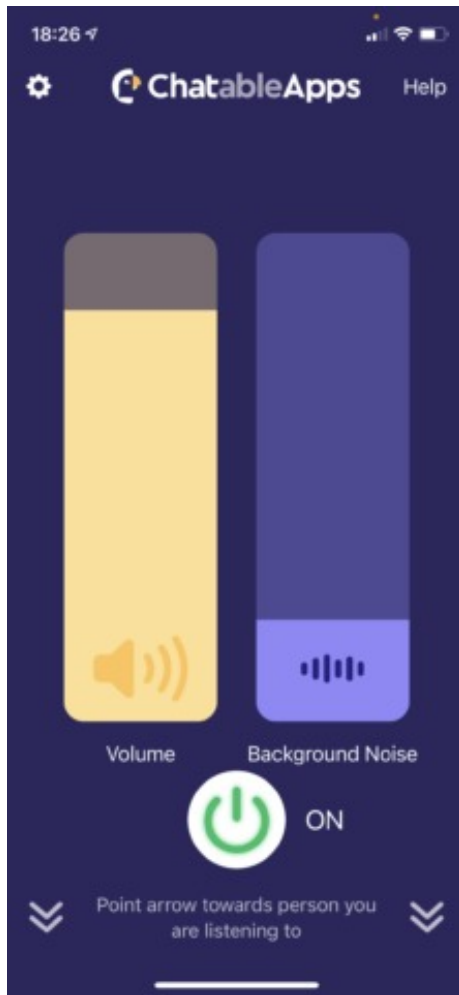
The signal processing is similar to that used in hearing aids. A wide-dynamic range multiband compressor ensures that quiet sounds are amplified, while protecting you from loud sounds. Other technology provides further loud sounds protection and ensures that steady sounds like a refrigerator hum is removed.



BACKGROUND NOISE ERASER

Chatable - iPhone, 4.7 - Android, 3.1
Free trial

Using earbuds or a neckloop and the telecoil (T-coil) setting on hearing aids, **Chatable** can erase most of the background sound. It identifies the voice of the person speaking and creates a new audio signal that sounds almost identical to the original while it removes the background sounds.





AmiHear - Android - 3.8 - Free



“A perfect app for hearing impaired people who do not want to use prescription hearing aids!”

AmiHear turns your headphones into hearing aids and provides unlimited recording that hearing aids can not provide. Using your phone's microphone to pick up sound, AmiHear can denoise, amplify and record sound around you simultaneously.

“Worry about social distance? No Problem. By using Bluetooth headphones with AmiHear, you can hear clearly even 30ft (10M) away from speaker.”

Patented Noise Suppression Algorithm- eliminates background noise, increases speech intelligibility.



