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Going for the Goal: Relating COSI Goals to Features and Benefits

Steve Hallenbeck, AuD

75 years of innovation

For 75 years Phonak has been at the forefront of innovating hearing technology, dedicating decades to developing products that enable connections between millions of people.

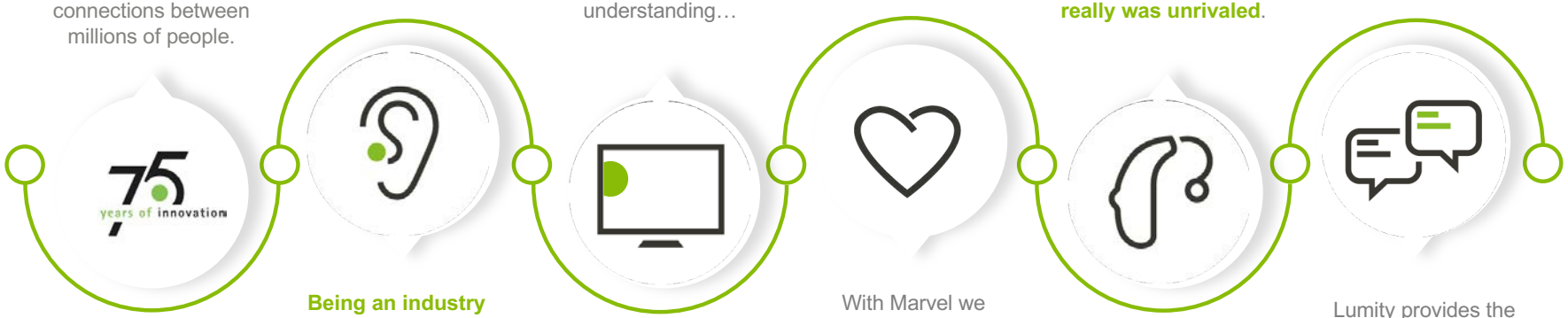
Being an industry leader we never stay still, we continue to innovate; we continue to light up connections and look forward to the next 75 years.

With our new platform we continue to innovate to improve the No.1 consumer desire – Better speech understanding…

With Marvel we really generated **love at first sound** moving the needle on first fit success.

With Paradise we delivered on improving sound quality and HCPs… clients agreed that the sound **experience really was unrivaled**.

Lumity provides the sound quality you expect from an industry leader and focuses on **illuminating speech understanding**.



What do consumers want?

Speech understanding is important. In fact the top 6 areas your clients want to hear better in are related to understanding speech.

- Speech understanding when somebody is speaking from a certain distance[1]
- Speech understanding in 1:1 conversation in a loud environment[1]
- Understanding somebody who is speaking without seeing visual cues[1]
- Understand soft speech in a quiet environment[1]
- Speech understanding in a group conversation in a loud environment[1]
- Speech understanding when watching TV[1]

For more information contact marketinsight@sonova.com

Audeo Lumity Portfolio

Audéo L-R

Audéo L-RT

New

Charger Ease
Compatible with Audéo L-R & RT

Audéo L-RL Life

Charger Case Go™
Compatible with Audéo L-RL

Rechargeable Only

Sand Beige | Beige | Sandalwood | Chestnut | Champagne | Silver Gray | Graphite Gray | Velvet Black

Learning objectives

- Identify hearing goals that are patient-focused, needs-based, measurable, and achievable
- Choose which features to describe based on a patient's stated goals
- Describe strategies for follow-up that includes the validation of hearing goals

Time-ordered agenda

0:00	0:05	Verification and validation
0:05	0:20	Lifestyles Considerations: COSI validation and product selection
0:20	0:40	Matching lifestyle considerations to technology features and benefits
0:40	0:50	A review of basic fitting strategies and their impact on outcomes Follow-up strategies for
0:50	1:00	Follow-up strategies to ensure goals have been met

The Value of Verification **AND** Validation

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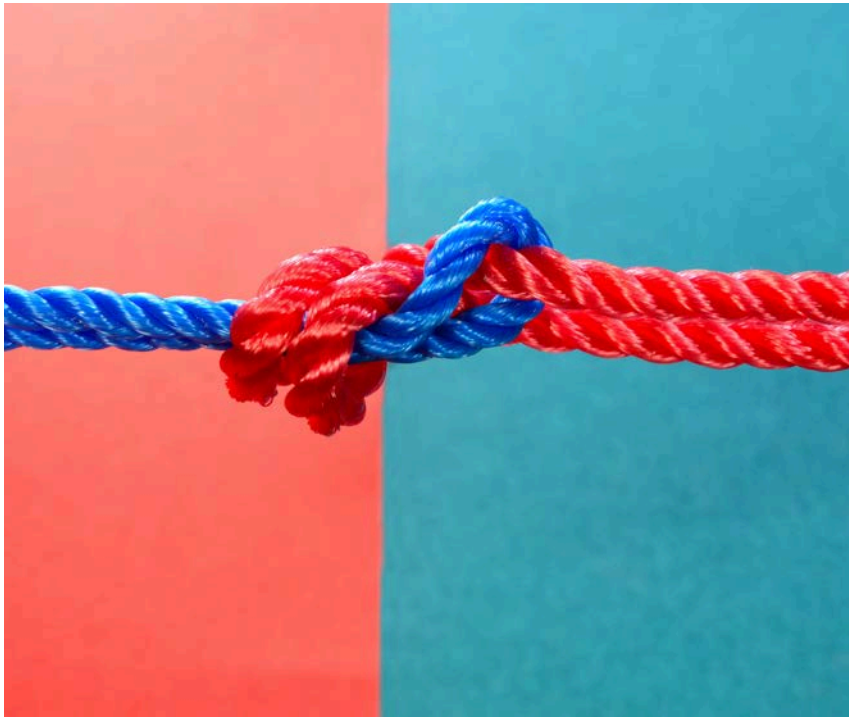
- Verification:
  - Answers the question “Is the technology working?”
- Validation:
  - Answers the question “Is the technology beneficial?”



