eAudiology Hearing Aid Support:

Considerations for clinical application and implementation

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Hearing well and being well – a strong scientific connection

Frankfurt, Germany

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Disclosure

- Funding and equipment for both phases of the study were provided by Phonak, AG

Terminology

- **Telehealth**
  - Telemedicine
  - Telepractice
  - eHealth

- **Teleaudiology**
  - eAudiology

THE HearingReview

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COUNSELING/REHAB/PATIENT CARE

eAudiology: Shifting from Theory to Practice

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Patient Care | September 2018 *Hearing Review*

A consensus statement on recommendations for telehealth practices in hearing healthcare

By Joseph Montano, EdD; Gina Angley, AuD; Colleen Ryan-Bane, MS; William Campbell, MClSc; Robert Eikelboom, PhD; Andrea Gerlach, AuD; Danielle Glista, PhD; Karen Muñoz, EdD; Christine Jones, AuD; Melanie Ferguson, PhD; De Wet Swanepoel, PhD; Ora Buerkli-Halevy, MS; Gurjit Singh, PhD; Davina Omisore, MSc; Martina Schuepbach-Wolf, and Francois Julita, MS, MBE

eHealth. World Health Organization (WHO) website. http://www.emro.who.int/health-topics/ehealth/.

What is eHealth?

- Definition

- Synchronous vs Asynchronous
  - Synchronous = real time services
  - Asynchronous = store and forward

What is eHealth?

- E-mail

- Phone calls

- Text messages with patients

- App and web based hearing diaries

Why do we need eAudiology?

- Accessibility
  - NJ versus TN vs Australia vs Africa
  - 466 million people globally live with disabling hearing loss
  - Not enough providers

World Health Organization (2018). Deafness and Hearing loss. Retrieved from: https://www.who.int/en/news-room/fact-sheets/detail/deafness-and-hearing-loss

Why do we need eAudiology?

- Cost
  - Travel costs
  - Global cost of untreated HL is ~$750 billion

- Improvements in HA follow-up care?

World Health Organization (2018). Deafness and Hearing loss. Retrieved from: https://www.who.int/en/news-room/fact-sheets/detail/deafness-and-hearing-loss

Why do we need eAudiology?

- Technology connected healthcare
  - Age of instant information using devices
    - More technology savvy patient
  - Leads to more patient autonomy

- Clinic differentiation

Kahana E, Kahana B. Baby Boomers' expectations of health and medicine . *AMA Jour Ethics.*2014;16(5):380-384.
Wilson LB, Simson SP, eds. *Civic engagement and the baby boomer generation: Research, policy, and practice perspectives.* Abingdon, United Kingdom:Routledge;2006.

eHealth in Audiology

- ## Diagnostics
  - Swanepoel, de W. & Hall, J.W. 3rd (2010); Crowell, E.S., Givens,G.D., Jones,G.L., Brechtelsbauer,P.B., Yao, J. (2011); Krumm, M. & Syms, M.J. (2011); Dharmar et al. (2016); McCaslin & Tharpe, 2015

- ## Hearing aid fittings and cochlear implant mappings
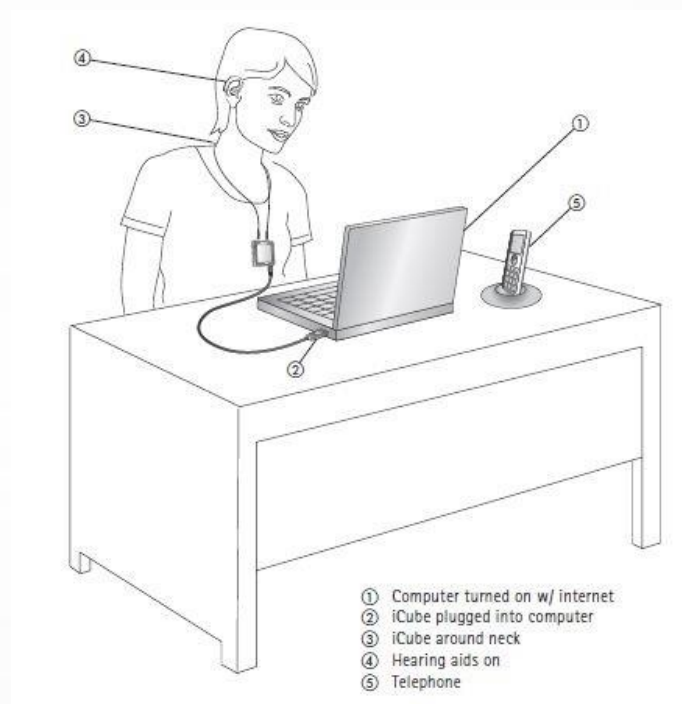 - Ferrari, D.V. & Bernardez-Braga, G.R. (2009); Campos, P.D. & Ferrari, D.V. (2012); Hughes et al. (2012)

eAudiology – Amplification

- Hearing Aid Follow-Up Visits
  - In-Clinic: Research Questions
    - Are remote hearing aid follow-up appointments feasible?
    - What are the perceived benefits of remote hearing aid follow-up care?