iPhone - 4.5

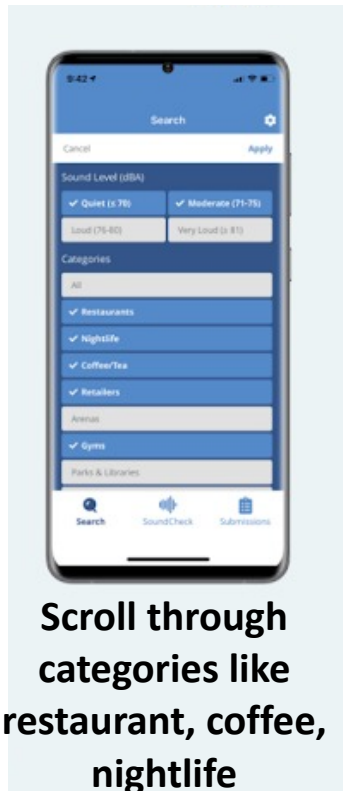
Android - 2.4

Quiet Venues APP

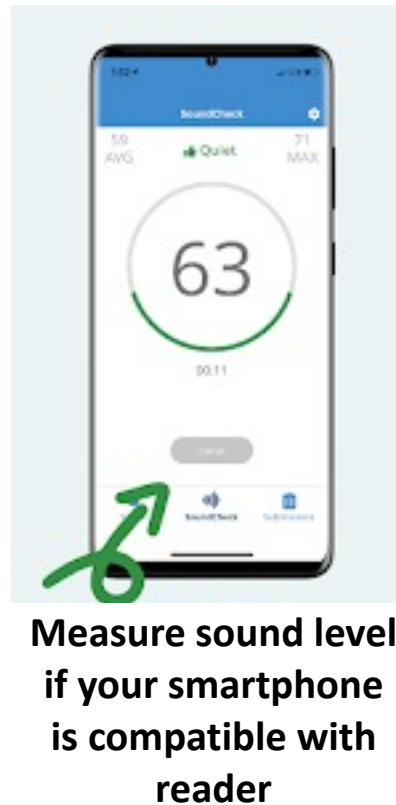
SoundPrint is a **free** app available at Google Play and the App Store. It gives users access to the largest and only public database of sound levels taken at 100K+ venues worldwide. Easy to use, the app is a valuable tool to find quiet a restaurant, bar or cafe wherever you are area based on sound level. It also allows you to rate and review places based on their service and the sound levels you experienced.



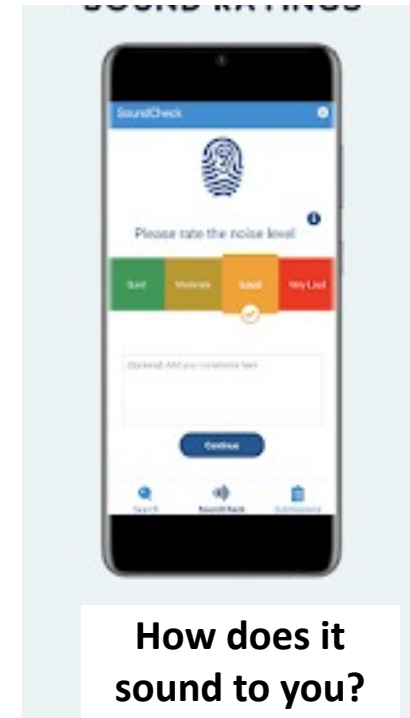
CHOOSE VENUE PARAMETERS



MEASURE SOUND LEVEL

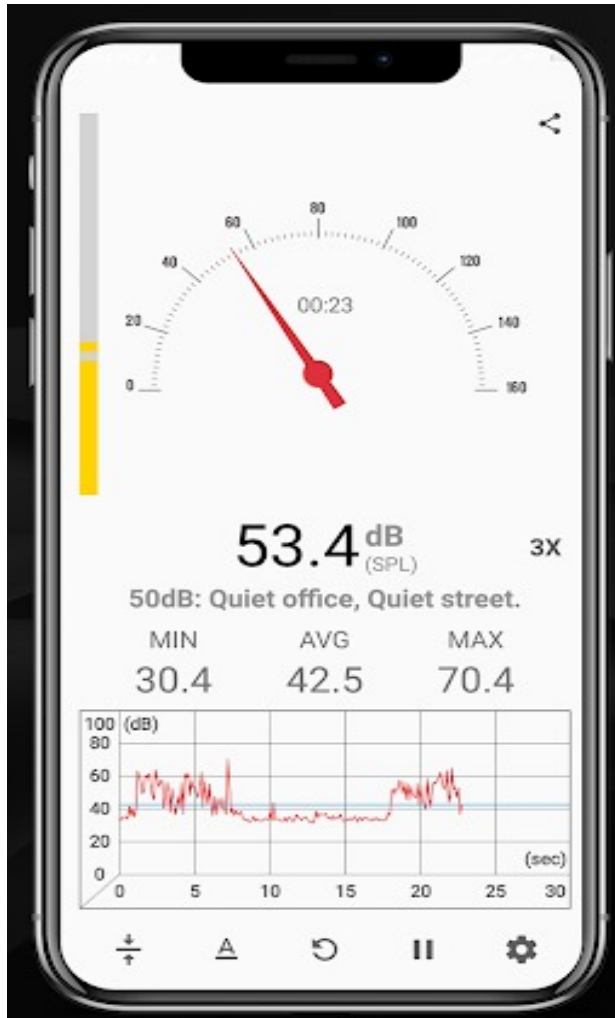


SUBMIT SUBJECTIVE SOUND



Sound Level Meters

Big variety of sound level apps available for android and Apple phones. I use **Sound Meter**.