It starts with a conversation

With every new evaluation,

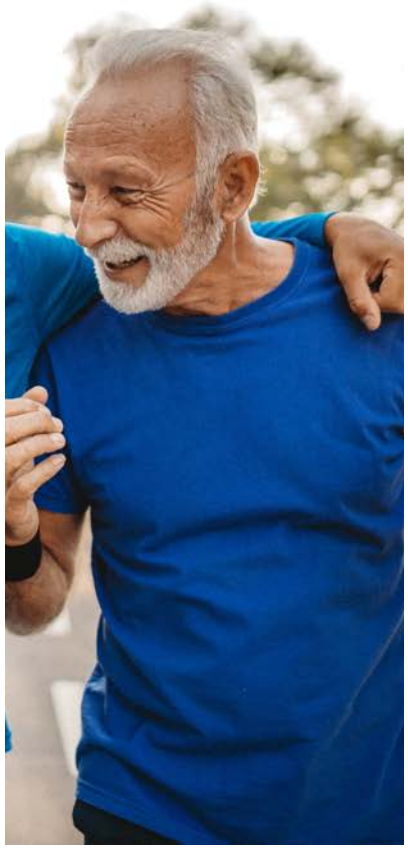
what questions are in your mind?

The HCP fitting questions

- **What does this patient need to know?**
- **Who else is on my schedule today?**
- **Am I going to have enough time?**
- **What is and is not on the intake form?**
- **Did they come by themselves?/Family dynamics?**
- **Is my equipment functioning and up to date?**

What questions do you think are in the patient's mind?

The patient's fitting questions



- **How's my hearing?**
- **What's the testing going to be like?**
- **Am I getting a good deal?**
- **Am I getting the service I expect?**
- **What kind of hearing aid will I get/need?**
- **Am I really having problems? (or is this a nagging family patient?)**

Looking at them side by side

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- **HCP questions**
  - What does this patient need to know?
  - Who else is on my schedule today?
  - Am I going to have enough time?
  - What is and is not on the intake form?
  - Did they come by themselves? What are the family dynamics?
  - Is my equipment functioning and up to date?

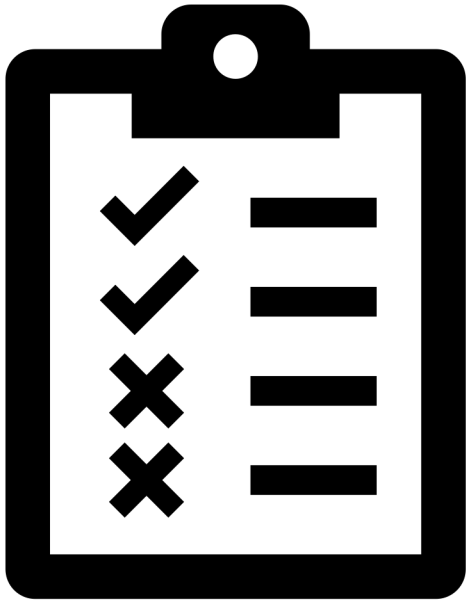
- **patient questions**
  - How bad (or good) is my hearing?
  - What's the testing going to be like?
  - Am I getting a good deal?
  - Am I getting the service I expect?
  - What kind of hearing aid will I get/need?
  - Am I really having problems? (or is this a nagging family patient?)

The great equalizer

- Time is of the essence!
  - Build trust through give and take
- What do they need to know, and what do I need to know?
- Prioritize
  - What needs to be addressed first?
  - What can I learn or answer as we go?
  - Am I asking the right questions at the right time?

Hearing needs assessment

- How do you start the conversation?
- What are the common follow-up questions?
- How do you guide the conversation from the general to the specific?



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Defining “patient-focused” goals

- A “patient-focused” goal is **specific**

- A commonly stated goal is “to hear better”
- We can refine by:
  - Focusing on the patient
  - Ask questions about specifics

- “Who or what do you want to hear better?”
- “Is there a problem we’re looking to solve?”

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Defining “needs-based” goals

- Goals should also be “needs-based” and answer “the why”
- Who, what, where, when, and how allow you to focus on specifics for the patient…
- …The needs-based aspect makes the goal **real**
- “I need to hear better because it damages my relationships”
- “The hearing loss causes me to withdraw”
- “I can’t be effective in my job”

Defining measurable and achievable goals

- The **how** of the goal setting

- Answers the question:
  - How do I know I've reached the goal?
  - What tools do I need to measure success?

