Custom product excellence

A comprehensive overview

A Sonova brand

PHONAK
life is on

How to use this presentation

A complete framework for dispensing custom hearing aids

Tips and tricks for each aspect of the hearing aid journey

- The ideal client journey
- Custom hearing aids
- Hearing evaluation
- Ear impressions
- Ordering
- Fitting and fine tuning
- Follow-up care

The ideal client journey

The client journey

The “sometimes these things happen” client journey

- Physical limitations of ear (size, shape, injury, etc)
- Power needs
- Expectation management
- Unrealistic expectations

- Unrealistic expectations
- Negative experiences
- Emotional readiness
- Financial restrictions

- Incomplete order
- Delayed order
- Poor ear impression
- Incorrect information

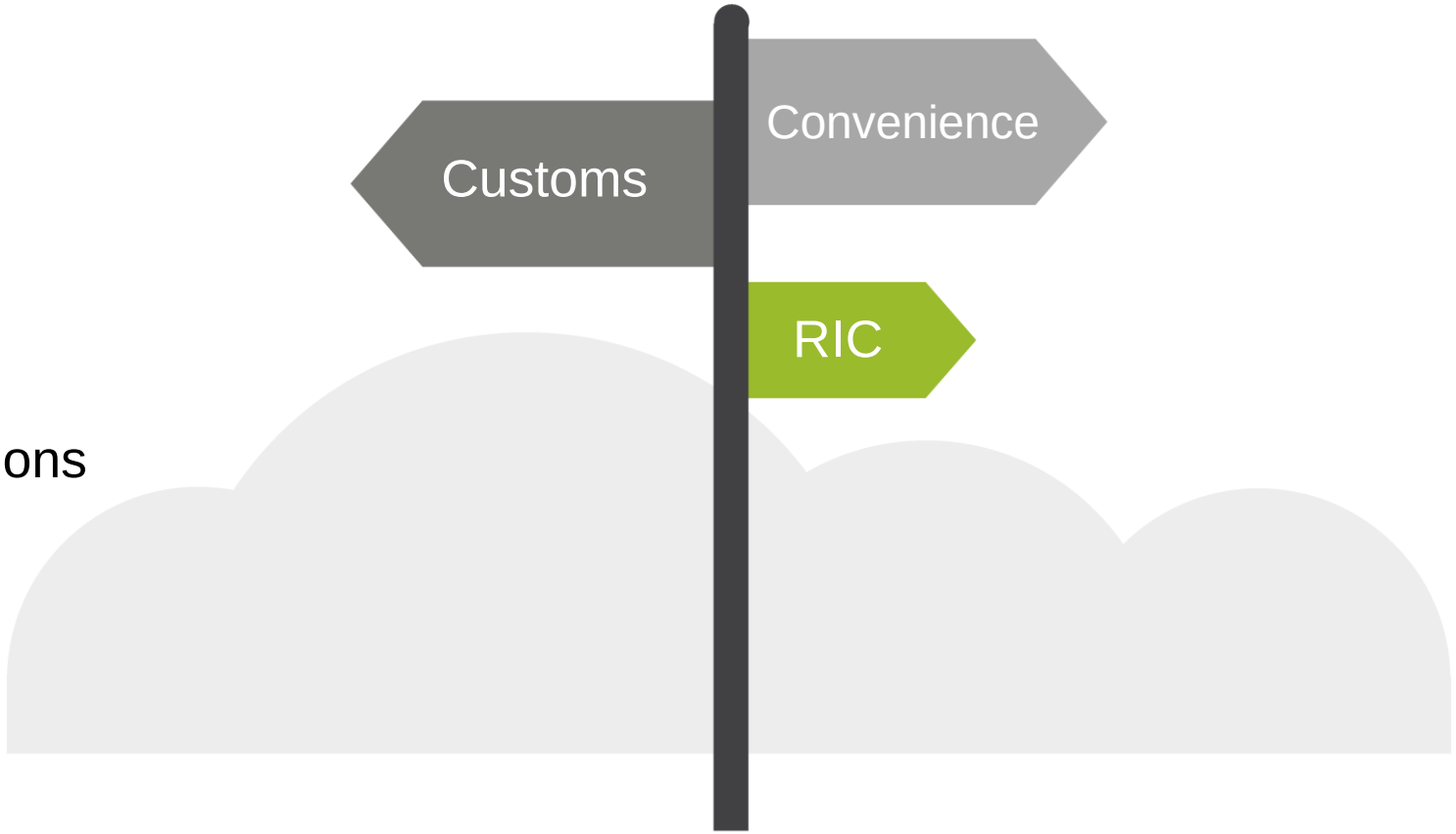
- Occlusion
- Feedback
- Discomfort
- Cosmetics
- Unmet needs