Disco, 1 m from speaker	100
Diesel truck, 10 m away	90
Kerbside of busy road, 5 m	80
Vacuum cleaner, distance 1 m	70
Conversational speech, 1 m	60
Average home	50
Quiet library	40
Quiet bedroom at night	30
Background in TV studio	20
Rustling leaves in the distance	10
Hearing threshold	0

To the human ear, a 10 dB increase in sound is twice as loud.



WHAT WILL THE NOISE METER TELL YOU?

- Loudest sounds being heard.
- Average sound level over a given period of time. *
- Whether sound level endangers your hearing.

The National Institute for Occupational Safety and Health (NIOSH)

2 hours 91 dBA

1 hour 94 dBA

30 minutes 97

15 minutes 100 dB

* Sound level should be at least no more than 50 dBA for a hard of hearing person to hear well in an environment or 10 dBA under ambient.



Where do you get these apps?

Android Phone: www.play.google.com

iPhone: www.apple.com/app-store/

or

Type in the name of the app in a search engine

Personal Sound Amplification Apps

A new take on an old favorite,
the Williams Sound
Pocket Talker





Williams Sound PocketTalker



This device can fit in your pocket, palm (or hang from the included neck lanyard) and, using ear buds or a neckloop, it amplifies sounds in one-on-one settings, at a dinner table or other small group setting. \$185 plus cost of neckloop or as little as \$50 on Ebay.

Williams Sound or other personal FM

A personal FM Listening System wirelessly connects you to a speaker wearing the transmitter or, using a conference mic, to others at a conference table. Range up to 150 feet.



Use with earphones, ear buds or neckloop. \$700 & up but watch for them on Ebay - can get for \$100 or less for the pair.



A sampling of other devices

HearAll™ Cell Phone Amplifier – Amplifies the caller's voice up to 100 times louder. Can be used as a handset or speakerphone.*

TV Ears - transmits sound to headset or neck loop via an infra red signal

TV SoundBox® Wireless Speaker – Brings the sound right to you!*

CentralAlert™ Wearable Notification System – Be alerted 24/7 to activities occurring around you in your home.*

Cell Phone Ringer/Flasher – Alerts you to incoming calls/texts from yourhome or cell phones.*

Shake Awake bed shaking alarm clock.



Where do you get these devices?

www.diglo.com (formerly Harris Communications)

www.amazon.com, www.ebay.com

or do a Google search by name

Your hearing care provider for their brand(s)





Where do you get this equipment?

NM Commission for Deaf and Hard of Hearing
www.cdhh.state.nm.us

The Hearing and VisionCenter
www.hearingandvisioncenter.com

Online Retailers
www.harriscomm.com
www.teltex.com

Bluetooth[®]