- Examples
  - Wear time in datalogging
  - Conversing with family patients
  - Objective performance tests

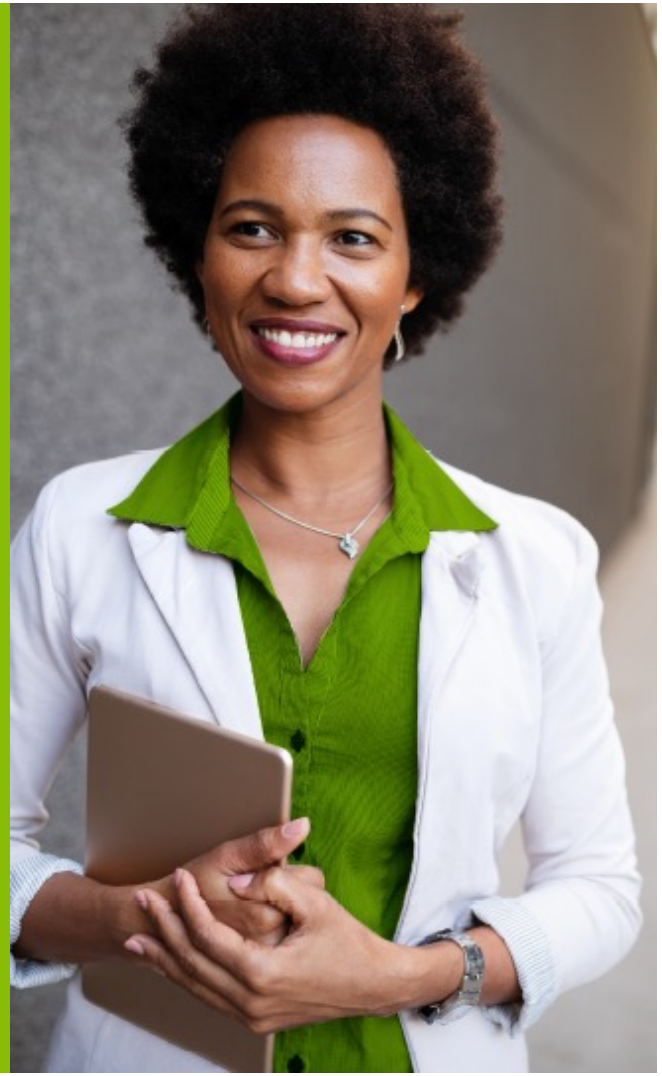
An example of an ideal goal

- A goal: To hear better
- A good goal: To hear conversations better
- A better goal: To hear conversations with my spouse better

- **The best goal:** To be aware of conversations with my spouse anytime at home regardless of noise and respond appropriately to diffuse family arguments

- Who, what, where, when, how, and why can all be found in this goal

Case example



Case history needs assessment

I want to be more aware of what people are saying in 1 on 1 conversations

I want to be able to have great focus on the conversation when I'm in a noisy place like a restaurant

I want music to sound clear and crisp when I'm performing music

Case History Background and Hearing Needs Overview

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- 64-year-old female
- Recently tried a basic personal amplifier since friends and family commented that he was asking “what?” a lot and was withdrawing from noisy social situations
- She highlighted that he struggles significantly with understanding speech in areas with high background noise, like restaurants and family parties
- The personal amplifier improved speech clarity enough to prompt her to learn more about hearing and technology.
- She is a lifelong musician, with heavy exposure to loud sounds playing guitar and piano in bands.
- She indicated that she would have many questions and concerns about using hearing aids in musical situations and how they will reproduce musical tones

What statements do you want to go deeper on?

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Let's look at the conversation…

HCP "Which people do you want to hear better in 1:1?"

patient "My husband"

HCP "How will you know if it's better?"

patient "Well, he always teases me that I say 'what' all the time."

HCP "Let's see if we can reduce the number of 'whats' throughout the day"

Other questions

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HCP "Tell me about those noisy situations"

"You know, restaurants and parties" **patient**

HCP "Do you have a specific place in mind, and who are you with?"

"Yeah, we always eat at Steve's Place, And at family parties. It's hard to focus on friends and family" **patient**

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Other questions

HCP

"And what does clear and crisp mean to you with your music?"

patient

"Well, that personal amplifier earpiece I used always was making my guitar sound weird with extra sounds. I just wish it was more, you know, transparent. The piano too."

COSI goal setting and follow-up

I would like to ask for repetitions from my husband less often throughout the day.

I would like to have a transparent listening experience where my guitar and piano sound natural when performing live music at the local jazz club.

I would like to be able to focus on conversations with friends more easily when at our favorite noisy restaurant “Steve’s Place.”

I would like to be able to focus on conversations with family patients during birthdays and holiday gatherings.

Features across performance levels

- 20+ features that relate to a patient need
- Do you review all 20?
- What do you highlight?
- Where do we begin?