Angley GP, Schnittker JA, Tharpe AM. (2017) Remote hearing aid support: The next frontier. J Am Acad Audiol., 28(10), 893-900.

eAudiology – Amplification

- Hearing Aid Follow-Up Visits
  - In-Home: Research Questions
    - Will it still work if the participant is at home?
    - Is there added benefit with the addition of a web camera?
    - Are the examiner and the participant still satisfied with the appointment?
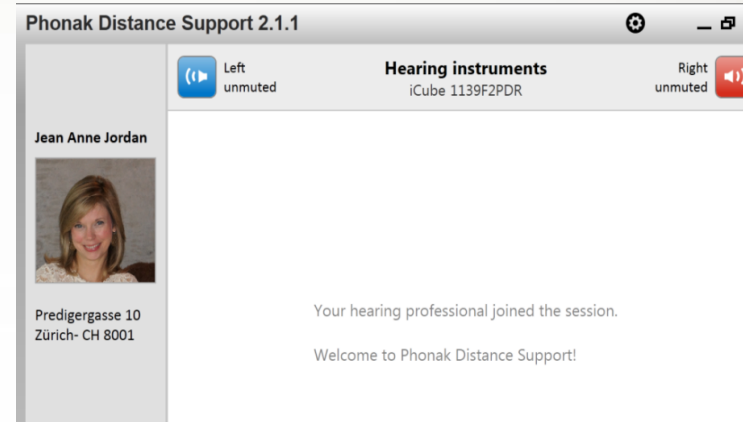
eAudiology – Amplification

① Computer turned on w/ internet
② iCube plugged into computer
③ iCube around neck
④ Hearing aids on
⑤ Telephone

Phonak Remote Fitting Prototype

eAudiology – Amplification

Results:

- 82% were able to install the software with no assistance

- Those who could not install:

  - \>72 years old

  - Beginner (67%) or average (33%) computer skill level

  - On average mild cognitive impairment on Montreal Cognitive Assessment (MoCA)

  - Average installation time: 11 minutes

eAudiology – Amplification

- Stable connection for 86% of appointments

- In-Clinic Professional Assessment
  - 80% of appointments were perceived as efficient as a face-to-face appointment
  - Satisfied with 82% of appointments

eAudiology – Amplification

- In-Clinic Client Assessment:

  – Strengths
    - Time savings
    - Convenience
    - Reduced travel costs

  - Weaknesses
    - Lack of face-to-face time
    - Computer and software issues

eAudiology – Amplification

- In-Home appointments
  - Web camera successful for 77% of appointments

  - In-Home Client Assessment
    - 86% preferred distance support (DS) appointments under difficult conditions
    - 90% would recommend DS appointments

What did we learn?

- Patient limitations
  - Requires access to the internet/phone service
  - May require an additional appointment

- Clinician limitations
  - Cannot touch and check all components of the hearing aid
  - Rely on patient's ability to manipulate and show you the hearing aid

What did we learn?

- Patient benefits
  - Convenient, time, and cost savings
  - Can now program hearing aids with the patient at the source

