Academia
CLAYTON FISHER

M.Cl.Sc., Audiologist

From evaluation to post-care:
Enhancing the patient journey in hearing aid fitting

Wednesday, May 15, 2024

12:00PM EST

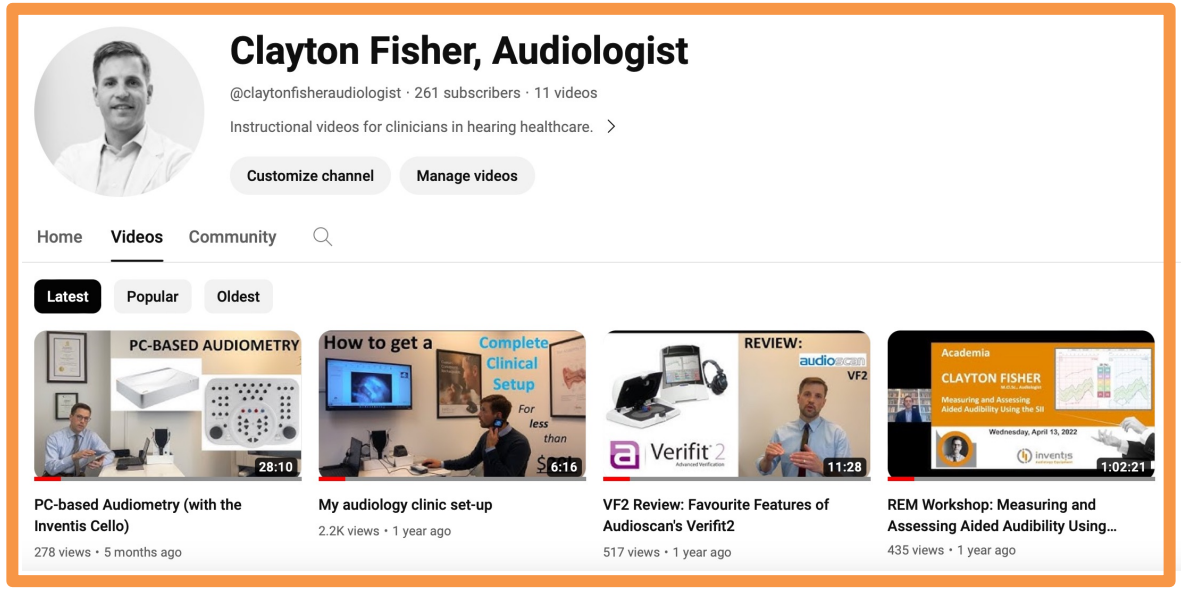
inventis
Audiology & Balance

About Me

I have a decade of clinical experience in assessment and treatment of hearing loss in hearing aid clinics

I've worked in chain clinics, hospitals systems, and now I have my own private practice

- I like to optimize clinical workflow, efficiency, and improve the patient experience
- I like teaching; check out my Audiology Online articles and webinars
- I created a YouTube channel to support clinicians, particularly around HA fittings



https://www.youtube.com/@claytonfisheraudiologist/videos

Workshop Goals

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Learning Objectives:

1) Review the benefits of having a modern, connected clinical set-up (The Why)

2) Learn how to modernize your assessment process to improve workflow and the patient experience

3) Further understanding of the importance of hearing aid verification, validation, and follow-up in optimizing client outcomes

Workshop Outline

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- **Part 1: Clinical Set-up, Intake, and Assessment Process**
  - How should you set up your clinic for success?
  - Case history forms; needs assessment; modern test battery
  - Counseling, recommendations, and demonstrations
- **Part 2: Hearing Aid Verification, Validation, and Follow-up**
  - Hearing aid fitting and verification
  - Post-fitting follow-up and validation
  - Ongoing care

If this sounds familiar…

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This workshop is an extension of a previous webinar where I explained that:

Many clinics still use an outdated approach and do not optimize their equipment

- For more on this watch:
  - https://www.audiologyonline.com/audiology-ceus/course/get-connected-benefits-data-transfer-38837

However, our patients deserve a better, more thorough and inclusive experience

- Today we will outline exactly what this looks like in my clinic

Why is this necessary?

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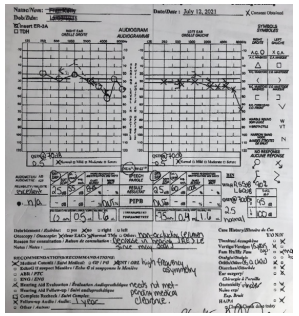
What does the data say?

Of the attendees of "Get Connected" talk:

- 67% were using connected audiometers 
  - (not bad!)



- **36% were still using stand alone audiometers** 
  - This means they are either doing hand-written paper audiograms or
  - Doing manual threshold entry into Noah
    - Using the Noah Audiogram Module

What are you doing?

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So today, instead of making assumptions…

we will take regular polls throughout the session!

- They will only take a few moments and are anonymous
  - This way we can gain a better understanding of what everyone is doing (or not doing)!
  - This will be educational for me too!
    - It's a great opportunity to collect data from clinicians!

But before we get into this

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What does “connected” mean?

- Data transfer/storage in Noah

What does “modern” mean in this context?

- Striving to utilize the current clinical tools we have available to us, in order to:
  - Optimize our clinical workflow
  - Optimize the patient experience (and outcomes!)

Let’s review two slides from the ”Get Connected” webinar

Benefits of a Modern Set-up

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Greatly facilitates clinical workflow

- **Efficiency**
  - It is far faster to store data, rather than record it manually; automatic calculations; data comparison over time, etc.
- **Accuracy**
  - There is way less opportunity for user/tester errors
- **Convenience**
  - Who wants to waist mental energy manually recording audiometric data?!

Benefits of a Modern Set-up

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Revolutionizes the patient experience

- **Inclusion**
  - The patient is included in every step of the assessment
- **Transparency**
  - They see what you see, as you see it, in real-time
- **Professionalism**
  - This is a more impressive approach that builds patient trust

Part 1

Assessment

Poll # 1

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What office set-up do you use?

- Test and fitting room all in one
- Start in test room, move to fitting room
- Start in fitting room, move to test room, then back to fitting room

Physical Set-Up

There are plenty of ways you can do this;

Find what works for you and your space!

- **Benefits of an “all-in-one” set-up**
  - Patients do not have to relocate rooms
  - Convenient for clinician
  - Works well for small spaces
  - Can create a more intimate atmosphere
  - You only need one computer!

How is this still common?!