Features	90 Premium	70 Advanced	50 Standard	30 Essential
Comfort in Echo	✓			
Speech in Car	✓			
Speech in Loud Noise	✓			
Music	✓	✓		
Comfort in Noise	✓	✓	✓	
Speech in Noise	✓	✓	✓	✓
Calm Situation	✓	✓	✓	✓
Streaming Speech	✓	✓	✓	✓
Streaming Music	✓	✓	✓	✓
ActiveVent™ Performance +	✓	✓	✓	✓
Comfort in Echo (manual)	✓			
Speech in Loud Noise (manual)	✓	✓		
Speech in 360° (manual)	✓	✓		
Dynamic Noise Cancellation	✓	✓		
Speech Sensor	✓			

You already have a starting point!

patient need:

“I need to hear on the phone, computer, TV” – Bluetooth connectivity

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Made for All connectivity

Universal connectivity

8 Bluetooth® pairings

2 active connections

patient need:

“I need hearing to be easy”
– automatic or manual controls

AutoSense OS™ 5.0

AutoSense OS 5.0 : orchestration of features

Comfort features

Speech understanding with SmartSpeech Technology[1,2,3,4]

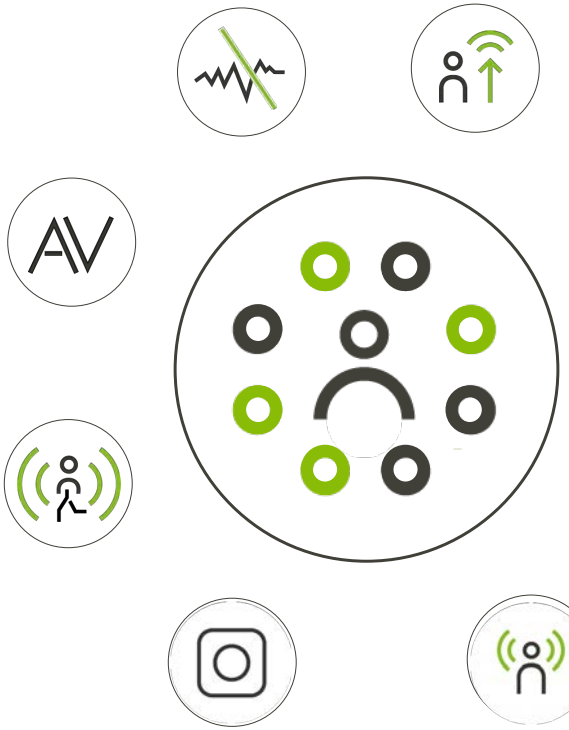
1. Appleton, J. (2020) AutoSense OS 4.0 - significantly less listening effort and preferred for speech intelligibility. Phonak Field Study News retrieved from www.phonakpro.com/evidence, accessed August, 2022.
2. Latzel, M. & Hobi, S. (2022) Receiver with mechanical vent provides benefit of open and closed acoustics for better speech understanding in noise and naturalness of own voice perception. Accessed August 2022
3. Thibodeau L. M. (2020) Benefits in Speech Recognition in Noise with Remote Wireless Microphones in Group Settings. Journal of the American Academy of Audiology, 31(6), 404–411.
4. Woodward,J and Latzel, M (2022) New implementation of directional beamforming configurations show improved speech understanding and reduced listening effort. Phonak Field Study News in preparation. Expected end of 2022.

AutoSense OS 5.0 : what's new?

patient need:

“I want to hear better in a noisy place”

Phonak SmartSpeech™ Technology



StereoZoom 2.0 New

SpeechSensor New

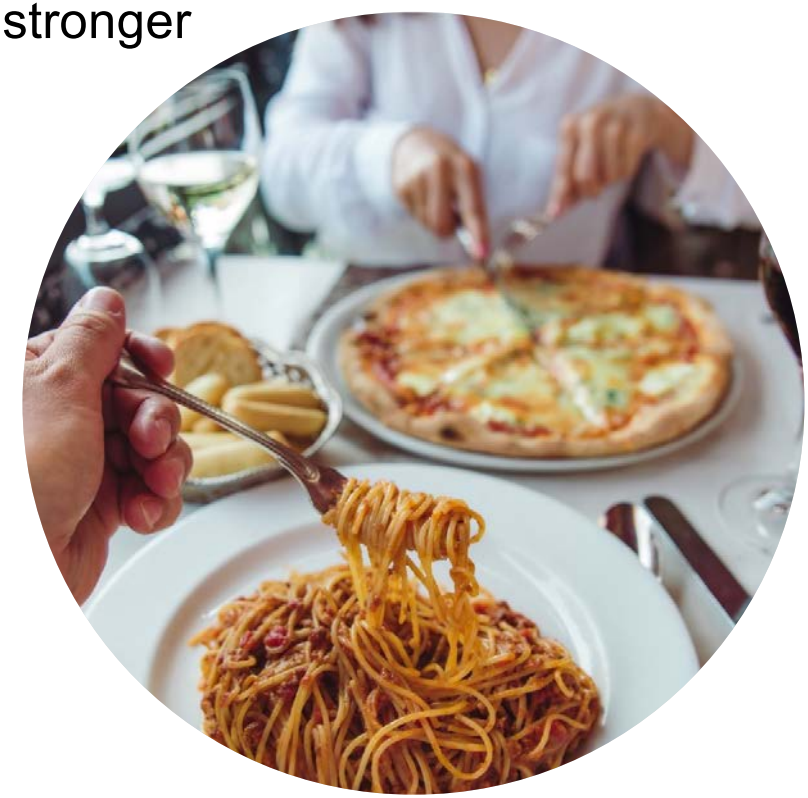
StereoZoom 2.0: Smoother, smarter, stronger.

StereoZoom 2.0: Smoother, smarter and stronger

Smoother activation

Smarter noise level dependent activation

Stronger real time adjustment to personal preference



StereoZoom 2.0: Smoother, smarter, stronger

1. **Smooth** transition from Speech in Noise into to Speech in Loud Noise.

2. **Smart** noise level dependent activation of strength.

