

Hearing And Cognitive Health

The Hidden Link and How Technology Can Help

2025 Sara and Samuel J. Lessans Healthcare Symposium

Joan. L Green, M.A. CCC-SLP

Kristina Deak, Au.D





Joan Green- Your Tech Advisor

Innovative
SPEECH THERAPY

About Online Learning Blog Work With Me Resources Books Contact

Innovative Speech Therapy

Hello and welcome!

IST offers a uniquely effective guidance empowering individuals, families and professionals with state-of-the-art local and long-distance therapy, coaching and training programs.

Joan Green is a licensed and certified speech-language pathologist and assistive technology specialist with many years of experience helping children and adults who have communication, cognitive, literacy, learning, and executive functioning challenges.

Let's get started Join our email list

30 YEARS

Improving Communication, Cognition and Productivity with Tech-Savvy Strategies, Solutions and Support

- Speech-Language Pathologist
- Assistive Tech Specialist
- Founder of [Innovative Speech Therapy](#)
- Founder of [Tech Life Inner Circle Membership](#)
- Manage Free [IST Tech Savvy Solutions Facebook Group](#)

www.innovativespeech.com, Joan@innovativespeech.com

Kristina Deak- Doctor of Audiology



Prior to joining the Hearing HealthCare team, Dr. Deak gained valuable experience working at the National Naval Medical Center (Bethesda Naval), Sibley Memorial Hospital and in private practice.

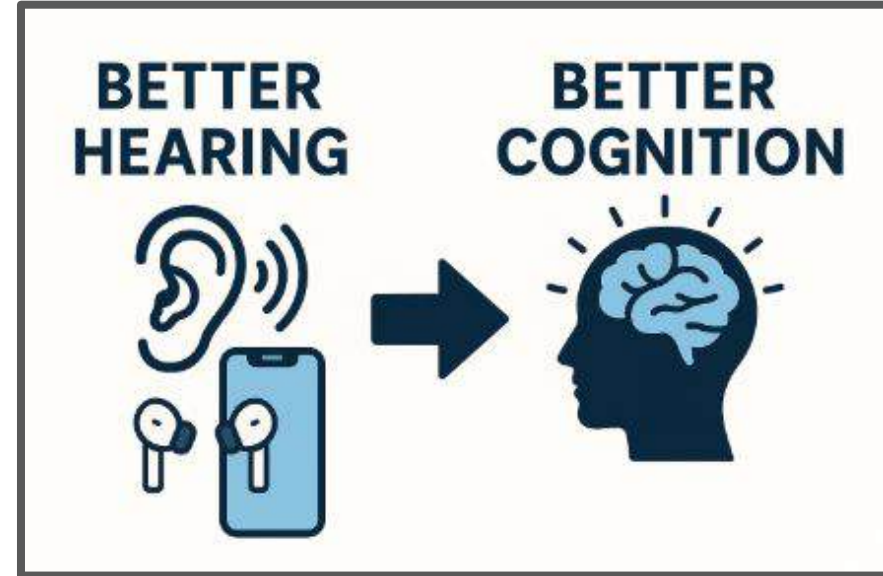
Besides caring for the patients of Hearing HealthCare, she shares her vast knowledge of audiology, hearing aids and patient care with future audiologists. Earning her Certificate Holder-Audiology Preceptor (CH-AP), Dr. Deak helps facilitate an audiology student's transition from novice clinician to a competent, independent professional by training student-interns at the Rockville location.

Dr. Deak primarily services the Rockville, MD location.

