

Tools for Hearing



PENNSYLVANIA
TECH ACCELERATOR

Presenter

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Accessibility



Image
descriptions



Captions



Other
accommodations

This webinar is designed to help you...

- Discover tech that can assist your approach to hearing loss
- Explore a range of tools made to enhance communication, accessibility and quality of life
- Learn about practical applications of hearing tools
- Make what you already have work for you or someone with hearing loss

Terminology

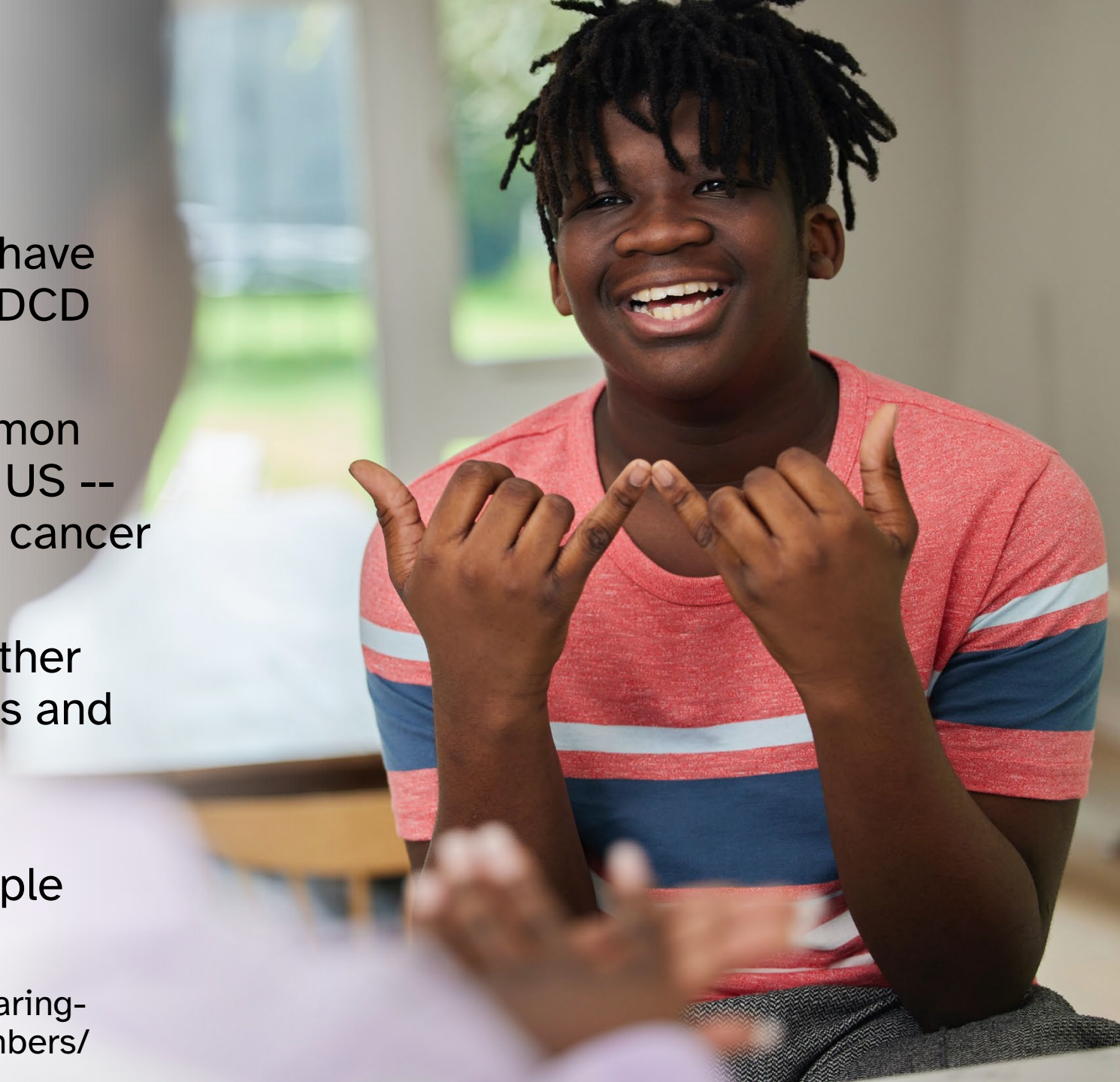
- Hearing impaired
- Hard of Hearing
- Hearing Loss
- Hearing disability
- Deafness
- Deaf
- deaf