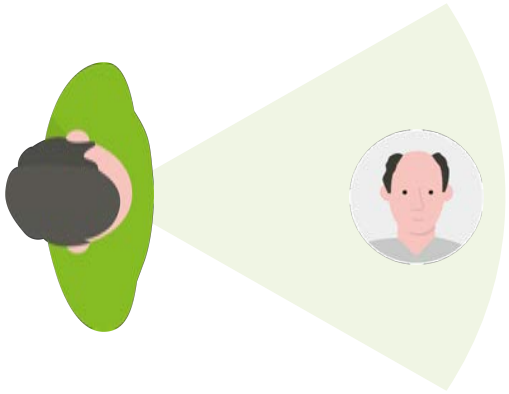
StereoZoom 2.0: Smoother, smarter and stronger

SpeechSensor: hear more from side and back.

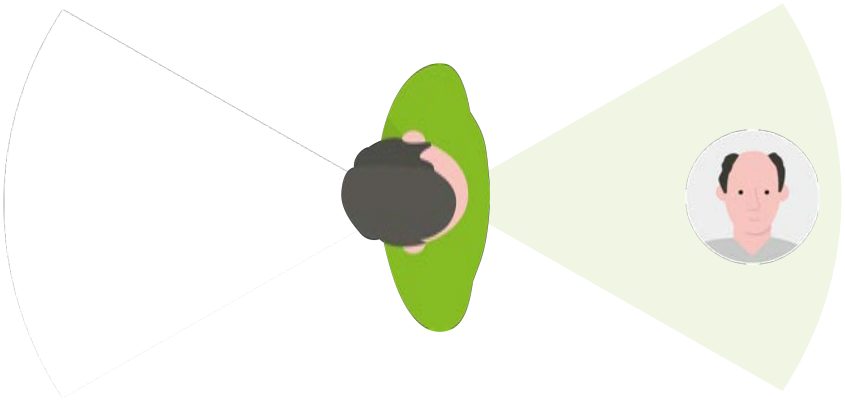
SpeechSensor

- Spatial speech detection algorithm, accurately detects the direction of the primary speech signal in noise.
- Improved SNR when speech is coming from the sides or back
- Reduced listening effort when speech is not in the front as compared to SZ2.0.

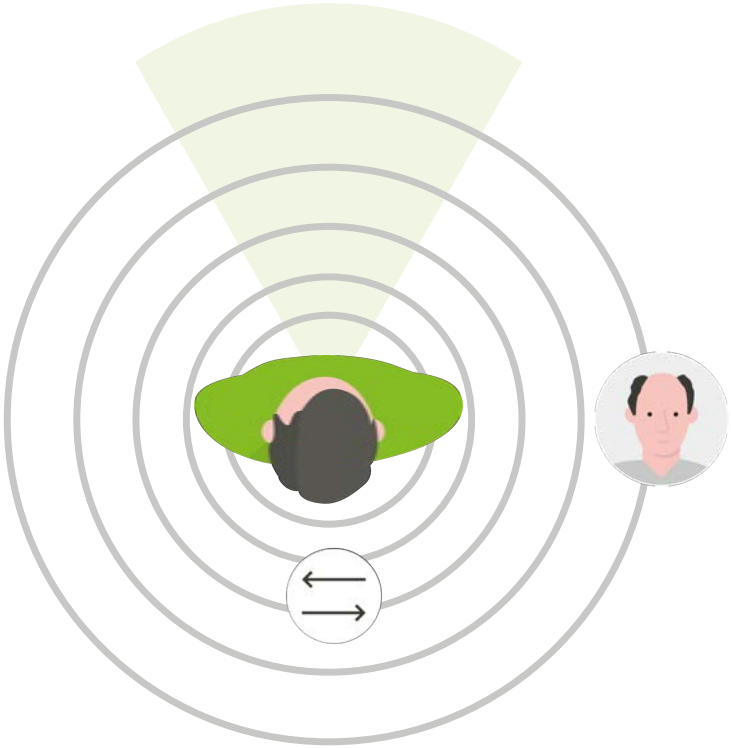
Speech Sensor: Accurate detection of speech



Speech Sensor: Accurate detection of speech



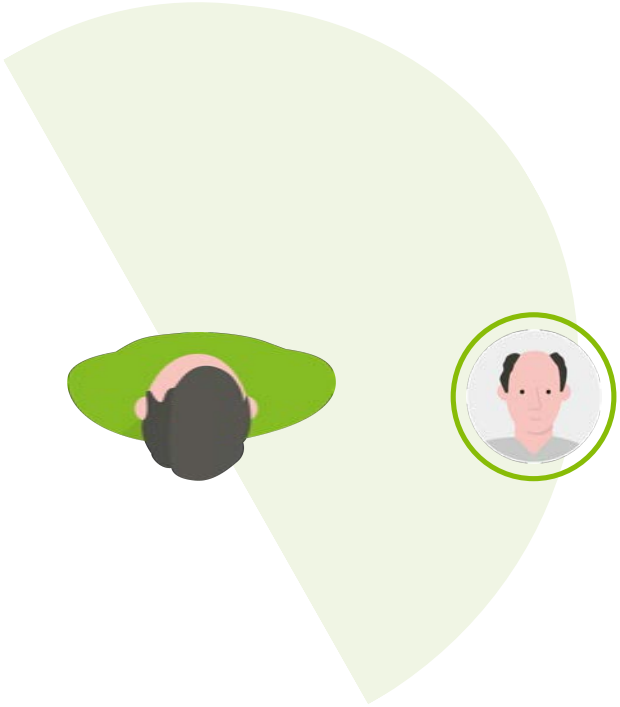
Speech Sensor: Accurate detection of speech



1. Monitor noise level, Signal-to-noise ratio and direction of loudest speech signal.

2. Hearing aids exchange information.

Speech Sensor: Accurate detection of speech



1. Monitor noise level, Signal-to-noise ratio and direction of loudest speech signal.
2. Hearing aids exchange information.
3. Decision made based on information on which direction main speech is coming from.
4. ASOS 5.0 activates the most appropriate beamformer setting based on direction of speech.