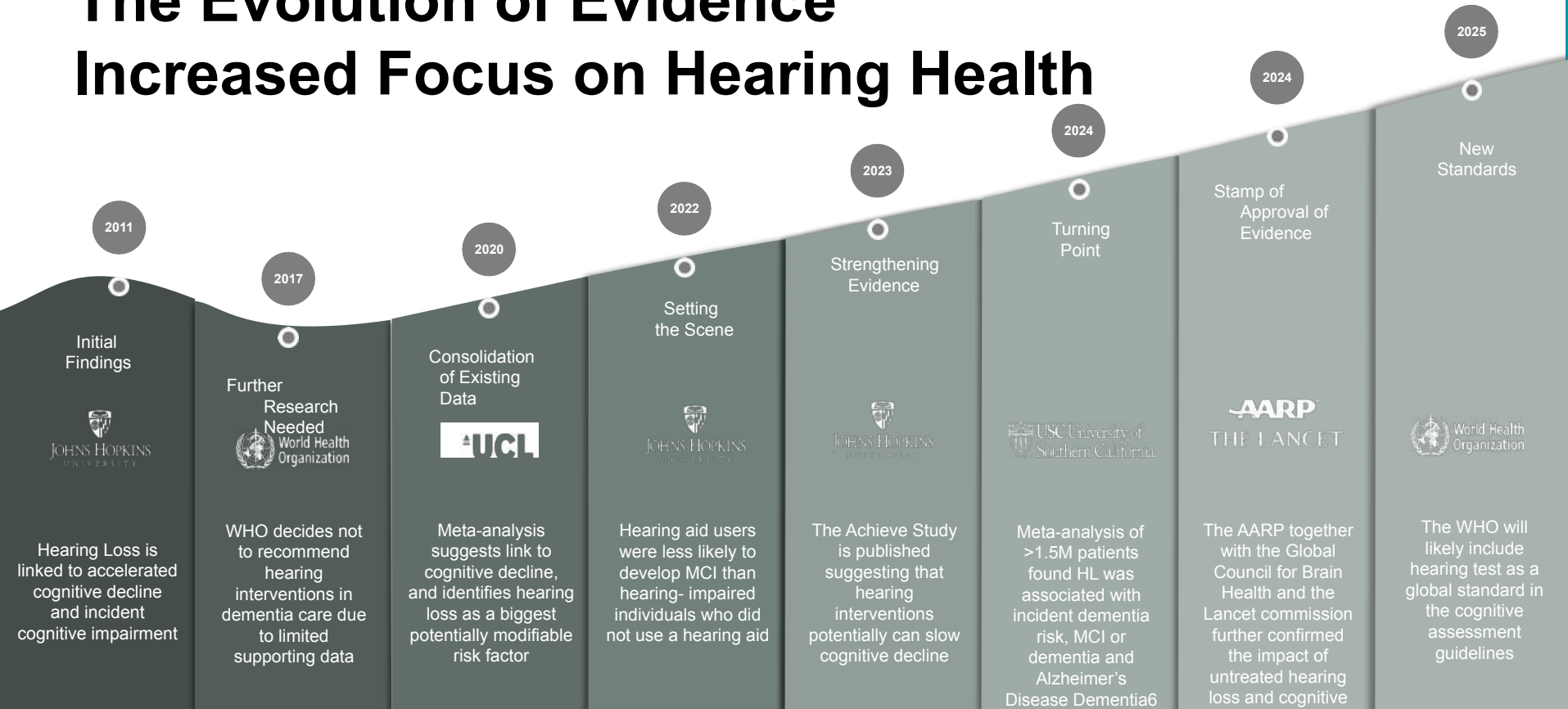
KrisDeak@hearinghealthcareinc.com

Agenda

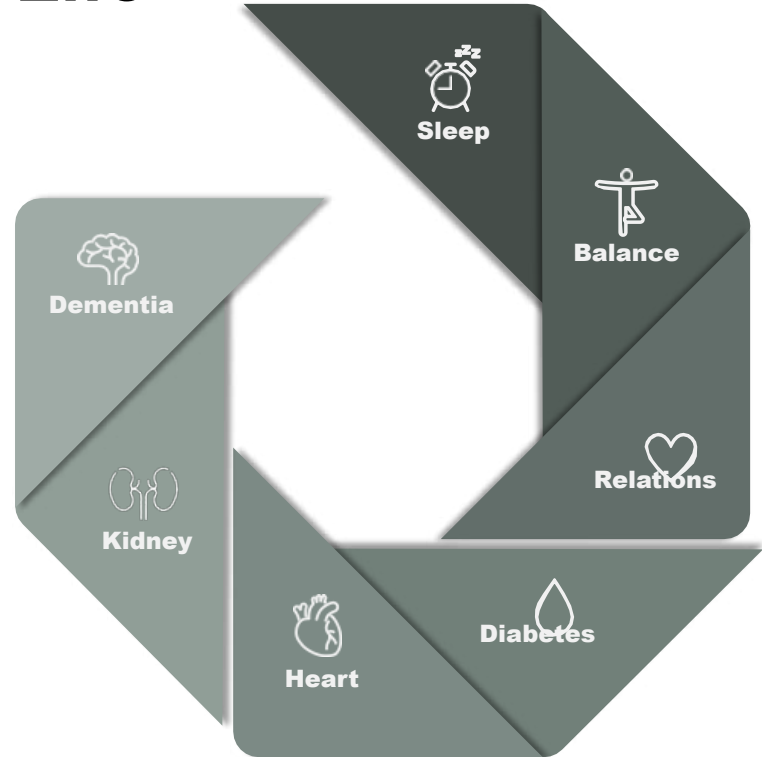
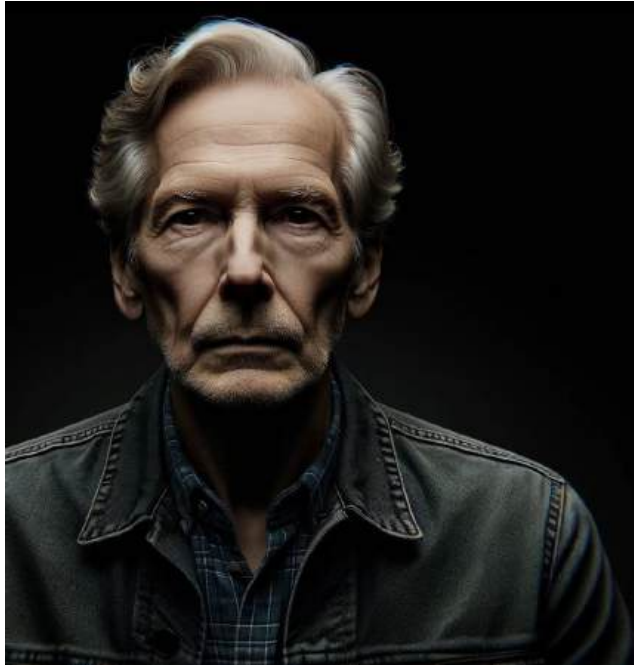
1. Hearing Loss Statistics and Research
2. Hearing and Cognition
3. Hearing Aids- Over-the-Counter (OTC) and Prescription
4. Cleaning and Maintenance
5. Hearing Aid Care and Use
6. Barriers to Getting Hearing Aids
7. Helpful Communication Strategies
8. Hearing Assistive Technology (HAT)
9. Smartphone Built-In Features
10. Amazing apps and AI
11. Resources