Hearing Facts (from HLAA)

- More than 50 million Americans have some degree of hearing loss. (NIDCD and US Census)
- Hearing loss is the 3rd most common chronic physical condition in the US -- twice as prevalent as diabetes or cancer (CDC)
- Hearing loss is associated with other common health issues -- diabetes and heart disease (Healthy Hearing)
- Hearing loss is on the rise and is expected to affect 2.5 billion people worldwide by 2050 (WHO)

<https://www.hearingloss.org/understanding-hearing-loss/hearing-loss-101/hearing-loss-by-the-numbers/>



The Impacts of Untreated Hearing Loss

- Avoiding or withdrawing from social activities
- Reduced alertness and increase risk to personal safety
- Impaired memory and ability to learn new tasks
- Irritability, anger, and frustration
- Fatigue, tension, stress, and depression
- Social rejection, loneliness, and relationship strain
- Reduced job performance
- Diminished psychological and overall health

<https://www.betterhearing.org/your-hearing-health/consequences-of-untreated-hearing-loss/>

Telecommunications Relay Service

A well-established system in telecommunications. It allows people who are deaf, hard of hearing, deafblind, or have speech disabilities to communicate with standard telephone users through a communications assistant (CA) or artificial intelligence (AI).

- Traditional TTY-based TRS: Uses a teletypewriter (TTY) for text communication relayed by a CA.
- Voice Carry Over (VCO): Allows someone with a hearing disability to speak directly and receive text responses from a CA.
- Hearing Carry Over (HCO): Allows someone with a speech disability to hear the conversation and type their responses, which the CA then reads aloud.
- DeafBlind Service (DBS): Allows people with combined hearing and vision loss to place and receive telephone calls. DBS users type their messages and read the other person's responses, typed by the CA, on a braille display.
- Speech-to-Speech (STS): A CA specially trained to understand speech disorders revoices what a caller with a speech disability says.
- Video Relay Service (VRS): Uses video conferencing for American Sign Language (ASL) communication with a CA who acts as an interpreter.
- Internet Protocol Captioned Telephone Service (IP CTS): Uses internet connectivity to provide captions of the other party's conversation, allowing the user to simultaneously listen and read.
- Internet Protocol Relay Service (IP Relay): A text-based form of TRS that utilizes the internet rather than traditional phone lines.

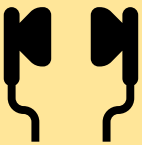
Discover Tech



Device demonstrations at your local AT Resource Center



Borrow equipment from your statewide AT lending library



Ask your Primary Care Physician or see an Audiologist



Join a support group and crowdsource

Hearing Tests (Audiometry)

- Evaluate your ability to hear
- Detects what type of hearing loss you have
 - Mild, moderate, or severe
 - Audiologists recommend treatment like hearing aids or cochlear implants.
- Most people in the US will have hearing screenings during their lifetime
 - Babies- right after that are born to confirm they can hear
 - Children-as part of their well-check appointments or at school
 - Adults- if they have issues hearing people talk or need to turn up the volume on TV, radio or mobile phone
- The audiologist will determine what type of hearing tests you need.
 - Pure-tone testing finds the quietest volume you can hear.
 - Bone conduction testing shows issues with the tiny hairs in your cochlea (sends vibrations to the auditory nerve to the brain).
 - Speech testing shows how you understand speech.
 - Auditory brainstem response checks the connections between your inner ear and your brain.
 - Otoacoustic emissions check inner ear function.
 - Tympanometry checks how well your eardrum moves.