Speech Sensor: Detect the direction of speech

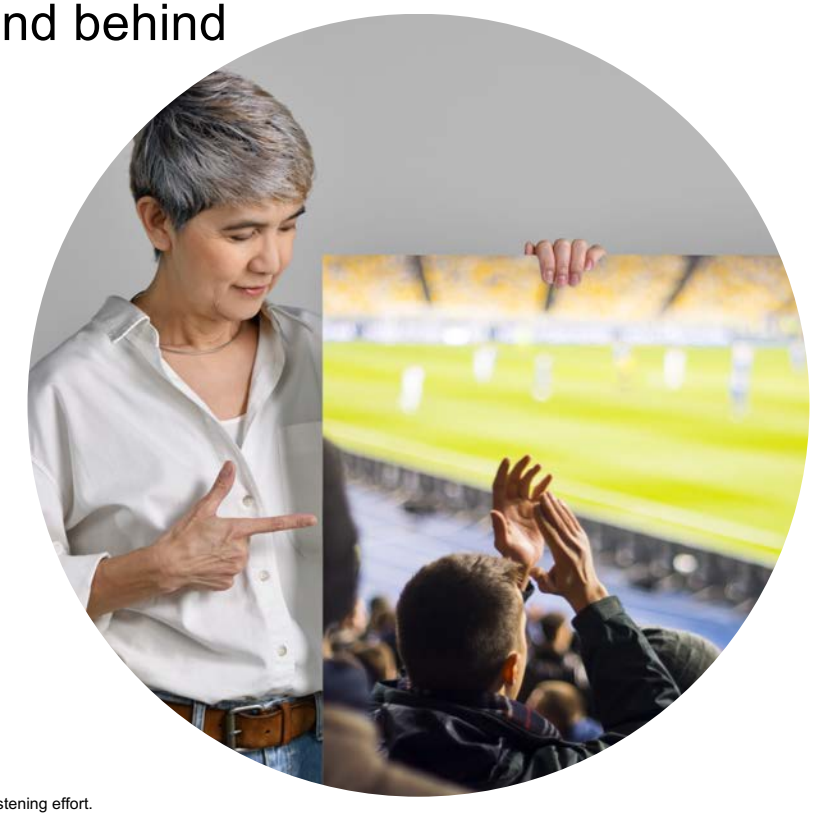
- Constant monitoring of sound environment
- 360 degree picture of the sound environment
- Accurate detection of speech signal in a challenging environment

Hear more conversations from the side and behind

3.4dB better SNR with fixed directional when speech is from the side

2.5dB better SNR with Real Ear Sound when speech is from behind

More access to sound not only provides clarity but reduces listening effort[1,2,3]



1 Hornsby, B.W.Y. (2013). The effects of hearing aid use on listening effort and mental fatigue associated with sustained speech processing demands. Ear and Hearing, 34(5), 523–534. https://doi.org/10.1097/AUD.0b013e31828003d8

2 Picou, E.M., Ricketts, T.A., & Hornsby, B.W.Y. (2013). How hearing aids, background noise, and visual cues influence objective listening effort. Ear and Hearing, 34(5), e52–e64. https://doi.org/10.1097/AUD.0b013e31827f0431

3 Pichora-Fuller, M.K., & Singh, G. (2006). Effects of Age on Auditory and Cognitive Processing: Implications for Hearing Aid Fitting and Audiologic Rehabilitation. Trends in Amplification, 10(1), 29–59. https://doi.org/10.1177/108471380601000103

Roger™ Technology for proven performance

90%

of Roger users would recommend Roger to their friends and family[2]

Achieve exceptional speech understanding in group conversations and over a distance[1]

1 Thibodeau L. M. (2020). Benefits in Speech Recognition in Noise with Remote Wireless Microphones in Group Settings. Journal of the American Academy of Audiology, 31(6), 404–411.
2 Taphuntsang, D. (2019). Market Research ID 1299. Please contact marketinsight@phonak.com if you are interested in further information.

Phonak PartnerMic

when you need a little boost in one-to-one conversations

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- AirStream ™ Technology
- For one-to-one conversations
- Streams directly to hearing aids
- Always directional regardless of position
- Easy to use

Verification **AND** validation

- A two-part process
- Verification: Verify the hearing aid is hitting functional targets
- Without verification you'll never know why the hearing aid outcomes might not be met
  - How can a patient be expected to meet a hearing goal if the amplified sound is the same as unaided listening?
- Without the validation you'll never know if the hearing aids are truly beneficial
  - Targets are an average, personal preference might be above or below
  - You might be spot on with amplification, but if the patient hates the listening experience you'll never know.