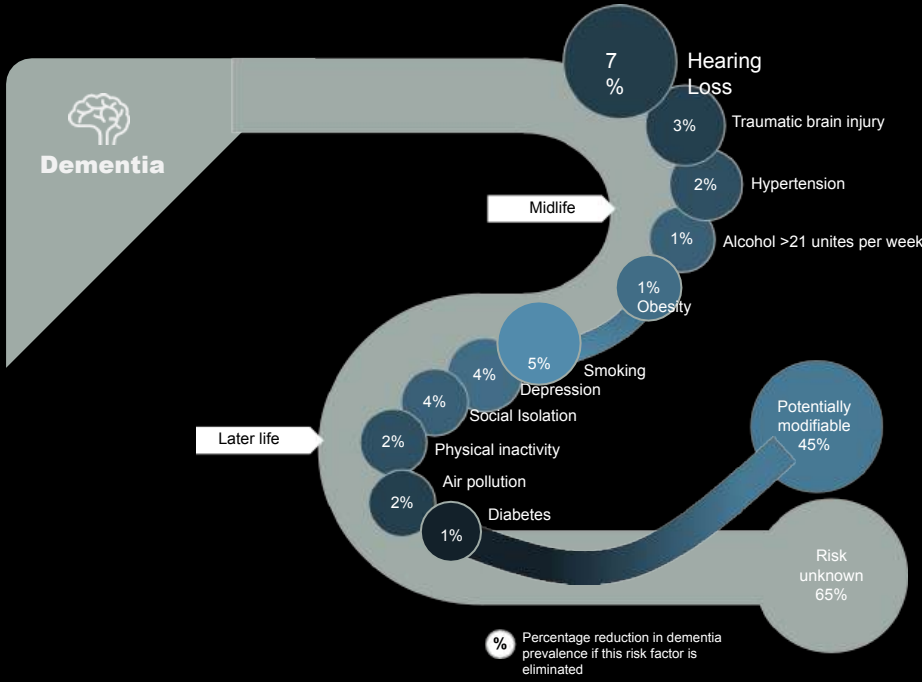


The Evolution of Evidence Increased Focus on Hearing Health



Hearing Loss & Quality of Life





The Achieve Study Key Hypotheses

48%

The Aging and Cognitive Health Evaluation in Elders, or ACHIEVE, study is a large-scale randomized controlled trial designed to determine if treating hearing loss in older adults could reduce the loss of thinking and memory abilities (cognitive decline) that can precede dementia.



Social isolation: Multiple factors could involve less physical activity & cognitively-stimulating activities, stress/inflammation, adherence to medical care, etc.



Brain structural integrity: Hearing loss contributes to accelerated brain atrophy & other pathologic brain changes (white matter tracts, amyloid/tau changes, etc.)



Cognitive load: Hearing loss imposes a constant load on cortical resources that otherwise could have buffered against other pathological contributors to dementia

The Rancho Bernardo Study (2024)

Research Findings

MRI

COGNITIVE LOAD HYPOTHESIS

Participants underwent hearing threshold tests in research clinic visits and subsequently had MRI scans between.

Individuals who had hearing impairment exhibited microstructural differences in the auditory areas of the temporal lobe and in areas of the frontal cortex involved with speech and language processing, as well as areas involved with executive function.

AARP Brain Health Report Key Findings

71%

AARP's 2024 report found that 71% of adults would be extremely or very likely to tackle hearing loss if they knew that failing to do so heightened their risk for dementia, cognitive decline, depression, falls, and social isolation

WOULD TACKLE
HEARING LOSS

if they knew

Hearing Aid Classifications as of Fall 2022

Over-The-Counter (OTC):

- Mild hearing loss
- Self-fitting
- Most require smartphone
- No medical evaluation/intervention required
- Apple AirPods
- 18+
- Insurance won't pay

Prescription:

- Hearing loss greater than mild level
- Licensed Hearing Care Professional required
- to perform hearing evaluation and fitting of devices.
- Personalized care, expertise and follow-up
- Insurance may pay

Examples of Hearing Aid Styles



What's new?

Rechargeable-
Great for dexterity and
vision issues!

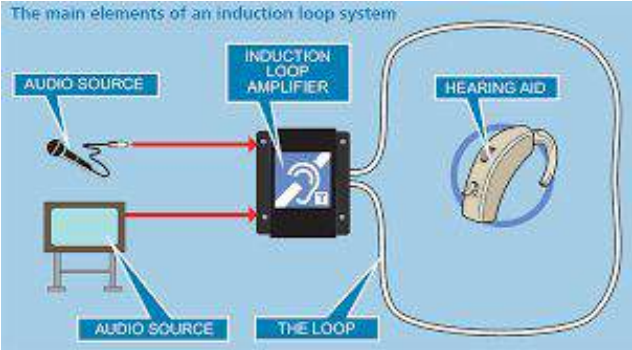


Connectivity



Not just limited to phones; bluetooth includes TV,s laptops, tablets

Additional Devices to Help with Hearing Loss



CARE AND USE: Domes

Closed



Open



Semi-Open/ Tulip Domes



Double



Inc.