- Remakes
- Reprogramming
- Considering return
- Understanding in noise

- Remakes
- Reprogramming
- Repairs
- Returns
- Reliability issues
- "Ive never heard well with these!”
- "They dont work!”

Why do some fitters avoid custom products?

- Occlusion
- Feedback
- Size & cosmetics
- Technology limitations
- Client contraindications
- More involved sales cycle
- Discomfort with taking ear impressions



What to expect?

- This guide is a walk-through for optimizing the experience of custom-made hearing aids throughout the entire client journey

Custom-made hearing aids

Custom hearing aid styles

IIC

CIC

ITC*

HS*

FS*

Invisibility
Non wireless
10 zinc air battery

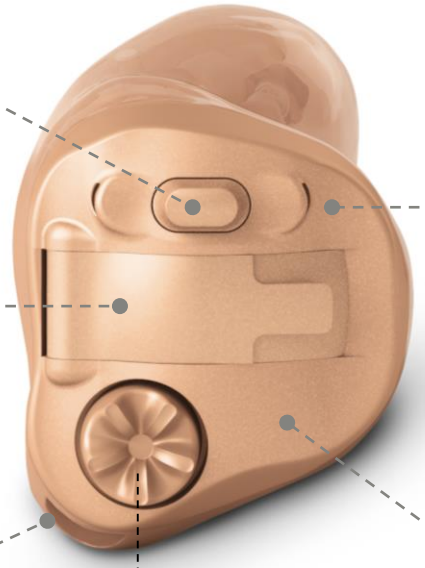
Wireless connectivity
Bluetooth®** connectivity
Handfree phone calls
312 zinc air battery

* Wireless models (Virto M-312 and Virto P-312) provide connectivity with Bluetooth devices, enable hands-free calls and can connect to myPhonak app.
**The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Sonova AG is under license

Benefits of a custom hearing aid

Push button:
distinctive feel and tactile response to assist in adjusting the hearing aid

Battery door:
a finger catch makes it easy to open and close



Microphone ports:
designed to reduce wind noise and prevent moisture and debris from entering the hearing aid

Vent:
allows for airflow into ear canal for comfort and sound quality

Volume control:
designed for easy manipulation, even for people with dexterity issues

Faceplate (exterior portion):
a recessed design and special finish make it barely visible when in the ear

Hearing aid evaluation and consultation

Evaluating the ear

PHONAK
life is on

Flexibility of the ear

inflexible? flexible?