Stream sound wirelessly from a variety of sources directly to your hearing aids



Cell Phone



Home TV



Computer



Laptop



Tablet

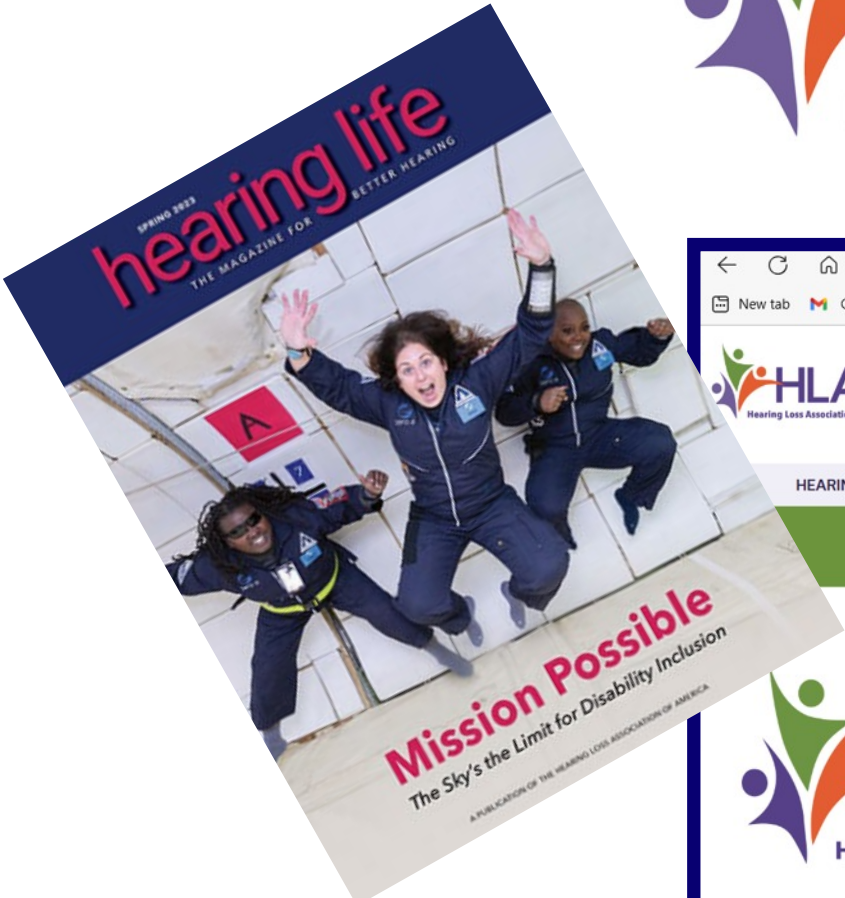


Dining Out

Wireless Hearing Aid Accessories

All of the hearing aid brands have introduced wireless hearing aid accessories for different situations, such as TV streamers or remote microphones to give people a better ability to hear in noise. Generally, they work very well for the purpose they have been designed . Some work directly with hearing aids via Bluetooth® while others work with a neckloop and receiver. Cost can vary from a few hundred so several thousand dollars.





https://www.hearingloss.org/progra...
New tab Gmail Juno Message Center Citi Credit Cards - F... costco visa card log... Fidelity Fidelity Visa Log In Other favori

E-NEWS SIGN-UP BECOME A MEMBER CALENDAR DONATE

HLAA Hearing Loss Association of America

HEARING HELP PROGRAMS & EVENTS CHAPTERS & STATE ORGS MAKE AN IMPACT NEWS & MEDIA ABOUT HLAA

HLAA 2023 Convention

Share:

BROWSE THIS SECTION

PROGRAMS & EVENTS

- Advocacy
- Get in the Hearing Loop
- Communication Access in Health Care
- HLAA 2023 Convention
- 2023 Award Recipients
- Archives

HLAA 2023 CONVENTION
New Orleans, LA
June 29 - July 1, 2023

HLAA 2023 Convention, June 29-July 1



Meets the third Saturday of the month
September - June, 1:00-3:00 pm.

Meeting times may vary. Check website for details.

Location: Koelbel Public Library

5955 S Holly St.

Centennial, Colorado 80121

Contact/s: hladenver@gmail.com, 720-295-8581

Some recent HLAAbq programs

REPORT FROM WASHINGTON – HLAA
National Director of Public Policy Lise hamlin

IPAD APS - Roger Robb of the NM
Commission for Deaf and HoH

DIZZY OR VERTIGO? - Dr. Bradley Pickett.

HEARING AID PANEL – representatives of
Resound, Oticon and Siemens.