CARE AND USE: Filters



Barriers to treating hearing loss

Do not admit hearing loss in public

Noticeable

Too embarrassed to wear

Makes you look disabled

Makes you look old

Too proud to wear

People make fun of you

People treat you differently

Makes you look weak and feeble

People treat you differently

Makes you look mentally slow

1. Poor fit

1. Stigma

2. Price

3. Intimidated by technology

4. Unrealistic expectations



Consequences of not treating hearing loss

1. Degradation of auditory nerve

2. Risk of cognitive decline

3. Depression/isolation

4. Increased risk of falls

Communication Strategies! A MUST!

10 THINGS

PEOPLE WITH HEARING LOSS MIGHT WANT YOU TO KNOW

An estimated one out of five Americans lives with hearing loss, making it more prevalent than you might think. Understanding this common condition from others' perspectives can go a long way toward enhancing communication, understanding, and support.



Did you know? Everyone benefits from better hearing health. If it's been a while since your last hearing observation, schedule an evaluation with our hearing team today!

 **Hearing HealthCare, Inc.**
Doctors of Audiology
Midvale
301.940.2434 | 3913 Fennell Dr.
Rockville
301.927.1123 | 2903 Research Blvd, Ste 100
HearingHealthCareInc.com

01

GET MY ATTENTION

So I can focus on you. Having good communication skills will allow us to discuss better.

02

QUIET IS BETTER

Let's turn off the TV and music. Moving to a quieter booth in a restaurant helps, too.

03

COMMUNICATION COUNTS

You may not realize how frustrating hearing loss is for me — and vice versa — but discussing it together can help.

04

I'M NOT RUDE OR HONORING YOU!

Please repeat and let me speak, do not speak for me.

05

TREAT ME WITH KINDNESS

When you get frustrated, I would rather pull away and not participate.

06

DO NOT YELL. SPEAK CLEAR & SLOW

This gives my brain time to process what has been said.

07

SAY IT AGAIN OR REPHRASE

I will miss some things. Please take time to say it again, say it differently, or write it down.

08

I NEED TO SEE YOU!

I get a lot of information from looking at your face when you talk to me. Please do not talk to me when your back is turned or from another room.

09

HEARING AIDS ARE JUST THAT...

an aid. They help with loudness, but not always clarity, especially in noisy places.

10

WHAT ARE WE TALKING ABOUT?

Giving me the topic of the conversation will help my brain fill in the missing words.

- 1) Get my attention
- 2) Quiet is better
- 3) Communication helps
- 4) I am not being rude
- 5) Me nice to me
- 6) Do not yell; especially into my hearing aid!
- 7) Speak clear and slow
- 8) Look at me when you are talking to me
- 9) Rephrase, do not just repeat
- 10) Drop the mask/don't cover your face
- 11) Stay within 3-5 feet of me
- 12) What are we discussing
- 13) Use captioning
- 14) Be patient
- 15) Use better lighting
- 16) Takes breaks in conversations

Untreated hearing loss is never normal

You may be told that your hearing is “normal” for your age.

If your hearing is not normal, your brain is not receiving what it needs to maintain optimal cognitive function.



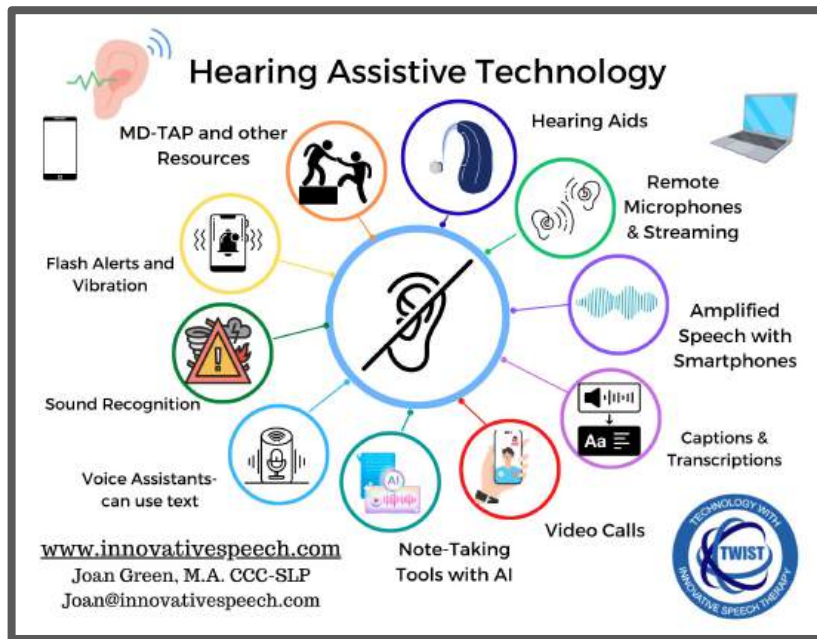
Hearing Assistive Technologies Beyond Hearing Aids

Tools for Communication, Connection, and Safety

Everyday tech can be very helpful!