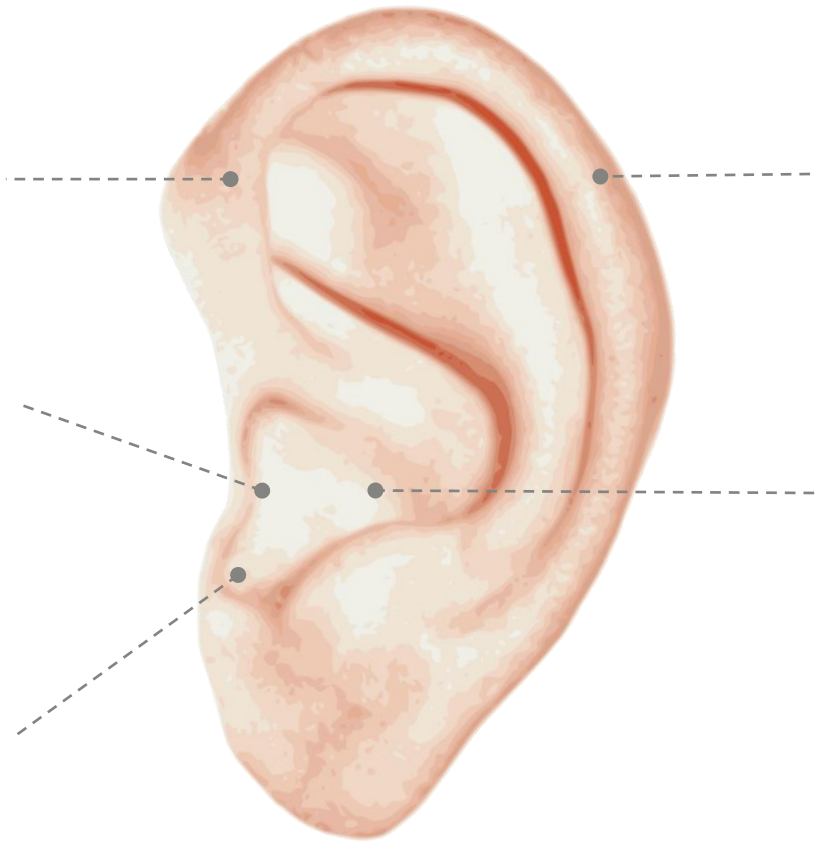
Build-up of cerumen

wet? flaky?

hard? drainage?

Size & shape of ear canal

straight? bendy? narrow?



Condition of the skin

sensitive? damaged?

wet? dry?

Size & shape of concha

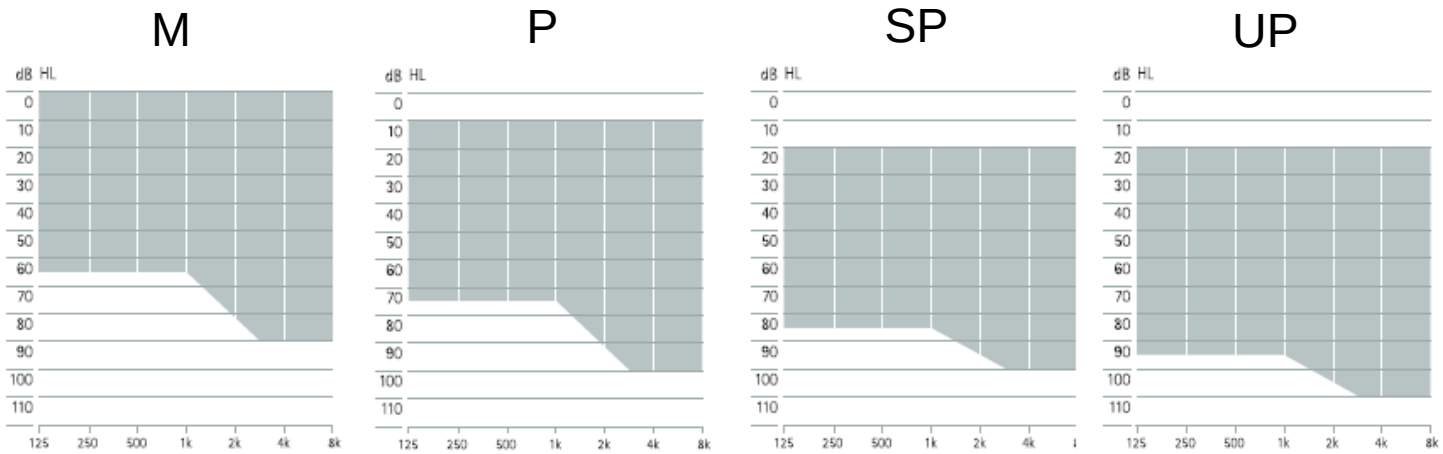
small? large?