Source: <https://my.clevelandclinic.org/health/diagnostics/24104-hearing-test>



Explore & Learn

Amplified Phones and Accessories



Captioned Telephones



Alerting Devices and Signalers





Assistive Listening Devices

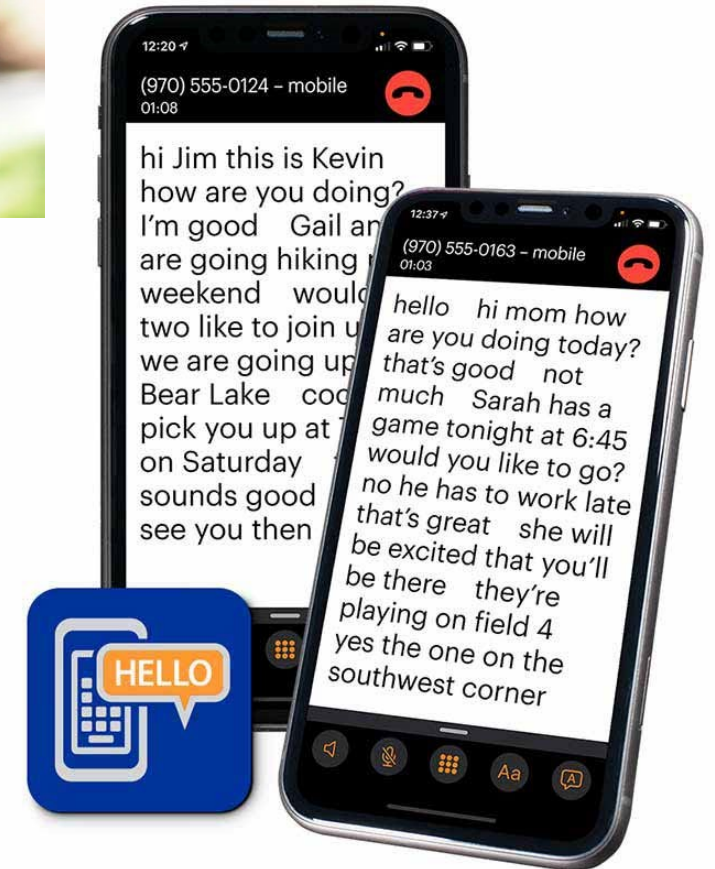
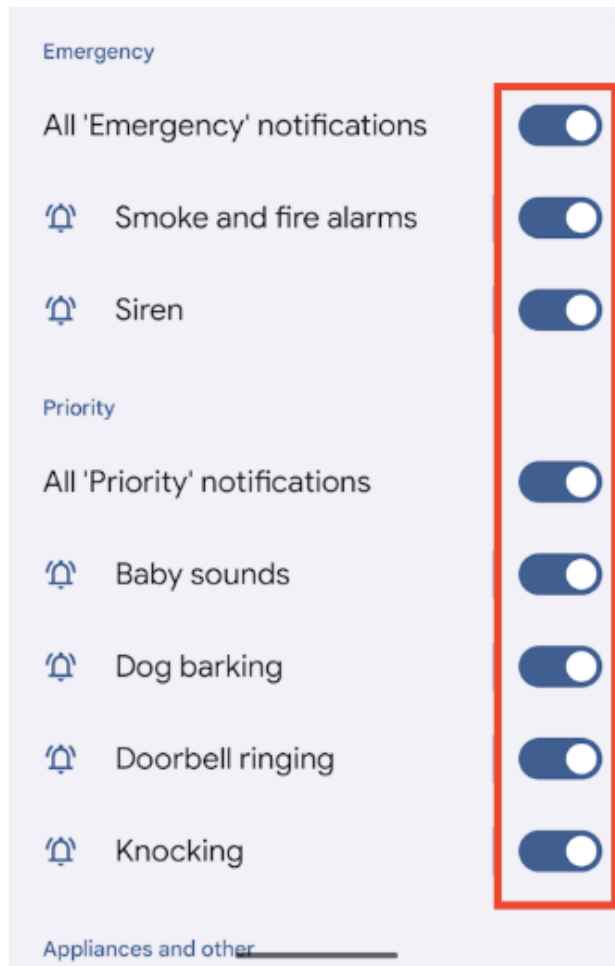