Hearing Assistive Technologies Overview



<https://bit.ly/hearing-assistive-technology>

SCAN ME



Remote Microphones & TV sound streaming

Most hearing aid manufacturers have their own

- **Phonak**- Roger microphones
- **Oticon**- Connect Clip
- **ReSound**- Multi Mic and Micro Mic
- **Starkey**- Remote Microphone
- **Signia**- Streamline Mic
- **Widex**- ComDex and Sound Assist



Smartphones: Built-In Accessibility Powerhouses

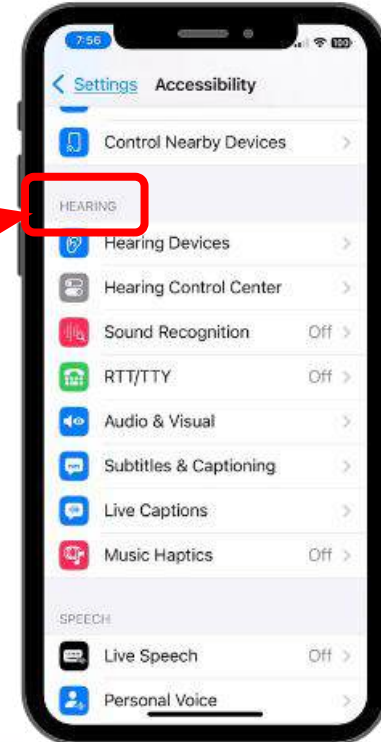
iPhones and Android phones come loaded with hearing support features.

No extra devices needed—just unlock what's already there!

Smartphones can amplify sound, provide captions, send alerts, and more.

Settings > Accessibility > Hearing

Stream phone calls, audio books, podcasts, videos etc directly into hearing aids.



Amplified Speech- Smartphones



Live Listen

iPhone features- turns iphone or ipad into remote microphone!

Stream audio directly into AirPods, Beats headphones or Made for iPhone (MFi) hearing aids.



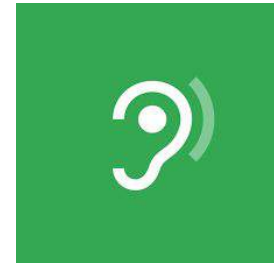
Conversation Boost-

For AirPods Pro users, this enhances voice of person in front of you. Go into AirPods settings under Accessibility.



Very helpful in noisy environments or when need to hear someone speaking from a distance

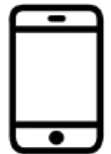
Sound Amplifier (Android): Enhances speech, reduces background noise. Download the app if not already on phone.



Captions & Transcriptions

Captions are free but the feature may need to be set up in advance.

Transcription may have errors. The quality is dependent on the speaker and environment.



Live Captions on Your Smartphone

Enable the captions for in-person conversations or to use while having a phone call!

iPhone- Settings > Accessibility > Live Captions (need at least iOS17)

Android phones- live captions came first on Pixel phones.

- Require Android 10 or newer



Apps with instant transcription

If live captioning is not available on your phone- these apps are great!



[Live Transcribe](#)- Android



[Live Transcribe](#)- iOS



[Ava](#)- iOS,
Android and
desktop

Live Transcription + Translation apps

[Microsoft Translator \(Free\)](#)

- Live speech transcription
- Real-time translation into over 100 languages
- Excellent for conversations and small group chats. Works for both text and audio. Available for Android, iOS, and web.



[Google Translate App \(Free\)](#)

- Conversation Mode: listen, transcribe, and translate two languages live
- Supports offline translation
- Not traditional "live captions," but amazing for quick real-time two-way conversations. Works in noisy environments!



[Ava](#) (Free basic, paid for premium)

- Live captioning for conversations and events
- Real-time translation into several languages (paid version)



Video Calls + Captions = Better Conversations

Zoom, Google Meet, and FaceTime offer live captioning.

Video adds facial cues, lipreading support, and text clarity.

Perfect for telehealth, family calls, and staying connected.



Zoom meetings

The host can set up the ability for everyone to use live captioning!



Google Meet- Settings and options



A composite image illustrating Google Meet settings and options. On the left is a settings menu with items like 'Cast this meeting', 'Whiteboard', 'Change layout', 'Full screen', 'Change background', 'Turn on captions', 'Report a problem', 'Report abuse', 'Troubleshooting & help', and 'Settings'. The 'Change background' and 'Turn on captions' options are highlighted with a green and blue box respectively, with red arrows pointing to a 'Backgrounds' selection window. This window shows a grid of background images and a 'Turn on' toggle switch, which is also highlighted with a green box. On the right is a video call window showing a woman giving a thumbs up. A blue box highlights the caption 'You: Captions are wonderful.' at the bottom of the video. At the bottom right of the video call, there are icons for microphone, video, and a 'Turn off captions' button.

Similar to Zoom. Can also use for 1:1 video calls similar to Facetime on iPhone. There is a mobile app or go to Meet.Google Com Need a Google username and password.

Simpler Video Call Options

Not everyone can use a smartphone or computer

Explore alternatives:

[Grandpad](#)