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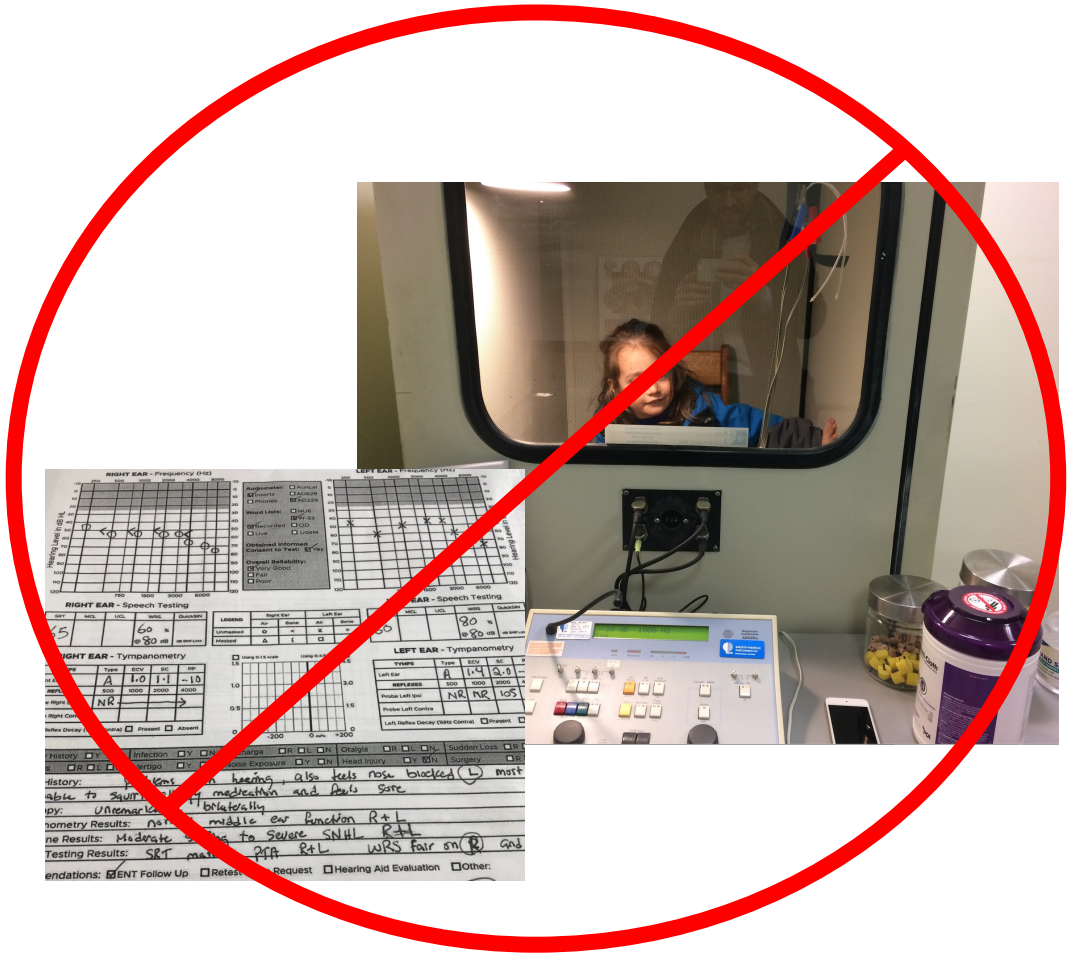
Hopefully, your set-up does not resemble this…

- No computer in sight
- Hand-written, paper audiogram
- Equipment that cannot (at least easily) connect to Noah



Essentials

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The following tools are essential for a modern clinic

- Office management system (OMS)
- Computer in test room
- Noah connected equipment
- Large, patient-facing monitor

Poll # 2

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Do you utilize a patient facing monitor?

- Yes – Always
- Yes – Sometimes
- Never – I don’t have a monitor
- Never – I don’t see the point

Get a (big) monitor, now!

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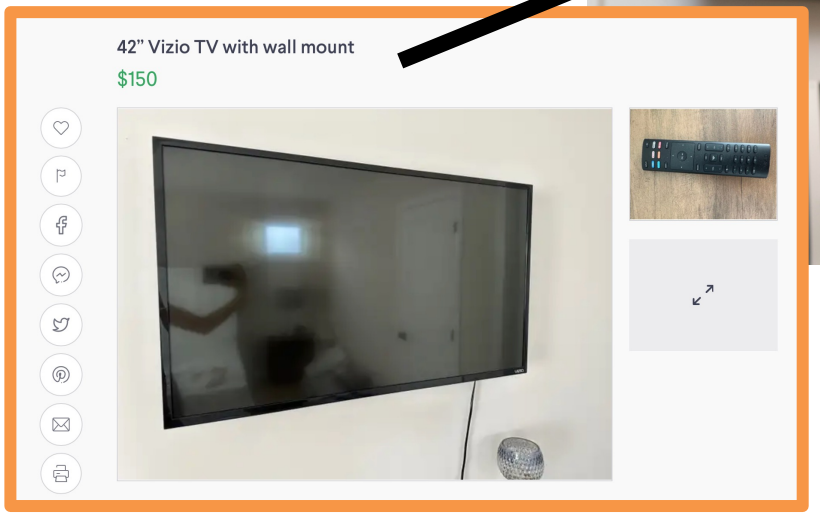
You will notice that this entire talk revolves around having a large patient-facing monitor!

Why?! The patient becomes part of the process …rather than just being acted upon



This does not need to be expensive! …I like to buy used TV's online off Kijiji

Poll # 3

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What type of OMS do you use?

- Web / cloud-based
- Stand alone, single computer
- Stand alone, multiple computers
- I don’t use an OMS

Office Management System

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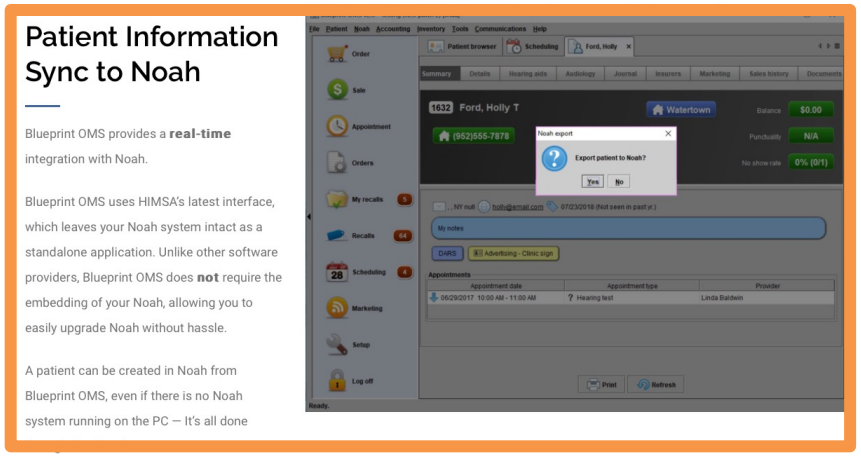
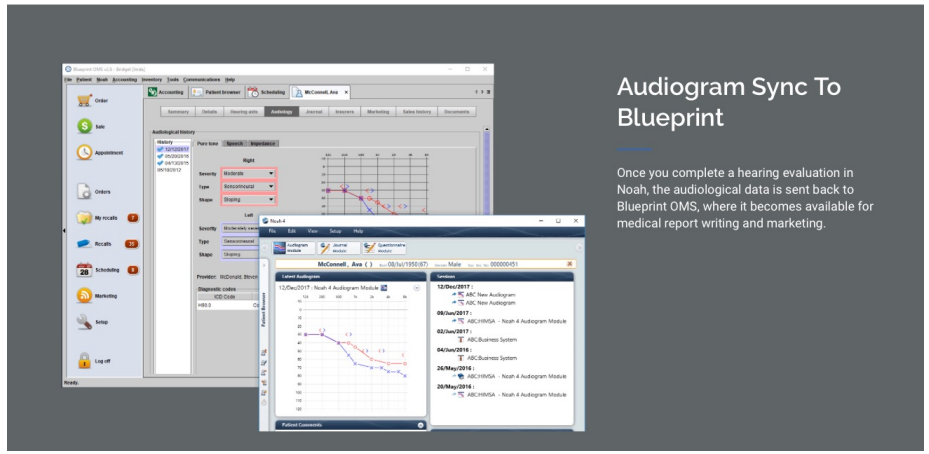
If you don't have an OMS, you need one!