Striking the balance

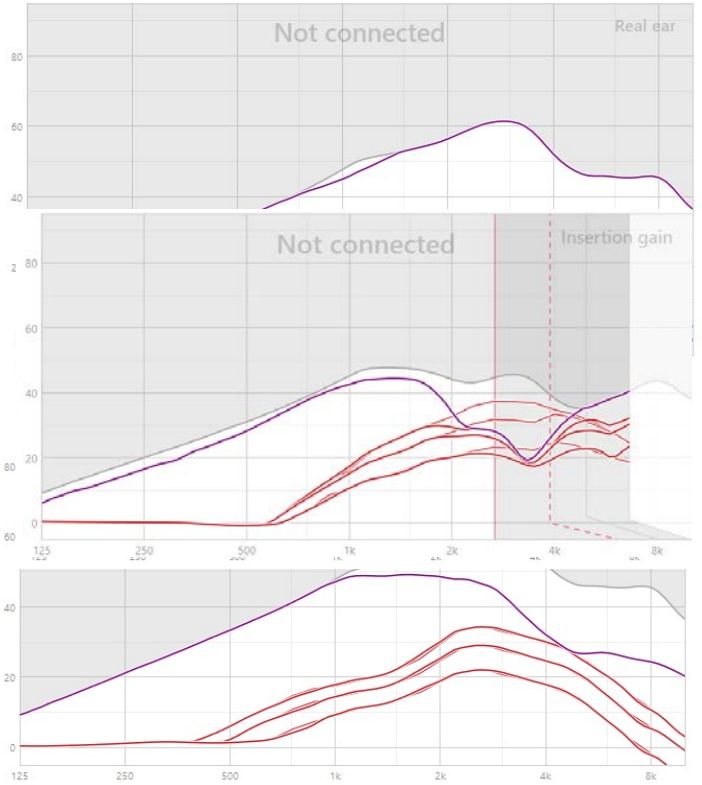
Personal comfort
Occlusion

Sound quality
and occurrence
of feedback

Target and
speech
outcomes

Order of operations:

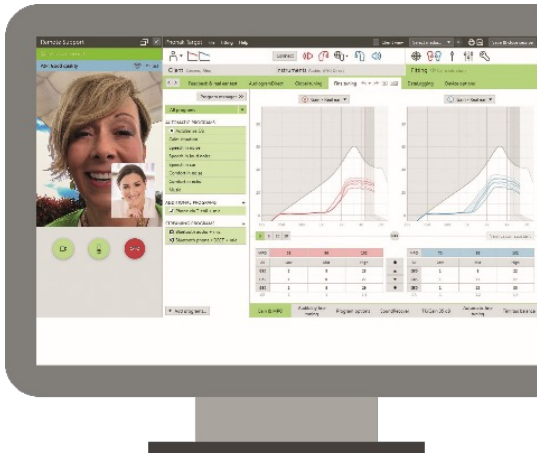
- Make your best choice for power level and coupling
- Set global gain to 100%
- Run the feedback test and check your results:
  - If the feedback test is above the gain curve, continue on
  - If the feedback test results significantly intersects with the gain curves:
    - Choose a different acoustic coupling
    - Counsel speech understanding and sound quality
- Use Overtuning as needed
- Complete real ear verification after these steps
  - It’s important to get the physical fit and feedback right first!



How do you “frame” the verification experience?

What can you do in person?

- Troubleshoot the device for any physical malfunctions
- Hear second-hand stories about listening experiences
- Use Target fitting software or other visuals to educate and inspire
- Simulate listening scenarios to troubleshoot or align expectations



What can’t you do in person?

- Be in the actual physical space where a problem sound occurs
- Have real-time access to a multitude of conversation partners during adjustments
- See the layout or hear the room acoustics of challenging situations
- Reproduce the psychological stress or impact of not hearing at their best

What can you do remotely?

- Conduct some general physical troubleshooting using the camera
- Carry on a face-to-face conversation
- Test out gain settings or feature changes in real time
- Use real-world scenarios to educate, troubleshoot, align expectations, and inspire successful usage

How can we blend remote and in-person to provide the best experience?

Case example

Case History Background and Hearing Needs Overview

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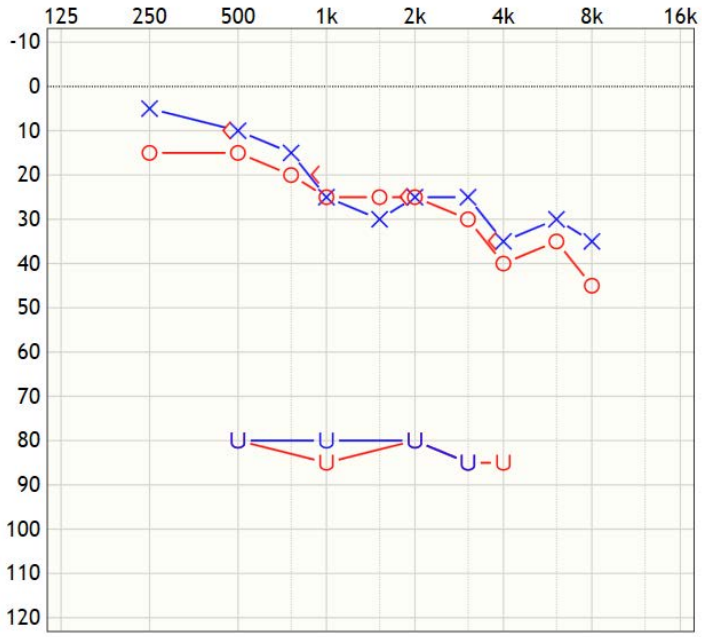
- M.G. is 70 years old
- Recently retired but volunteers at a preschool for virtual meetings
- Unsatisfied with previous hearing aids due to sound quality
- Wants the best sound quality possible for video chatting with her grandkids and streaming TV
  - Sound quality when streaming is too dull and then when adjusted she finds speech from her partner is too shrill
- Wants to upgrade her old hearing aids for something that does not require a neck loop to Bluetooth into her phone
- She enjoys streaming from her television to her hearing aids