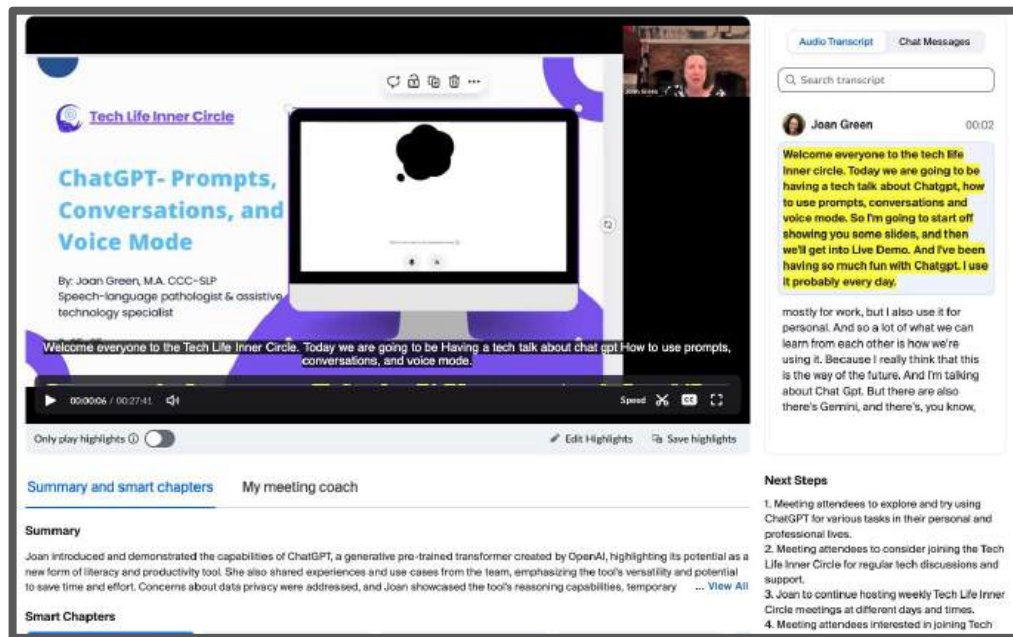
[Amazon's Echo Show - drop-in feature](#)

[Onscreen](#)



Terrific note-taking tools with AI

- Meeting summaries
- Smart recordings
- Action steps
- Images
- Study tools
- [Glean](#)
- [Otter.ai](#)
- [Zoom](#)



The screenshot displays a Zoom meeting interface. The main content is a video player showing a presentation slide titled "Tech Life Inner Circle" with the subtitle "ChatGPT- Prompts, Conversations, and Voice Mode". The presenter is Joan Green, M.A. CCC-SLP, a speech-language pathologist and assistive technology specialist. The video player includes a progress bar at 00:00:06 / 00:27:41 and a speed control set to 1.0x. Below the video, there are tabs for "Summary and smart chapters" and "My meeting coach". The "Summary" section provides a brief overview of the presentation, mentioning the capabilities of ChatGPT and the importance of data privacy. The "Smart Chapters" section lists "Next Steps" for attendees, including exploring ChatGPT, considering joining the Tech Life Inner Circle, and continuing to host weekly meetings.

Tech Life Inner Circle

ChatGPT- Prompts, Conversations, and Voice Mode

By: Joan Green, M.A. CCC-SLP
Speech-language pathologist & assistive technology specialist

Welcome everyone to the Tech Life Inner Circle. Today we are going to be having a tech talk about chat gpt how to use prompts, conversations, and voice mode.

00:00:06 / 00:27:41

Speed 1.0x

Only play highlights Edit Highlights Save highlights

Summary and smart chapters My meeting coach

Summary

Joan introduced and demonstrated the capabilities of ChatGPT, a generative pre-trained transformer created by OpenAI, highlighting its potential as a new form of literacy and productivity tool. She also shared experiences and use cases from the team, emphasizing the tool's versatility and potential to save time and effort. Concerns about data privacy were addressed, and Joan showcased the tool's reasoning capabilities, temporary ... View All

Smart Chapters

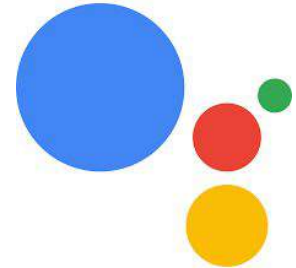
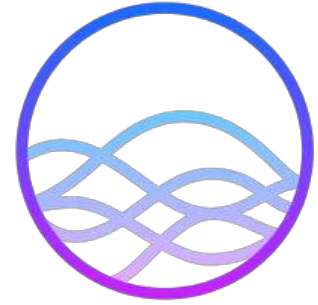
Next Steps

1. Meeting attendees to explore and try using ChatGPT for various tasks in their personal and professional lives.
2. Meeting attendees to consider joining the Tech Life Inner Circle for regular tech discussions and support.
3. Joan to continue hosting weekly Tech Life Inner Circle meetings at different days and times.
4. Meeting attendees interested in joining Tech

Voice Assistants and Transcription

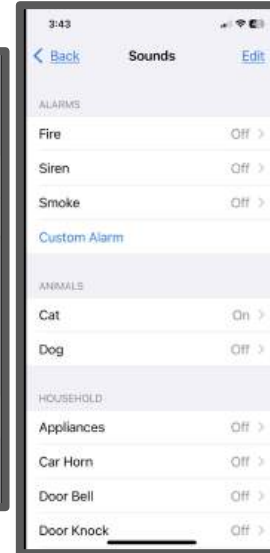
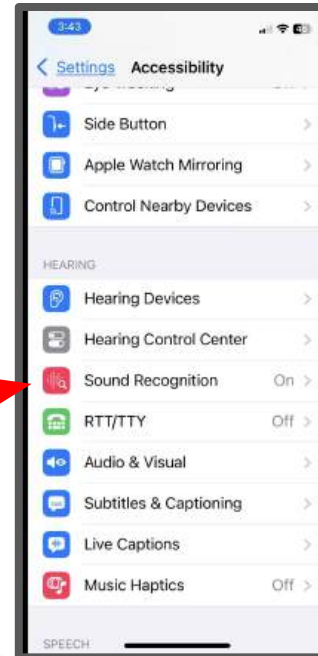
- Siri
- Google Assistant
- Alexa

Offer the ability to use by typing instead of speaking and can respond by text if needed.