- Online bookings / Online forms
- Bi-directional integration with Noah
  - Patient file is automatically exported to Noah
  - Patient audiogram is automatically imported back into OMS
  - Tymp and speech data come in too!
    - This happens in real-time





Blueprint Solutions

Poll # 4

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How do your patients complete their intake forms?

- Online – before appointment
- Digitally – on tablet in office
- Paper – mailed out before appointment
- Paper – in office

Online Forms

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This is a game-changer…

- Completed by patients at home, before appointment and submitted online
  - Sent to patient's email
    - (Or sent to tablet in office)
- Less work for admin
- More time with patients
- Streamlines patient interview

Treat
Hearing. Health. Care.

613-567-3644
info@treatyourhearing.ca

Ottawa:
Gladstone Sports & Health Centre
18 Louisa St., Suite 150, K1R 6Y6

Westport:
Country Roads Community Health Centre
79 Bedford St. K0G 1X0

PERSONAL INFORMATION

Name: Title First name Initial Last name
Address: Unit:
City: Province: Postal Code: (Caps, no spaces)
Date of Birth: (DD/MM/YYYY)
Email: Health Card #: (No spaces w. version code)
Phone: Family Physician: Dr. (First Name Last Name)

ALTERNATE CONTACT (only complete if necessary) ☐ is primary contact ☐ use contact for billing

Name: Title First name Initial Last name
Address: Unit:
City: Province: Postal Code:
Relationship to client:
Email:
Phone:

THIRD PARTY INFORMATION

Might you be eligible to receive healthcare benefits from any of the following third-party programs?

☐ Veterans' Affairs Canada (VAC) Client / File / K number:
☐ Workplace Safety and Insurance Board (WSIB) Claim number:
☐ Ontario Disability Support Program (ODSP) Member ID number:

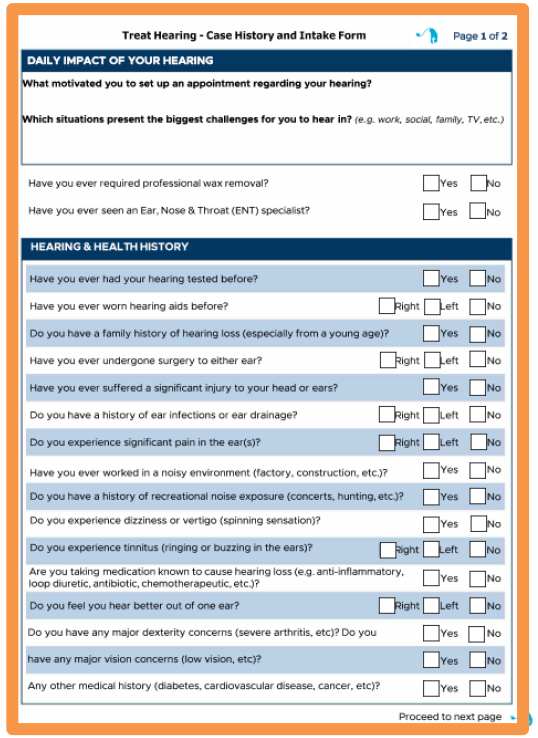
PERSONAL INFORMATION CONSENT

"I understand that Treat Hearing Health Care, will only collect personal information they perceive necessary to identify client needs, and will maintain the security and privacy of this information in accordance with its privacy policy". "I therefore consent to the collection, by Treat Hearing Health Care of this personal information" "I also consent to the release of this information to any third party payer, health care professional, immediate family members or persons trying to assist me, if Treat Hearing Health Care or staff receive my permission to do so."

Client Signature: _____ Date: _____

Please draw signature using mouse on computer or finger on tablet, then hit "create" and then hit "submit". Thank you and see you soon!

Page 2 of 2



Treat Hearing - Case History and Intake Form Page 1 of 2

DAILY IMPACT OF YOUR HEARING

What motivated you to set up an appointment regarding your hearing?

Which situations present the biggest challenges for you to hear in? *(e.g. work, social, family, TV, etc.)*

Have you ever required professional wax removal? ☐ Yes ☐ No
Have you ever seen an Ear, Nose & Throat (ENT) specialist? ☐ Yes ☐ No

HEARING & HEALTH HISTORY

Have you ever had your hearing tested before?			☐ Yes ☐ No
Have you ever worn hearing aids before?	☐ Right	☐ Left	☐ No
Do you have a family history of hearing loss (especially from a young age)?			☐ Yes ☐ No
Have you ever undergone surgery to either ear?	☐ Right	☐ Left	☐ No
Have you ever suffered a significant injury to your head or ears?			☐ Yes ☐ No
Do you have a history of ear infections or ear drainage?	☐ Right	☐ Left	☐ No
Do you experience significant pain in the ear(s)?	☐ Right	☐ Left	☐ No
Have you ever worked in a noisy environment (factory, construction, etc.)?			☐ Yes ☐ No
Do you have a history of recreational noise exposure (concerts, hunting, etc.)?			☐ Yes ☐ No
Do you experience dizziness or vertigo (spinning sensation)?			☐ Yes ☐ No
Do you experience tinnitus (ringing or buzzing in the ears)?	☐ Right	☐ Left	☐ No
Are you taking medication known to cause hearing loss (e.g. anti-inflammatory, loop diuretic, antibiotic, chemotherapeutic, etc.)?			☐ Yes ☐ No
Do you feel you hear better out of one ear?	☐ Right	☐ Left	☐ No
Do you have any major dexterity concerns (severe arthritis, etc)? Do you			☐ Yes ☐ No
have any major vision concerns (low vision, etc)?			☐ Yes ☐ No
Any other medical history (diabetes, cardiovascular disease, cancer, etc)?			☐ Yes ☐ No

Proceed to next page

Poll # 5

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Do you conduct a formal needs analysis?

- **Yes – all the time**
- **Yes – sometimes**
- **No – I don't have the tools**
- **No – I don't see the point**

Needs Analysis

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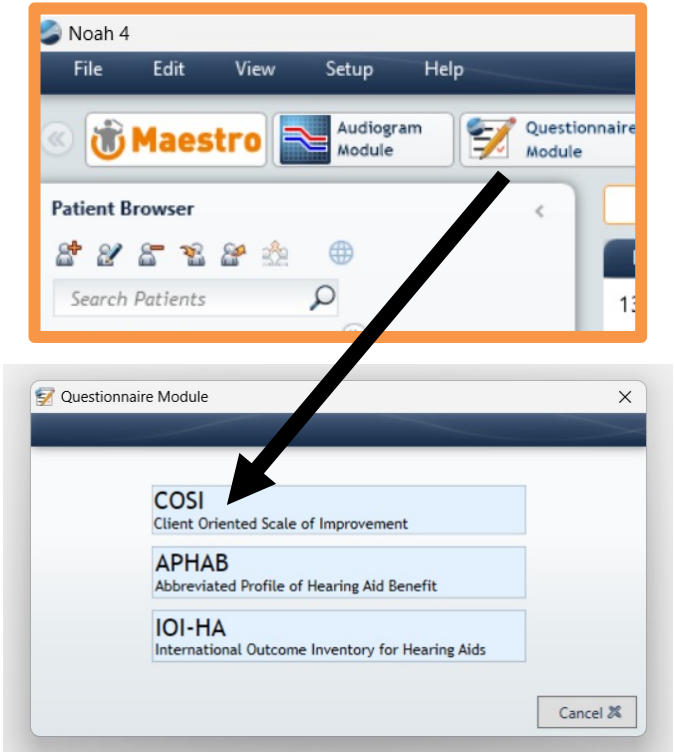
Where do I get a good questionnaire?