- Clinician benefits
  - Eliminates the need for 4 walls.
  - Shorter appointment times
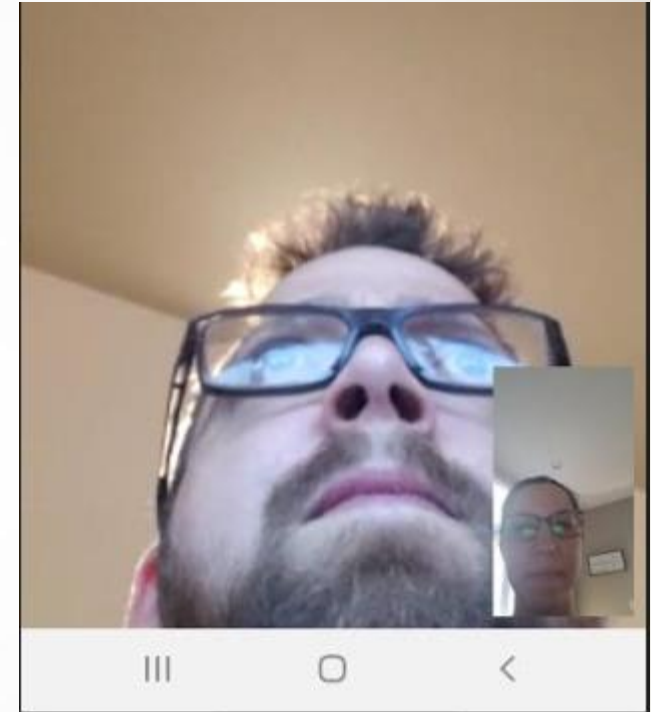 - More effective in our programming and counseling (?)

Set-Up Considerations

- Space considerations

- Simple instructions

- Have a secondary form of communication

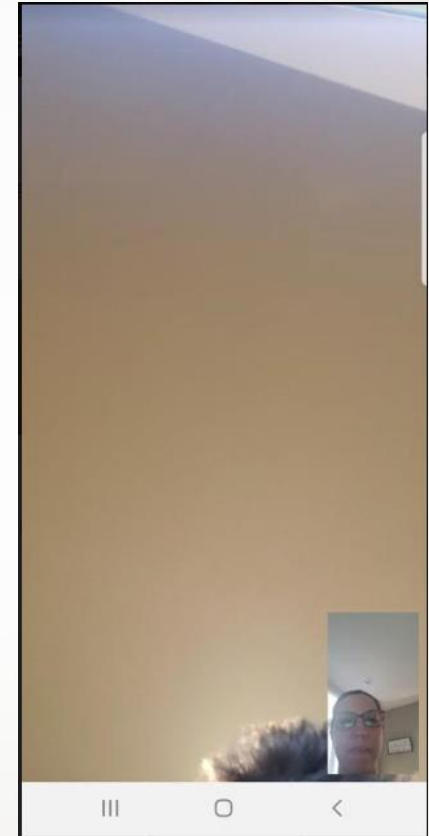- Dual monitors, if possible
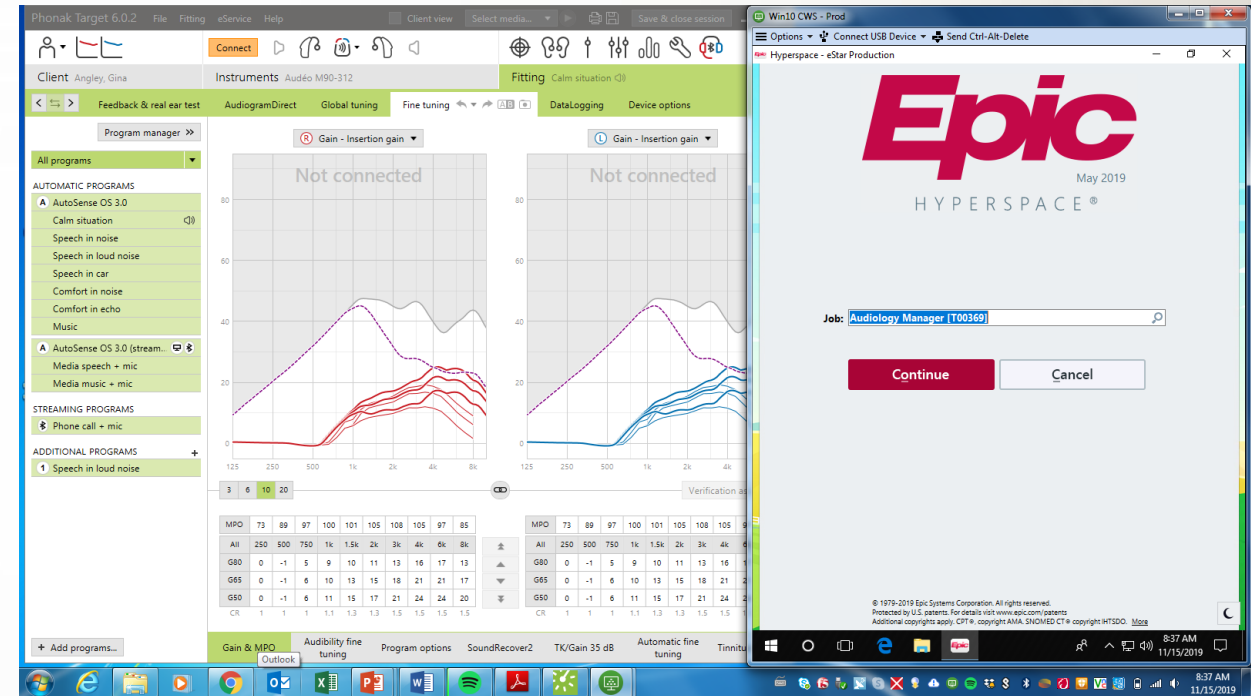
Clinic Set-Up Considerations