When to contraindicate

- Significant cerumen production or ear drainage
  - May repeatedly damage internal components
  - Fit RIC with custom earpiece for enhanced protection
- Very narrow or severely angled canals
  - Test size and insertion with Titanium FitGuide
  - May accommodate a size 10a battery
- Severely damaged, abraded, or sensitive skin
  - Custom hearing aids may further damage fragile skin

Evaluating hearing

Custom hearing aids can be appropriately fit up to severe hearing losses



- Clients with normal hearing below 1kHz may have difficulty adjusting to occlusion.
  - These clients might require larger vents to compensate
  - Larger vents sometimes have a negative impact on overall sound quality

Counselling and setting realistic expectations

- New client considerations
  - Client´s history
  - Client needs
  - New to hearing aids
  - Amplification and occlusion
  - Size and functionality
  - Connectivity
  - Setting realistic goals

- Existing client considerations
  - Client needs/ client history
  - Size and functionality
  - Hearing loss changes
  - Connectivity
  - Previous hearing aid (ITE vs non ITE)

Client expectation checklist

New Slide

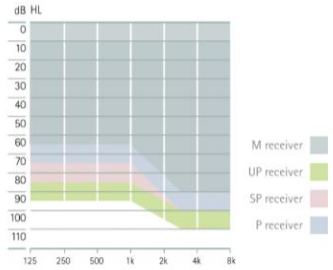
PHONAK life is on

Phonak ITE
Client expectations checklist

Patient name	Date	Date of birth

Background

Whether your client is new to hearing aids or new to ITEs, use this checklist to ensure that all considerations have been discussed and expectations are aligned.



Enter the client's hearing loss to determine the size of the receiver

Does your client have the right expectations about ITEs?

Ask the following questions to help your client set realistic expectations before making a commitment.

1. **Is the client a new or experienced hearing aid user?**
   - ☐ New
     - Discuss occlusion and what to expect when wearing hearing aids
     - Discuss the differences between the available form factors and their size differences
     - Discuss the care and maintenance required
   - ☐ Experienced
     - ☐ Previous BTE or RIC wearer
       - Discuss the difference in size and functionality between RICs/BTEs and ITEs
     - ☐ Previous Lyric wearer
       - Discuss the difference in size and discretion between Lyric and ITEs
       - Discuss care and maintenance required for ITEs

A Sonova brand

PHONAK life is on

2. **Does the client have normal hearing below 1kHz?**
   ☐ Yes ☐ No
   - Discuss about occlusion and how it will affect the client
   - Discuss the vent size vs hearing aid size – a more severe hearing loss will require a bigger receiver. This will affect the size of the ITE

3. **Has the client's hearing loss been stable over the last couple of years?**
   ☐ Yes ☐ No
   - If the client's hearing loss has remained stable, consider a smaller power receiver if size and appearance is a concern. Higher power receivers will result in a larger hearing aid

4. **What are the client's needs and expectations?**
   ☐ Wireless connectivity
   - Discuss the size of the hearing aid and why wireless ITEs are bigger than non-wireless models
   - Discuss Bluetooth connectivity of their hearing aids to their phone and other devices like Roger and remote microphones
   - Discuss directional features like hearing from the side and front. These features are only available on the directional ITE models which impacts the size of the device

   ☐ Size & Discreetness
   - Discuss the size of ITEs and how the size of the ear canal affects how discreet the ITE will be
   - Discuss the impact of wireless and Bluetooth connectivity. Small and discreet ITEs generally are not wireless and do not have Bluetooth functionalities
   - Discuss the impact of directional features. Small and discreet ITEs generally do not have directional microphones or directional features

   ☐ Additional ITE options like volume control, push button, telecoil
   - Discuss the final size of the ITE. Adding additional features increases the final size of the hearing aid

5. **Does the client have any of the following contraindications?**
   ☐ Significant cerumen production
   ☐ Very narrow or severely angled canals
   ☐ Severely damaged, abraded or sensitive skin
   ☐ Congenital or acquired malformations
   - If there is significant ear wax, discuss the need for regular cleaning to prevent damage to the electronic parts
   - With narrow or angled ear canals, discuss the possibility of having a bigger custom product
   - Is a physician referral required to investigate the damaged skin or malformations?