- Did you know Noah includes free access to the three most popular validation questionnaires?!
  - Easily accessible in Noah's Questionnaire Module
    - Digital, easily accessible
      - Can be referenced again later
        - and modified as needed



Needs Analysis

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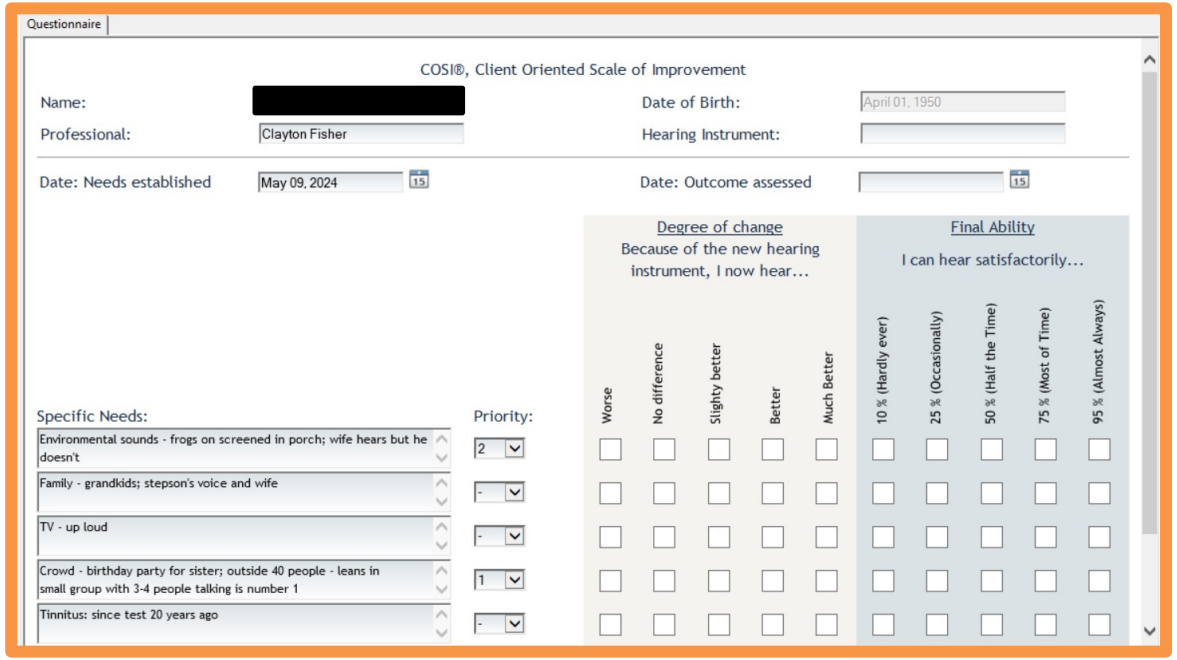
I use the COSI to formally establish a patient's specific hearing difficulties

- These are needs / areas that the patient wants to improve!
  - e.g. TV, family, social, etc.
    - I like to get really specific
      - Rank the top two needs, minimally
- These needs inform the treatment plan
- They are returned to later to assess perceived benefit


Questionnaire

COSI®, Client Oriented Scale of Improvement

Name: [redacted] Date of Birth: April 01, 1950

Professional: Clayton Fisher Hearing Instrument:

Date: Needs established May 09, 2024 Date: Outcome assessed

Specific Needs:	Priority:	Degree of change: Because of the new hearing instrument, I now hear… Worse	No difference	Slighty better	Better	Much Better	Final Ability: I can hear satisfactorily… 10 % (Hardly ever)	25 % (Occasionally)	50 % (Half the Time)	75 % (Most of Time)	95 % (Almost Always)
Environmental sounds - frogs on screened in porch; wife hears but he doesn't	2										
Family - grandkids; stepson's voice and wife	-										
TV - up loud	-										
Crowd - birthday party for sister; outside 40 people - leans in small group with 3-4 people talking is number 1	1										
Tinnitus: since test 20 years ago	-										

Poll # 6

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Do you use video otoscopy?

- Yes – Always
- Yes – Sometimes
- Never – I don’t have a video otoscope
- Never – I don’t see the point

Otoscopy

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Get a video otoscope, now!

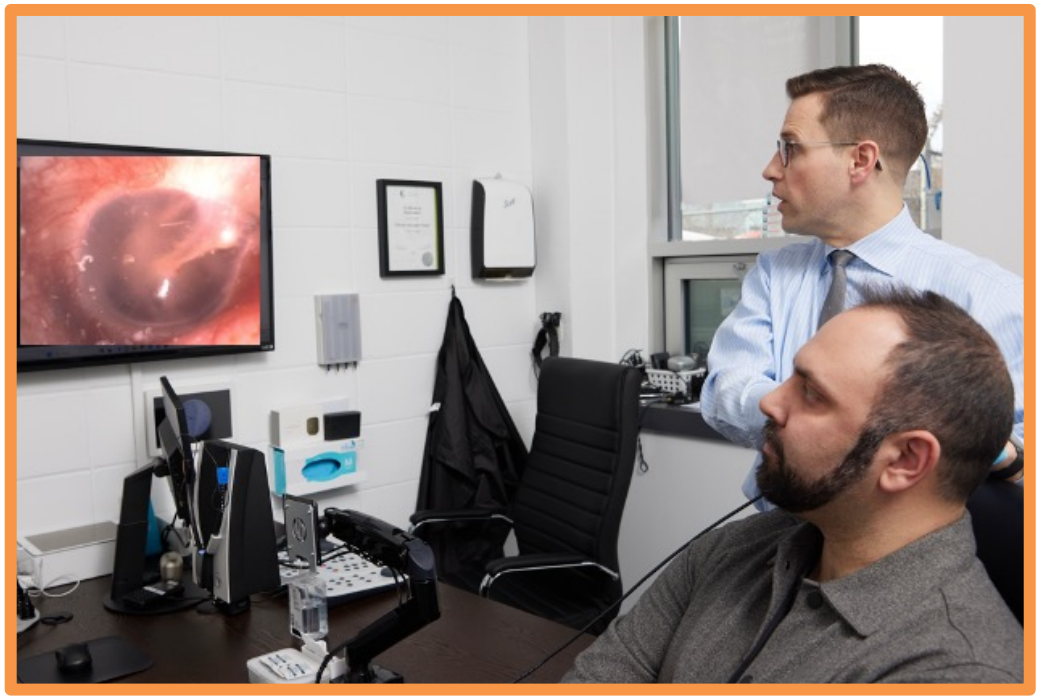
In my opinion, you can't have a serious audiology practice these days without one

- See the TM in full hi-res color on a big screen
- Patient's can get their own for $40 on Amazon!

Otoscopy

Lets your patient's see what you see!