Sounds Recognition 9 (iPhone) and Notifications (Android)

- Phones listen for important sounds (alarms, doorbells, crying).
- Visual alerts + vibrations notify users.
- Boosts safety at home and in the community!



LED Flash Alerts & Vibration Cues

Bright camera flash blinks when a call or text arrives.

Strong phone or watch vibration signals important alerts.

Easy to enable in Accessibility settings.

Apple watch-

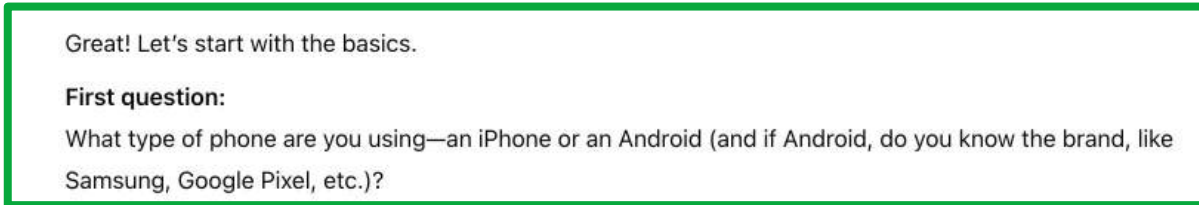
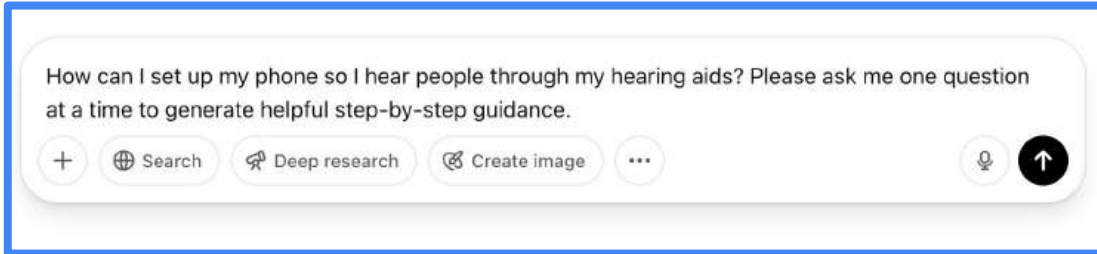
- Maps- vibrates just before each turn
- Contacts- individualized vibrations



Use Gemini or ChatGPT to help with Tech Support!

Many audiologists are terrific with helping with tech setup- but sometimes we all get stuck and need help.

LLMs (Large Language Models) are often very help with tech guidance.



Signs to look for

- Devices or services available for the deaf or hearing impaired.
- Volume control phone
- Assistive listening devices
- Sign language interpretation
- Closed captioning



Helpful websites

[Healthy Hearing](#)

[ListenToThis.com](#)

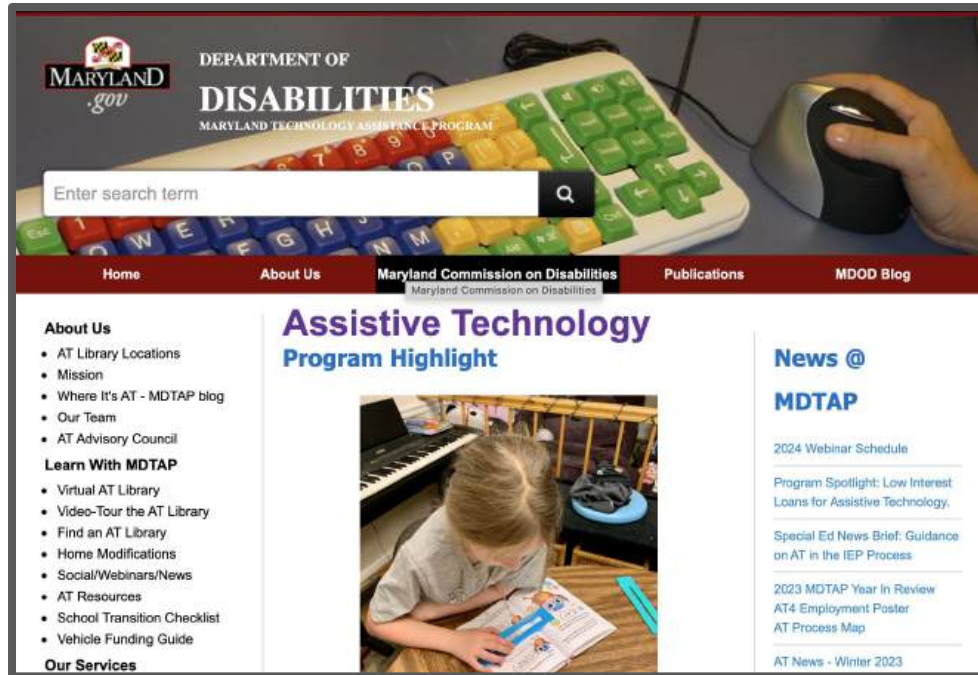
[Wired.com- The Best Hearing Aids](#)