Ear	SRT	WRS	MCL
Right	20 dB HL	100% at 70 dB HL	60 dB HL
Left	20 dB HL	100% at 70 dB HL	65 dB HL

COSI goals:

- I want to hear my grandkids more clearly when video chatting with them on the iPad.
- I want to hear speech more clearly when watching the newscaster on TV.
- I want to hear my partner's voice more clearly and comfortably when we are out at our weekly lunch date.

What technology and features would you recommend? What benefits are related to this case?

- Fitting with Phonak Lumity for sound quality
- Independently tuned streaming programs for media and speech
- Independently tuned Bluetooth phone programs
- Programs fined tuned per situational needs

What about her follow-up?

- At your office:
  - She is thrilled with the hearing aids overall
  - Her responsibilities have increased when volunteering and describes difficulty during story time and nap time when things are quiet due to a strange “rushing sound” in the environment
  - Also, certain soft-spoken colleagues are sometimes difficult to hear
- What would you do at the moment?
- How could you leverage Remote Support?

Choose your own adventure: Remote Support

- Choose to make adjustments or counsel for “rushing sound” and “soft-spoken individuals”
  - Counsel, what does the room look like, what could the sound be?
  - Noise reduction for steady-state rushing sound? Reduce gain for low frequencies?
  - Soft-spoken individuals: increase Speech boost, increase gain for soft inputs?

- Apply remote support strategies
  - Schedule a call during quiet time to identify the noise and understand the environment?
  - Have the “soft-spoken individual” in the room and use their voice input to guide adjustments

What are the pros and cons to each and how can you blend them?

Phonak Lumity

- New StereoZoom 2.0
- New SpeechSensor
- ActiveVent Receiver
- Roger Technology
- AutoSense OS 5.0
- APD 2.0
- Heritage features

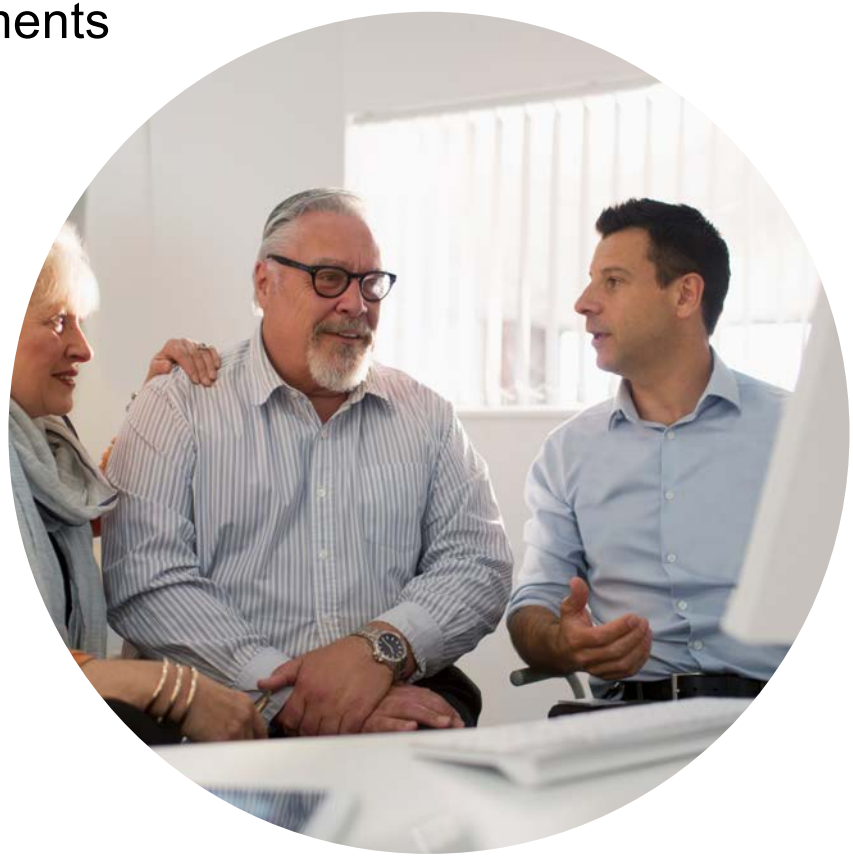
Phonak SmartSpeech™ Technology

Digital Services

- Bluetooth® connectivity
- Health data tracking
- Remote support and personalization

Spending time wisely in fitting appointments

- Counselling
- Goal setting
- Communication strategies
- myPhonak app
- Accessories
- Roger



Summary:

- The importance of validation and the art of goal setting and the conversation
- Features must relate to benefits to be impactful
- Verification as part of V&V
- The experience continues through Remote Support

Together,
we change lives.