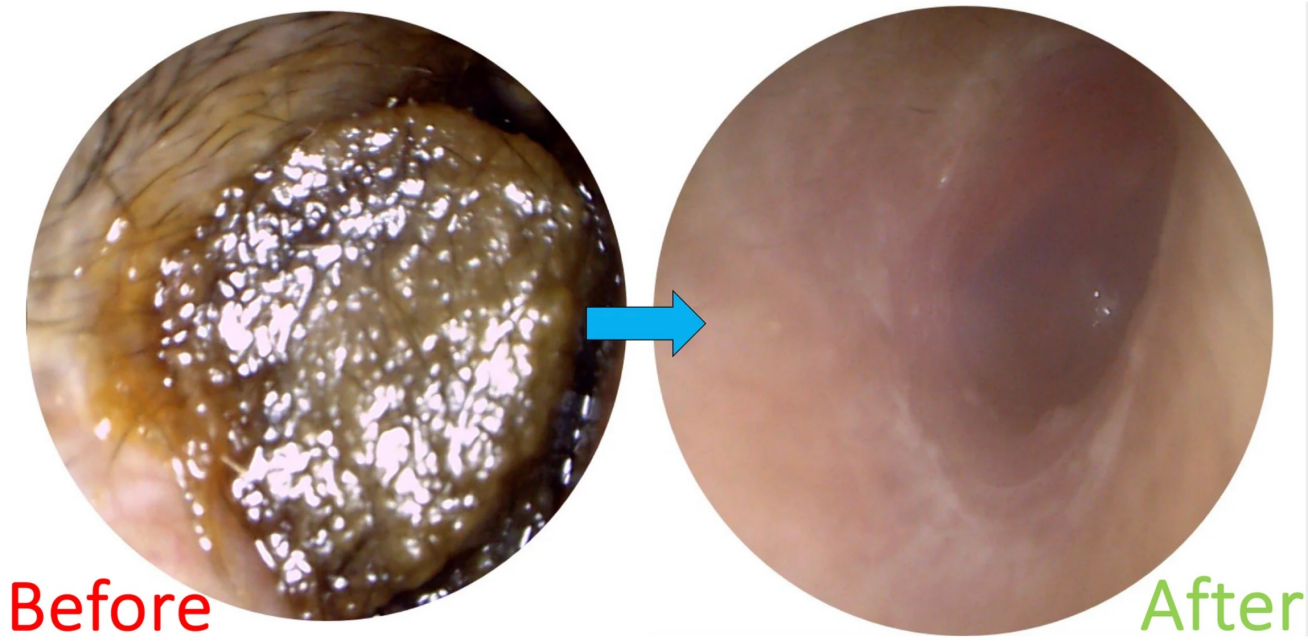
- **Video otoscopy should be the default**
  - Should be Noah compatible
    - Manufacturer's Noah Module/Suite
  - Since still so few people have this option (or use it regularly), it is still a BIG differentiator!
    - Older folks: "Wow, this is cool, I've never seen this before!"
      - Younger folks: probably expect it



Otoscopy

This is also huge if you do wax removal

- **Patients see before and after**
  - Helps them understand the issue
  - They see (and feel) the results
  - <u>Important for documentation</u>
    - You have picture evidence
      - Let's show what we find, not just describe it



Tympanometry

Make sure you can transfer your tymp data to Noah

- **You cannot be entering your tymp data manually!**
  - Surely you have more important things to do!
  - e.g. setting Tympani on its base station allows you to quickly send your curves and data to Maestro Noah Module

Tympanometry

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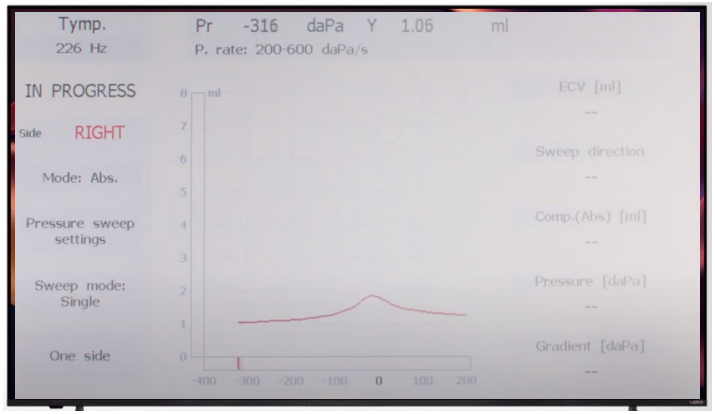
Then you can explain the results on your monitor!

- **We are taking the patient through the auditory system, one step at a time**
  - Outer ear
  - Middle Ear
  - Inner ear

Tympanometry

Gold Standard: Live Tympanometry

- **The ideal set-up is to have the patient see the curves live on the monitor, as the test is happening**
  - The Clarinet and Flute have Live View that facilitate this
  - Computer-based tymps always use the computer screen for results!



Poll # 7

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Do you utilize acoustic reflexes?

- **Yes – all the time**
- **Yes – sometimes**
- **No – I don't have the capability**
- **No – I don't see the point**

Acoustic Reflexes

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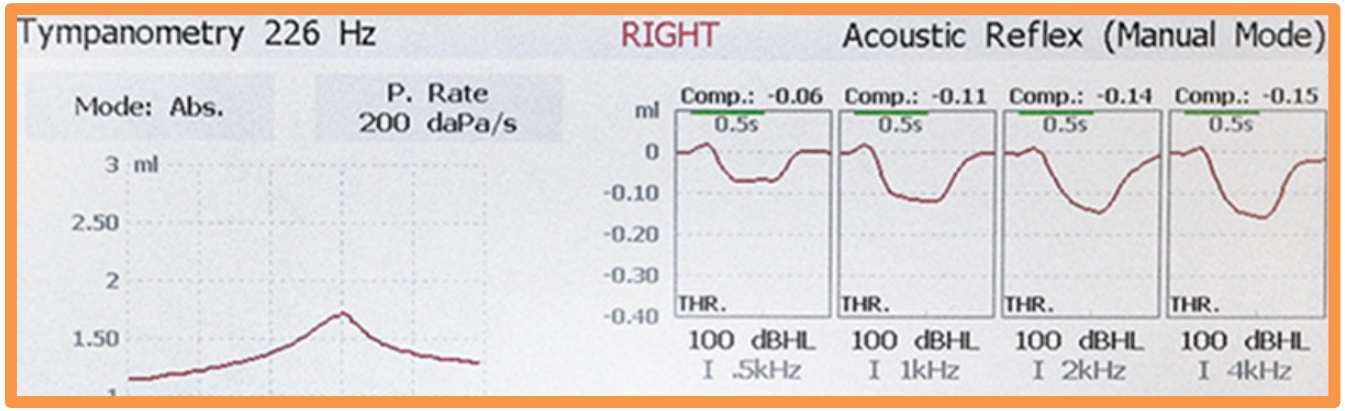
I like to use as many objective measures as I can

- Acoustic reflexes are needed for certain differential diagnoses
- Great for Cross-Check
- Reflexes fast and are easy to run,
  - (especially when using an automatic screening criteria)
- Minimally get a reflex license so you can do ipsilateral reflexes from 0.5 – 4kHz



Poll # 8

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Do you utilize otoacoustic emissions (OAEs)?

- Yes – all the time
- Yes – sometimes
- No – I don't have the capability
- No – I don't see the point

Otoacoustic Emissions

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OAEs are greatly underused!