- What is the room lighting?

- What is in your background?

- How is your camera set up?

Patient Set-up Considerations

- Be dressed appropriately!

- Turn off distractions

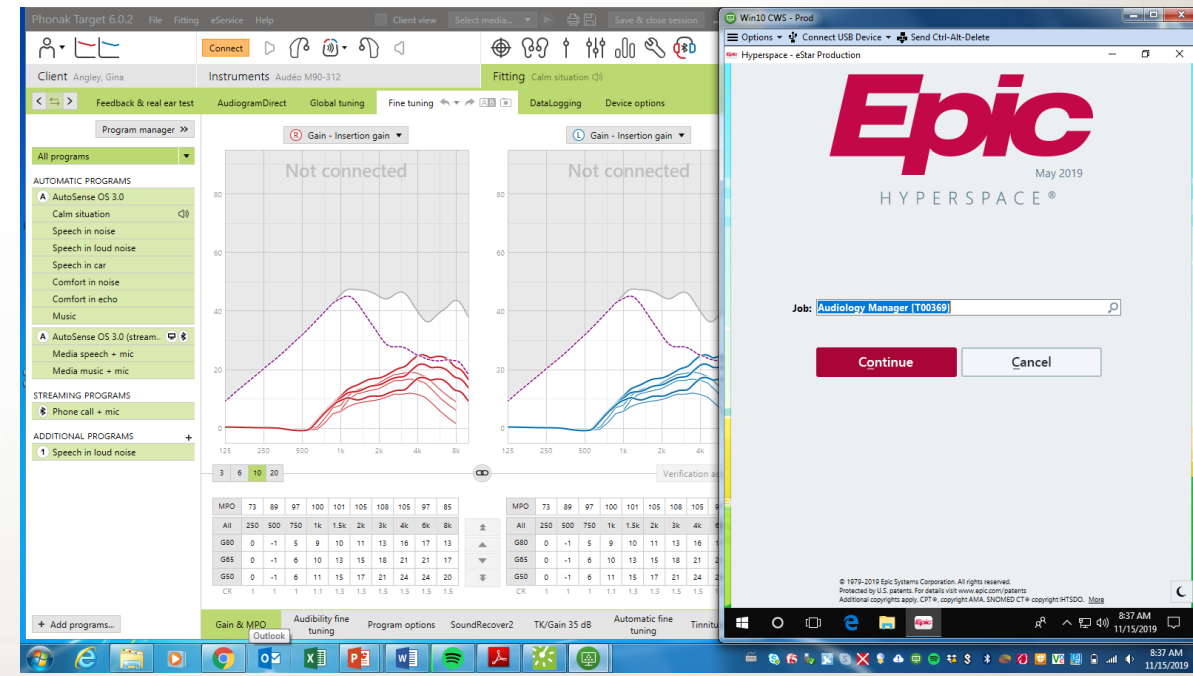- Instructions on/practice how best to hold the phone

Appointment Considerations

- Support staff to help with orientation and/or installation

- Introduce everyone in the room

- Check-in process

- Clinician evaluation

Appointment Considerations

- Practice, practice, practice with the camera!

- Be mindful of facial expressions

- Talk...A LOT!

Why don't we do it?

- Change is scary

- Products unavailable or limited…until now

- Cost of extra equipment?

- Do not know where to look for guidance

- Reimbursement/Billing

- Licensure

- How do I talk to my patients about this?

How do I present this to my patient?

- Review patient chart for motivators

- Listen to the frustrations your patients report

- Set up a pair of clinic demo hearing aids

- Start with the easy patients and ask for feedback

- Create a clinic support system for patients

Action Items for Monday

- Evaluate your space

- Start planning how you will use your support staff

- Practice, practice, practice

- Review your clinic schedule for potential patients

Thank you!

Questions?