Over the Counter (OTC) Hearing Aids

- Affordable, widely available at big box stores and online
- For mild-to-moderate hearing loss
- You have trouble understanding conversations in group settings
- You have trouble hearing on the telephone
- Your TV or radio volume is loud enough for others to complain about
- Your social circle and family notices that you often don't understand them
- You ask others to repeat themselves frequently

Source: <https://www.hearingloss.org/find-help/over-the-counter-otc-hearing-aids/>



**Smart Devices
(can do most of it)**

Smart Devices

(still can do most of it)

- Alerting Device
 - Haptic notifications (vibration)
 - Flashing notifications (camera flash)
- Live Caption or Live Transcribe
- Personal Listening Device
 - Hearing aid(s)
 - Cochlear implant(s)
 - Bluetooth headset/earbuds
- Voice Assistant (Siri or Google)
- Real Time Text (RTT)
 - AI generated captions
 - Communication assistant generated captions
- Telecommunication Relay Services (TRS)
 - Speech to text (STT)
 - Text to speech (TTS)
- Video Relay Services (VRS)
- Hearing Devices, Hearing Aid Compatibility, and Applications
- Headphone listening safeguards

Smartphone Accessories

- Made for iPhone (iPad, iPod) (MFi) AirPods, AirPods Pros, AirPods Max
 - Can act as an assistive listening device, TV ears, hands free operation
 - Some models have noise cancellation and transparency modes
 - More expensive
 - More of a unified user experience
- Made for Android (all the others)
 - No certification
 - Any Bluetooth earphones/earbuds/headphones can work
 - More choices, price range
 - A less unified user experience



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Hearing Aids & Smartphone Apps

- myPhonak
- Nucleus Smart
- Oticon Companion
- Signia App
- Philips HearLink 2
- Jabra Enhance Pro
- Audien ion Pro
- ReSound Smart 3D
- Rexton App
- Easy Line Remote
 - KS
 - Brio
 - Phonak
 - Sennheiser



- RemoteLink2
- My Audibel
- BeMore
- Ceretone Hearing
- Eargo
- Bose Hear
- GENIUScontrol by Miracle Ear
- Unitron Remote Plus
- Sony | Hearing Control
- Beltone HearMax

Apps for Phone Calls and Video Calls

- CaptionCall (green icon with white phone handset surrounded by a white circle)



- InnoCaption: Call Captioning (blue icon and white speech bubble with blue lines)



- Nagish: Caption Your Calls (blue icon and yellow speech bubble with a blue 'n')



- Hamilton Mobile CapTel (blue icon with a cell phone and yellow speech bubble that spells 'HELLO')



- Convo VRS (green icon with white 'C' and triangle)



- ntouch (icon with yellow 'S' in a circle)



- P3 Mobile (purple icon with white 'P3' in a circle)

Talk the Talk

When speaking with someone who is hard of hearing in person...

- Face the person at a close enough distance for them to understand you.
- Speak slowly and clearly.
- Speak loudly. There is no need to yell.

When speaking with someone who is hard of hearing on the phone...

- Speak into the receiver directly
- Speak slowly and clearly
- Say and offer to spell your name using a word that begins with each letter.
- Suggestion: Learn the military alphabet to limit the pauses of having to think of which word goes with each letter.
- Pro Tip: When leaving your phone number on voicemail, say each number slowly and deliberately so you only need to say it once.

Questions?

Thank you!

Presenter: Laura

Topic: Hearing

Please complete this survey.

bit.ly/TechOWLsurvey