- This is probably because clinicians don't understand the benefit
- Or that they are fairly expensive
  - (Or both)
- Like other audiometric equipment, there are plenty of options
  - Figure out what's right for your clinic

https://inventis.shop/collections/audiologist/products/sentiero-handheld-screening-otoacoustic-emissions-oae-buy-online

Otoacoustic Emissions

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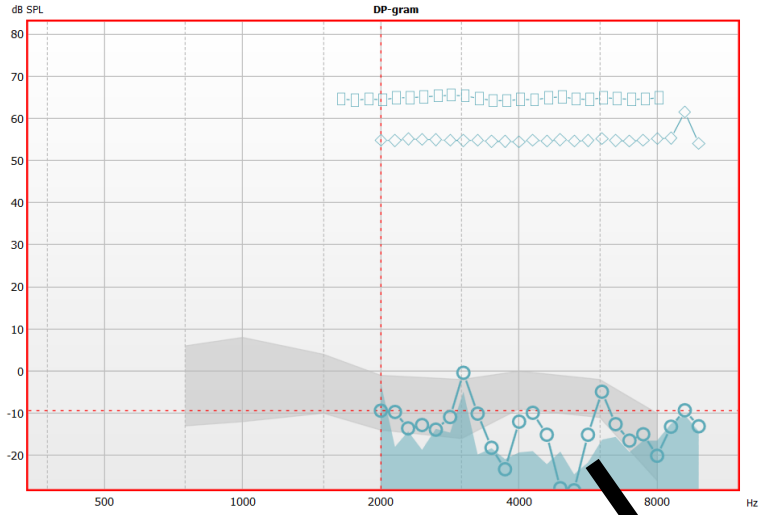
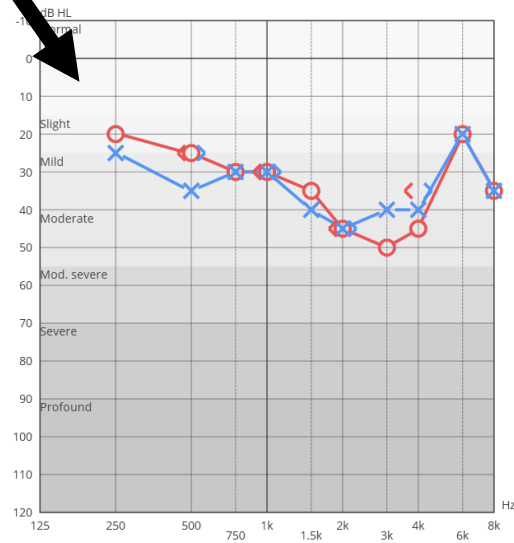
OAEs have a “crystal ball” effect

- OAEs objectively measure the functioning of the the outer hair cells of the cochlea
- Perfect OAEs means the pure tone audiogram will be WNL
- Absent OAEs means there is some degree of SNHL!
  - (If middle ear measures are normal)
    - No behavioral response needed





Pure Tone Audiometry

I don't have much to say about standard pure-tone audiometry, except:

- Do it on a computer, not paper!
  - Make it more convenient and accurate:
    - Auto-advance to next frequency on save
    - Do inter-octaves!
    - Maestro even has an automated option!

Poll # 10

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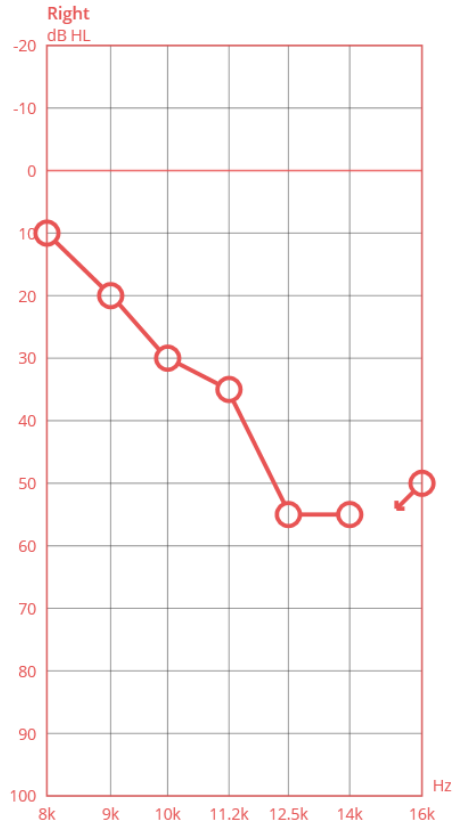
Do you utilize ultra high-frequency (UHF) audiometry?

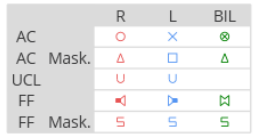
- **Yes – all the time**
- **Yes – sometimes**
- **No – I don't have the capability**
- **No – I don't see the point**

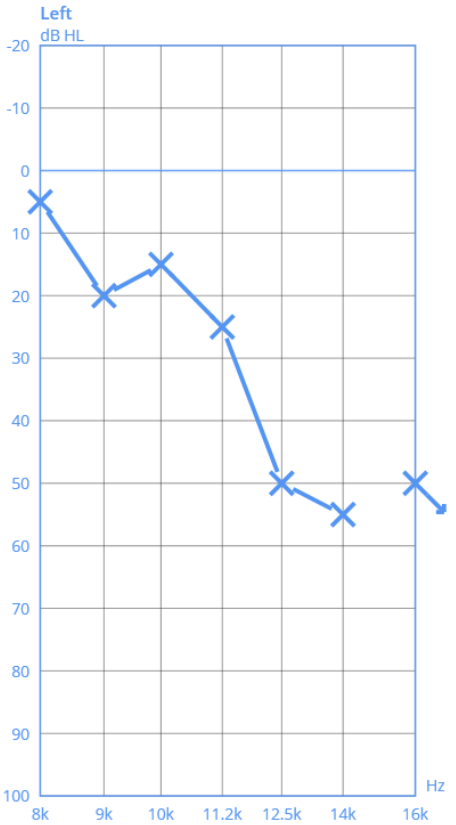
Ultra-High Frequencies

Can you think of instances where this would be useful?!

- Hearing WNL on standard audiogram …and
  - Tinnitus and/or
  - Hyperacusis and/or
  - Difficulty hearing in noise, etc.







https://www.audiologyonline.com/ask-the-experts/when-ultra-high-frequency-audiometry-28574

Poll # 9

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How do you conduct your speech testing?

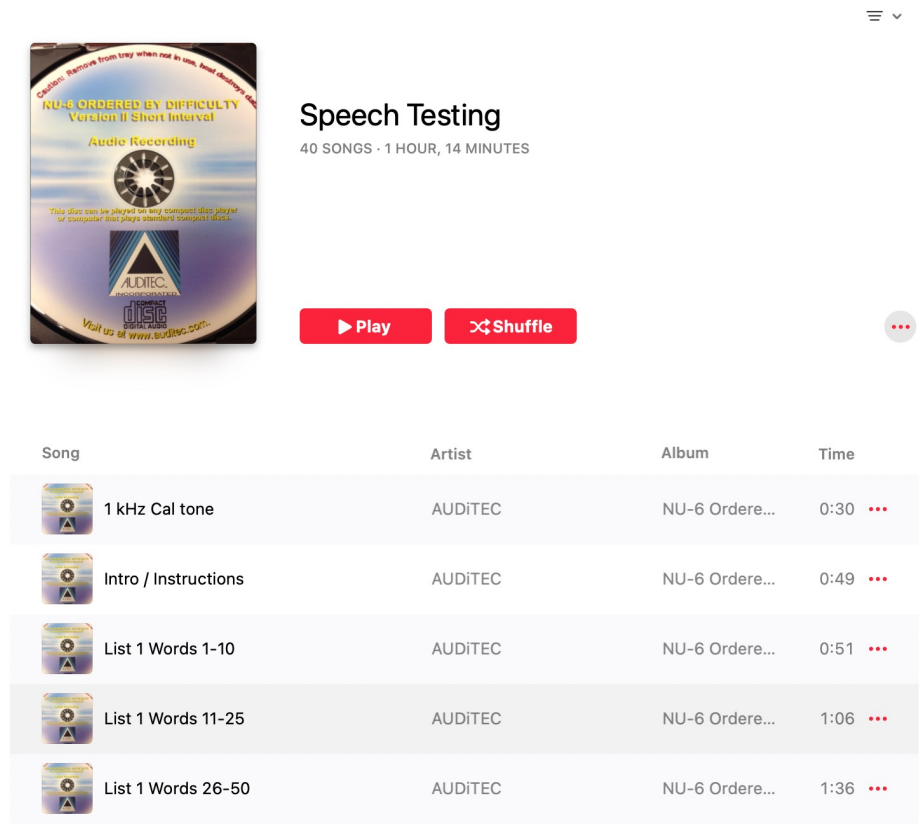
- Recorded – Computer based (internal lists)
- Recorded – external device: e.g. iPad/iPod/MP3 (or CD or tape!!!!)
- Recorded – both internal / external inputs
- Live Voice

Standard Speech Testing

Not much to say on this either, except:

Recorded speech is the only way to go

- Again, make it easy on yourself
  - No speaking or straining voice!
  - Don’t need to have quiet room
  - Automatic scoring (no math)
  - More accurate (calibrated)
  - If you don’t have internal lists, get an iPod or iPad !