6. **Does the client have sufficient manual dexterity?**
   ☐ Yes ☐ No
   - If no, they may be unable to perform certain tasks like cleaning or changing a battery, discuss fitting a RIC or BTE hearing aid

7. **Does the client live in an area where there is high humidity or moisture?**
   ☐ Yes ☐ No
   - If the client lives in an area of high humidity or moisture, discuss using a D-Dry+ kit to extend the care of the hearing aid

2

Select the ITE model that is suitable for your client

It is important that the client knows what ITE models are available. The model sizes vary depending on additional options, hearing loss and ear size.

☐ Titanium IIC	☐ 10 NW 0	☐ 312 NW 0	☐ 312
 Without push button	 Without controls	 Without controls	 In the canal with push button
 With push button	 With push button	 With push button	 In the canal push button and volume control
	 With push button and volume control	 With push button and volume control	 Half shell with push button and volume control
			 Full shell with push button and volume control
Customized Mild to severe hearing loss	**Customized** Mild to severe hearing loss	**Customized** Mild to severe hearing loss	**Customized** Mild to severe hearing loss
Omnidirectional • Battery: 10 zinc air • Non-wireless • Super discreet • Durability	**Omnidirectional** • Battery: 10 zinc air • Non-wireless • Discreet	**Omnidirectional** • Battery: 312 zinc air • Non-wireless	**Directional** • Battery: 312 zinc air • Wireless • Stylish black option • Direct connectivity • Hands-free calls

A Sonova brand

PHONAK life is on

Things to consider

No contra indications to fitting a custom-made hearing aid

Counsel on

- Power vs size
- Occlusion
- Connectivity

Use the **client expectation checklist**

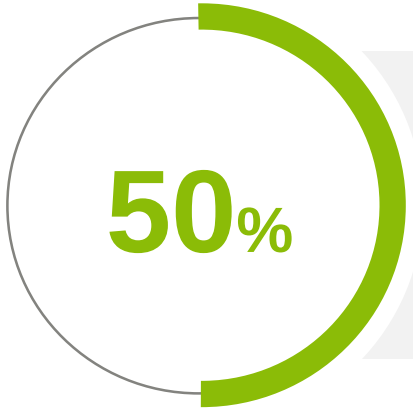
Ear impressions

Before the impression…

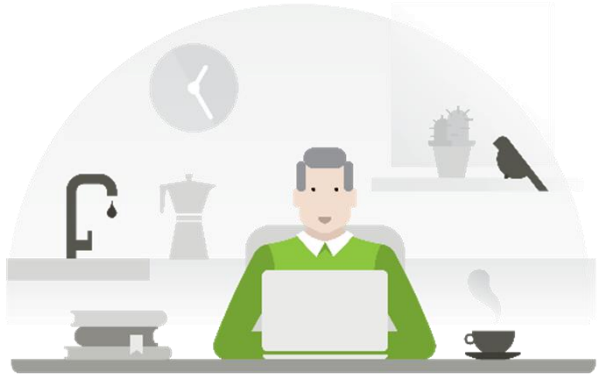
- **Before taking the ear impression,** measure each ear with the Titanium FitGuide (TFG) for all Virto Titanium orders
- The TFG measures the elasticity of the ear canal and helps us build a deeper-fitting, more discreet hearing aid
- **TFG also provides the client the ability to:**
  - see what the hearing aid may look and feel like in their ear
  - practice insertion and removal in-office

How to use the TFG

Titanium FitGuide Benefits



The Titanium FitGuide gives more than **50%** of people a deeper fitting Virto B-Titanium by an average of **2.5 mm**



Bishop, R., Stewart, E., & Loyola, N. (2018). Phonak Field Study News: Titanium FitGuide – helping more than 50% of people get an even more discreet Virto B-Titanium.