50+ and HoH – U of Florida Audiology/AAA
President Professor Pat Kricos

HEAR AT THE MOVIES - Cinemark

TINNITUS & PHANTOM SOUNDS –
Audiologist Elaine Almquist.

LEGAL HELP FOR THE HoH – Senior
Citizens Law Office .

GOING TO THE DOGS – Rick Dillander from
A Fresh Perspective Dog Training

GOOD GADGETS – ATS Resources

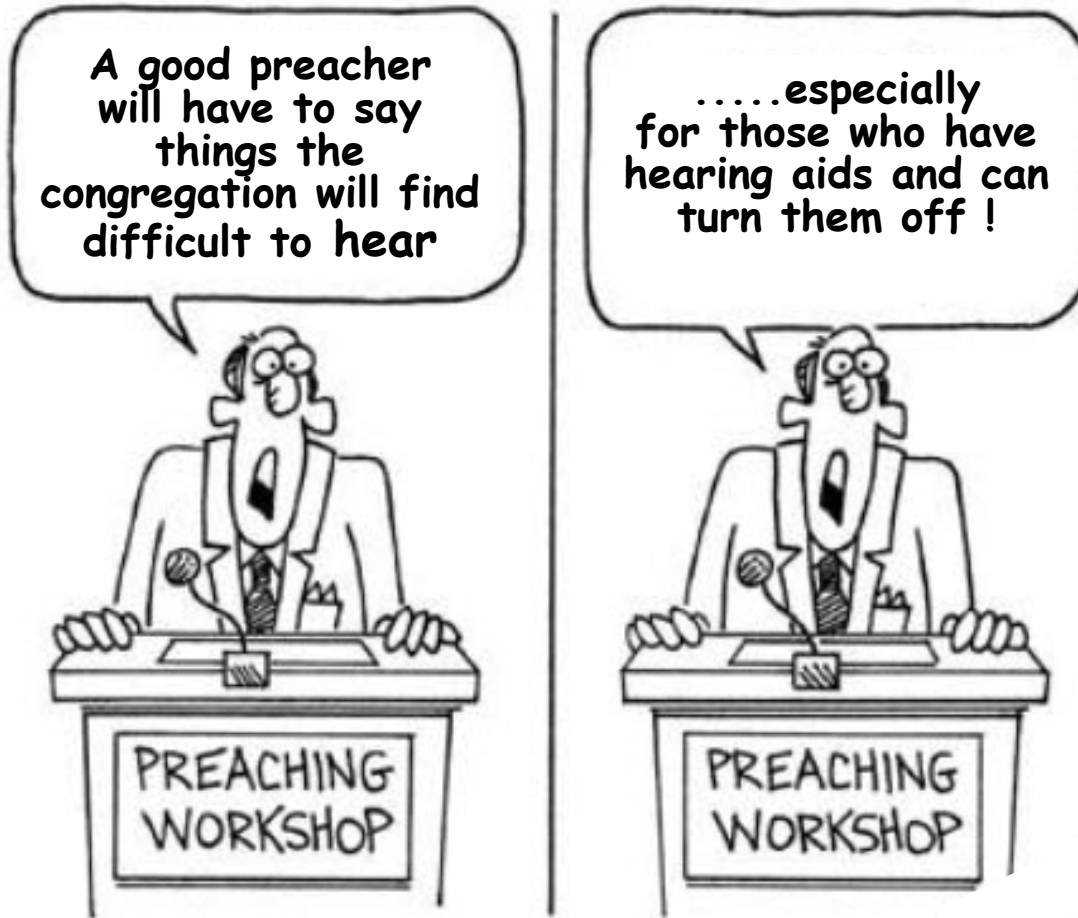
HEARING AIDS 101 – Audiologist Carol
Clifford

HoH SIGNIFICANT OTHER – panel.

COCHLEAR IMPLANTS – Cochlear Americas

LIVING WITH HEARING LOSS - Dr. Sam
Trychin

Hearing loss does have some benefits.....



Time's up...
thanks for attending this presentation on

Living With Hearing Loss