Other Speech Testing

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Speech in Noise (SIN)

- Get the QuickSIN license on your audiometer!
  - Scores automatically
  - Or get the Wav / MP3 files on your iPad

There are now other easy to administer tests that predict SIN

- Audible Contrast Threshold (ACT)
  - Is uses spectro-temporal modulation (not speech) detection
    - not language specific

Poll # 11

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Do you use the AI / SII when explaining a patient's audiogram?

- **Yes – all the time**
- **Yes – sometimes**
- **No – I don't have the tools**
- **No – I don't see the point**

Counseling (with the AI)

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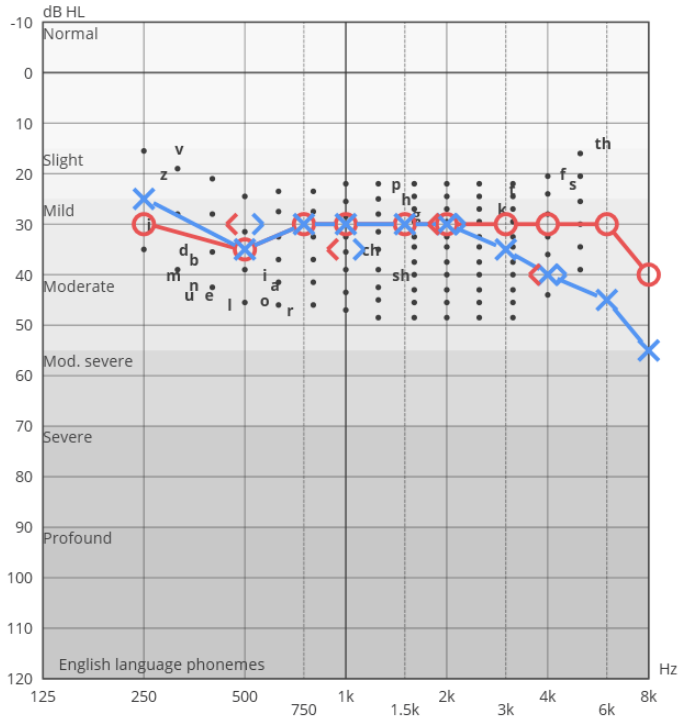
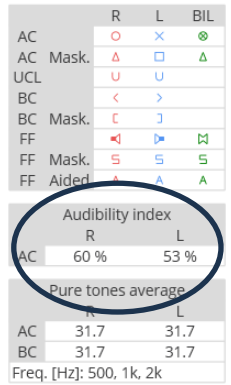
Discussion of the audiogram also takes place on the monitor

- Full color and overlays of severity, speech sounds and dots
- Use the Audibility Index (AI) to explain the effects of their hearing loss on speech audibility, objectively
- For complete discussion on using the AI in your counseling, read my article on the topic!





https://www.audiologyonline.com/interviews/inventis-audibility-index-indispensable-counseling-tool-28931

Poll # 12

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Do you demonstrate hearing aids, when appropriate?

- **Yes – all the time**
- **Yes – sometimes**
- **No – I don’t have the tools**
- **No – I don’t see the point**

Recommendations

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Now it's time to discuss treatment options…

- If you've done everything right, the patient should understand their hearing loss and be open to trying solutions
- But don't tell them… show them!
  - Do a demo!

Hearing Aid Demonstration

With 2.4 gHz Noahlink standardized Wireless Connectivity…

- There is no excuse for not doing an in-office demonstration
- Just “best-fit” the hearing aids and put them in their ears!
  - Make a few slight adjustments based on knowledge of hearing aid or patient feedback on sound quality
- Try it!

Part 2

Treatment

Hearing Aid Fitting

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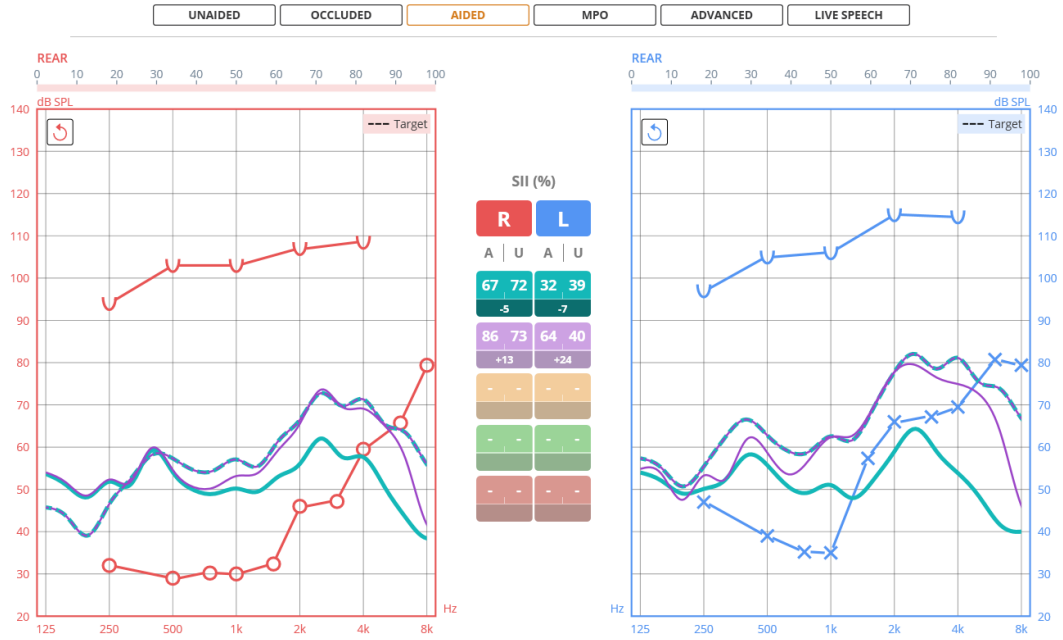
For a full discussion on how I fit hearing aids, please watch my other webinars



https://www.audiologyonline.com/audiology-ceus/course/case-studies-in-real-ear-39374

https://www.audiologyonline.com/audiology-ceus/course/roll-up-your-sleeves-hands-38332

https://www.audiologyonline.com/audiology-ceus/course/measuring-and-assessing-aided-audibility-37807

Poll # 13

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Do you utilize real-ear measurements?