Introducing the discreet Phonak Virto™ Titanium

List of recommended equipment

PHONAK
life is on

Have these ready before taking impressions:

Otoscope
Use a lightweight otoscope and check that the batteries are fresh so you get a good bright light and a clear view of the ear canal and tympanic membrane before and after taking the ear impression. Also used for EasyView Otoblock placement

Pen light
Use a pen light to help with the correct placement of the foam otoblock in the ear canal.

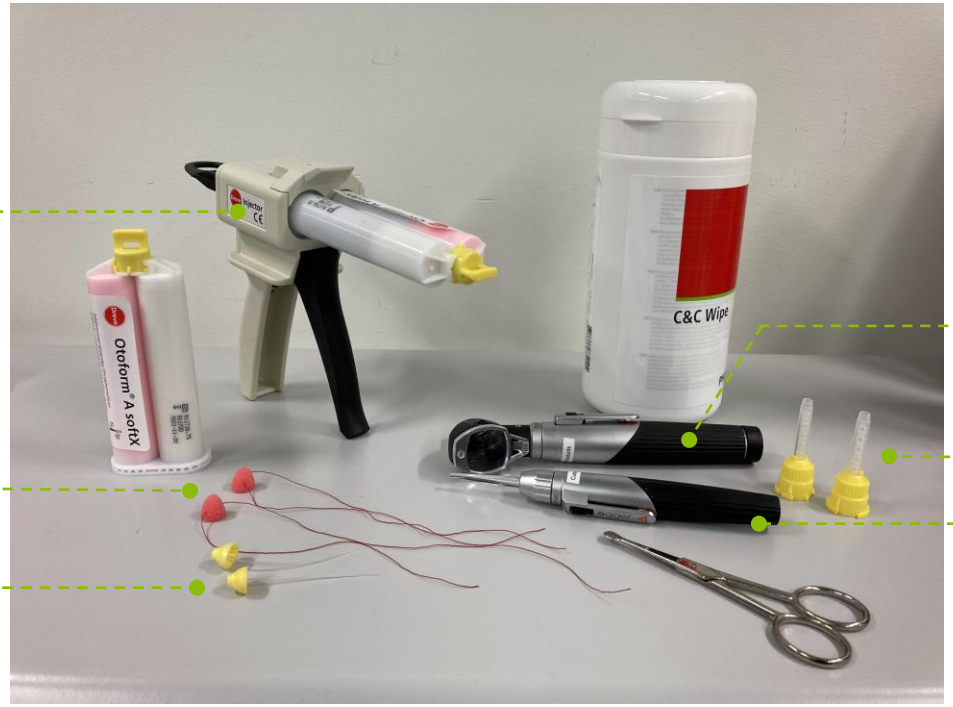
Impression gun
Instead of the traditional syringes we recommend using an impression gun for more control over the applied pressure of the impression material into the ear. The impression material should be selected based on the type of impression you need to make. Shown here is the Dreve Otoform A SoftX silicone impression material - a low viscous material best for deeper accurate impressions.

Mixing tip
The mixing tip is fixed on to the impression material cartridges. Check that the size and type are correct for the material being used. An incorrect mixing tip could cause problems with the impression material not setting properly in the ear.

EasyView Otoblock or Foam Otoblocks
These are used to prevent the impression material flowing too far down the ear canal. Use the otoscope to ascertain the size of otoblock you will need to plug the ear canal without any gaps.

Additional Tissue or disposable towel for placement of tools during procedure
Alcohol wipes for pre-impression cleansing of otoscope and penlight