[Consumer Reports- Hearing Aids](#)



State AT Act Programs

- Maryland Technology Assistive Program
- [MD- TAP](#)
- Device Loans
- Device Demos
- Device Reutilization
- Financial Loans
- Other State Financing



The screenshot displays the website for the Maryland Department of Disabilities, specifically the Maryland Technology Assistance Program (MDTAP). The header includes the Maryland state logo and the text "DEPARTMENT OF DISABILITIES" and "MARYLAND TECHNOLOGY ASSISTANCE PROGRAM". A search bar is present with the placeholder text "Enter search term". The navigation menu includes "Home", "About Us", "Maryland Commission on Disabilities", "Publications", and "MDOD Blog". The main content area features a "News @ MDTAP" section with a "2024 Webinar Schedule" and a "Program Spotlight: Low Interest Loans for Assistive Technology". A "Special Ed News Brief: Guidance on AT in the IEP Process" is also listed. Below the news section, there is a "2023 MDTAP Year in Review" section with links to "AT4 Employment Poster" and "AT Process Map". A "AT News - Winter 2023" link is also visible. The "Assistive Technology Program Highlight" section features a photograph of a young child sitting at a desk, looking at a book or document. The child is wearing a light-colored shirt and has their hair tied back. The desk has a keyboard and a mouse. The background shows a room with wooden chairs and a table.

Maryland Assistive Technology Program (MDTAP)

mdod.maryland.gov/mdtap

Serves all ages

Serves all disabilities

No applications, referrals or pre-qualifications required

Virtual and In- Person

Devices shipped directly for borrowing

AT devices loans for up to 4 weeks at a time

More Maryland Resources

[Deaf Independent Living Association, Inc. \(DILA\)](#)

[Hearing Loss Association of America](#)

[The Governor's Office of the Deaf & Hard of Hearing](#)

[Maryland Accessible Telecommunications](#)

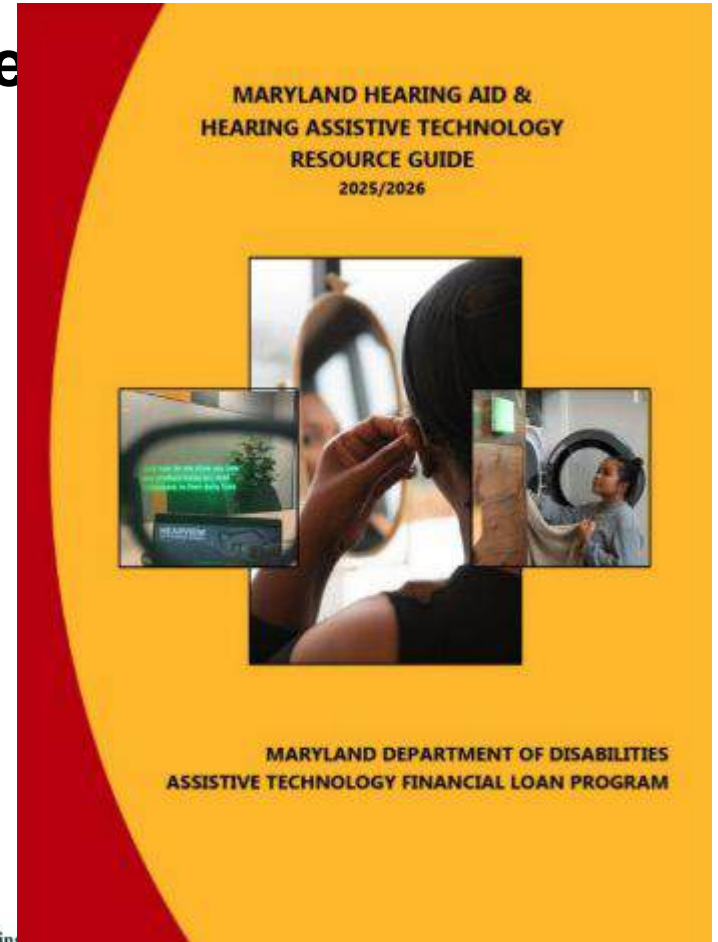
[\(MAT\)](#)- Landline and mobile phones are available for people with hearing loss, vision loss, physical disabilities and I/DD.



Maryland hearing Resource Guide

[Resource Guide Online- English](#)

[Resource Guide Online- Spanish](#)



Free Private Facebook Group - IST Tech Savvy Solutions



Innovative
SPEECH THERAPY Presents:

**IST TECH SAVVY
SOLUTIONS**

JOIN US

Connect. Inspire. Thrive.

Let's help each other.
Everyone is welcome to
join!!

Just answer a few questions

<https://www.facebook.com/groups/ISTTechSavvySolutions/>

Tech Life Inner Circle Membership

<https://learn.innovativespeech.com/inner-circle>

Weekly Tech Training and Tech Support “Ask me anything”

You’re invited to join once as my guest for FREE!

Email Joan@innovativespeech.com and I’ll send you the schedule, topics and Zoom link.



Let's stay in touch!

Joan Lipman Green

www.innovativespeech.com

Joan@innovativespeech.com

Facebook- Innovative.Speech.Therapy

FB Group- IST Tech Savvy Solutions

LinkedIn- Joan Lipman Green

Instagram- joanlipmangreen

[Free 15 min phone consultations](#)

HAPPY TO HELP