- Yes – all the time
- Yes – sometimes
- No – I don't have the capability
- No – I don't see the point

Hearing Aid Verification

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My approach is all about measuring and optimizing audibility

- (Measure REUR with 70 dB Pink Noise for ear canal resonance)
- Measure MPO and adjust as needed
- **Manually run <u>unaided</u> speech at 65dB (or aided with old HAs) in ”Aided” screen (REAR)**
- **Run aided speech at 65dB and adjust as needed**
- Assess loudness and make further adjustments, as needed
- Run additional levels, as needed/desired, e.g. soft (55dB) and loud (75dB)
- Assess improvement in Speech Intelligibility Index (SII)

Hearing Aid Verification

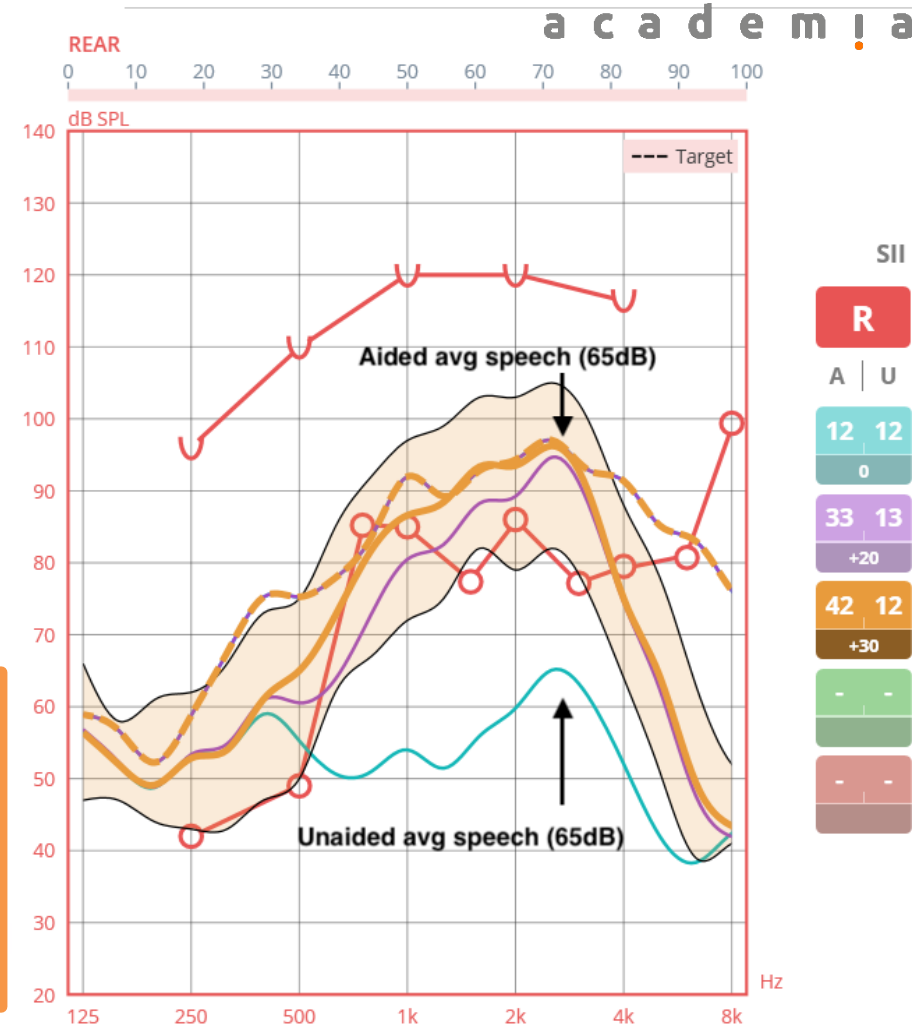
How much does the SII changed,

aided – unaided ?

- Use this to predict benefit with HAs

Expected Benefit with Amplification (EBA) tool

Rating	Change in SII65 (aided - unaided)	Expected Patient Benefit
Very High	> 25	Excellent Improvement Expected
High	20 - 25	Very Good Improvement Expected
Average	15 - 19	Good Improvement Expected
Fair	10 - 14	Noticeable Improvement Expected
Low	5 - 9	Slight improvement expected (unless loss is mild or precipitously sloping)
Very Low	< 5	Minimal improvement expected: Re-examine fitting (unless loss is slight)
Nil	0 (or negative)	Red Flag - Re-examine fitting



https://www.audiologyonline.com/audiology-ceus/course/measuring-and-assessing-aided-audibility-37807

Poll # 14

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Do you utilize a formal hearing aid validation questionnaire?

- **Yes – all the time**
- **Yes – sometimes**
- **No – I don't have the tools**
- **No – I don't see the point**

Hearing Aid Validation

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- **At the first follow-up, post-fitting: Assess improvement on COSI !**
  - Return to the hearing difficulties discussed on the needs assessment
    - Measure and document the degree of change
  - Make sure to actually prompt the patient with the language used on the COSI
    - “Is it Slightly Better, Better, or Much Better?”
  - I do not worry about the “final ability” section; I just want to know the change
  - As an additional measure, I also ask them to formally rate their satisfaction
    - “Poor, Fair, Good, Very Good, Excellent”

Hearing Aid Validation

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Questionnaire

COSI®, Client Oriented Scale of Improvement

Name: [redacted]

Date of Birth: February 17, 1950

Professional: Clayton Fisher

Hearing Instrument:

Date: Needs established: April 03, 2024

Date: Outcome assessed:

Specific Needs:	Priority:	Degree of change: Because of the new hearing instrument, I now hear... Worse	No difference	Slighty better	Better	Much Better	Final Ability: I can hear satisfactorily... 10 % (Hardly ever)	25 % (Occasionally)	50 % (Half the Time)	75 % (Most of Time)	95 % (Almost Always)
TV - needs captions or TV is too loud for Bob "Embarassed	-	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐
Conversations - someone in rooom with low voice; with bluff and ask for clarification late: Misunderstandings - "christians vs fisherman"	2	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐
TInnitus - bothersome "roaring"	1	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐
Husband - Bob - if turned away "pardon" Bob gets frustrated	-	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐
Son's for a visit "mom,, you need a hearing aid" - room with a lot of conversations - NA	-	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Poll # 15

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When is your first follow-up, post-fitting?

- 1 week
- 2 weeks
- 3 weeks
- 4 weeks

Follow-Up

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First Follow-up, Post-fitting

- We typically do a 2-week, in-office follow-up visit after a patient's hearing aid fitting
  - With a phone call check-in about 1-week post-fitting
- At both the phone call and in-office visit we always ask about
  - Insertion, physical comfort, acoustic comfort, usage, perceived benefit etc.
- Always check the data-log: objective data related to benefit!

Ongoing Care

- **Typically, we then see patients for a 6-month, post-fitting check-up**
  - Clean and check the hearing aids; listening check
  - Read the data-log again
    - Make sure the data is the same or better than at the 2-week follow up
  - Run firmware updates, etc.
  - Make adjustments to bring gain closer to optimal (REM targets)
  - At 12-month follow-up post-fitting we try to book more time for the following:
    - Updated hearing test
    - Test-box measures or re-run REM (if anything major has changed)

Summary

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- A modern clinical setup requires a patient-facing monitor and
  - Equipment connection / integration with Noah
- Consider expanding your assessment battery to include video otoscopy, acoustic reflexes, OAEs and ultra-high frequency audiometry
- Having the above will ensure
  - Better clinical work-flow for you, better clinical evidence
  - A more inclusive, engaging and educational experience for your patients
- Proper fitting (verification) and follow-up (validation) with ensure that your patients get the best possible outcomes from their treatment

Thank you for your attention.

QUESTIONS?

Contact: info@treatyourhearing.ca

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