List of recommended equipment

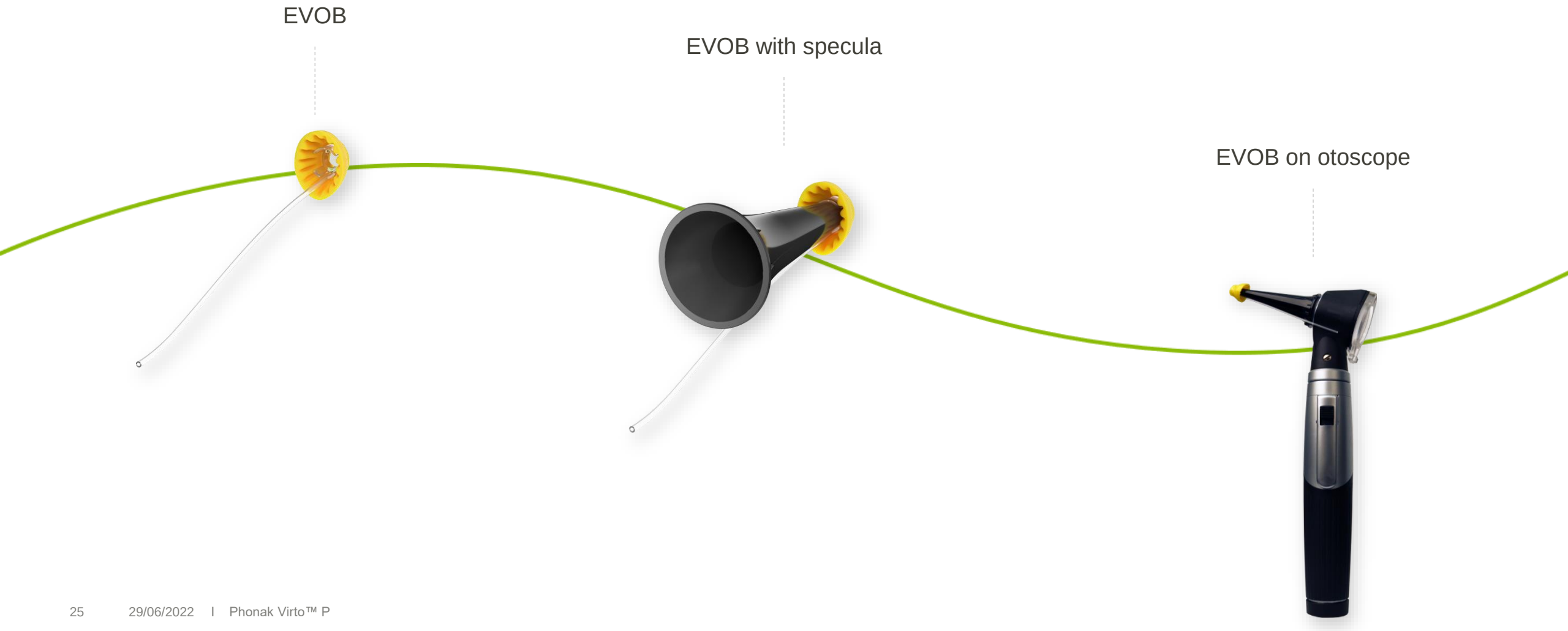


Phonak Tutorial:

How to take ear impressions

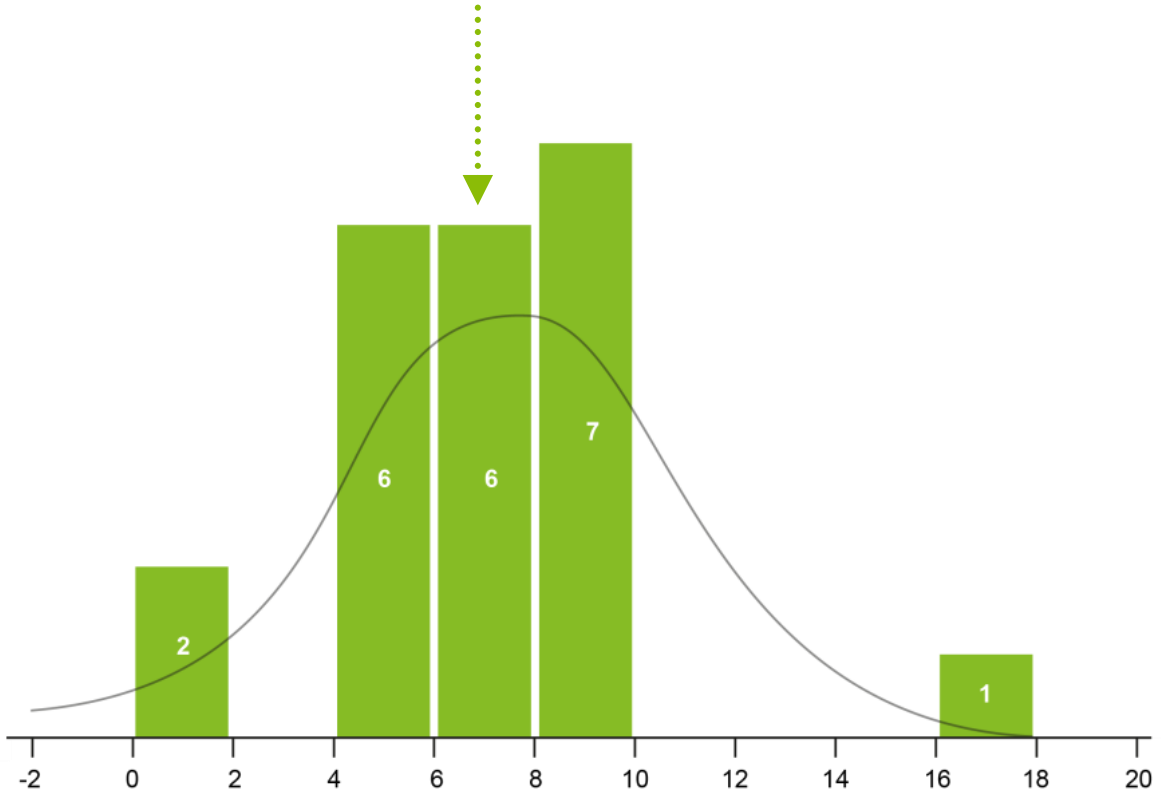
Less remakes, less returns and more discreet devices

EasyView Otoblock
An alternative to foam otoblocks



EasyView Otoblock
An alternative to foam otoblocks

Results in longer ear impressions
by an average of 6 mm.[1]



1 Schwarlos-Sooprayen, J.K. (2017) Phonak Field Study: Field Study: Deeper ear impressions with EasyView Otoblock. https://www.phonakpro.com/com/en/resources/information

Types of impression material

Double cartridge						Tubs			
	Otoform* Xpand	Otoform* A softX	Otoform* Ak	Otoform* A soft	Otoform* A flex	Otoform* Ak X	Otoform* Ak	Otoform* Ak soft	Otoform* Kc
Color	**Apricot**	**Pink**	**Green**	**Yellow**	**Turquoise**	**White/pink**	**White/green**	**White/light green**	**white**
Setting time at 37°C	3 min ± 15 sec	3 min ± 15 sec	3 min ± 15 sec	3 min ± 15 sec	3 min ± 15 sec	3 min ± 15 sec	3 min ± 15 sec	3 min ± 15 sec	4 min ± 30 sec
Characteris-tics	Expanding, soft, easy handling and processing	Soft, easy processing, optimal fluidity	Classic	Soft, easy processing	Soft, flexible, easy processing	Soft mixing feeling	Classic	Soft, flexible	Condensa-tion-vulcani-sing
Use case	The Allrounder: Hearing protection, Power and standard BTE, ITE, soft ear tissue	ITE, CIC, IIC, sensitive ear tissue	Hearing protection, Power and standard BTE, ITE	CIC, ITE	CIC, ITE	BTE, ITE, CIC, IIC, sensitive ear tissue	Hearing protection, Power and standard BTE, ITE	BTE, ITE, CIC	BTE, ITE, CIC

There are many different types of impression materials available on the market. Shown here are different types produced by just one company. All of these materials have slightly different properties based on the type of impression you require. For deeper impressions that are typically needed for ITC, CIC and IIC products, a soft, low viscosity material is recommended. The benefits include less effort needed when using the impression gun which makes dispensing of the impression material easier to control in the ear. This results in less distortion of the ear canal wall for more accurately sized impressions.

When is the impression ready to remove?

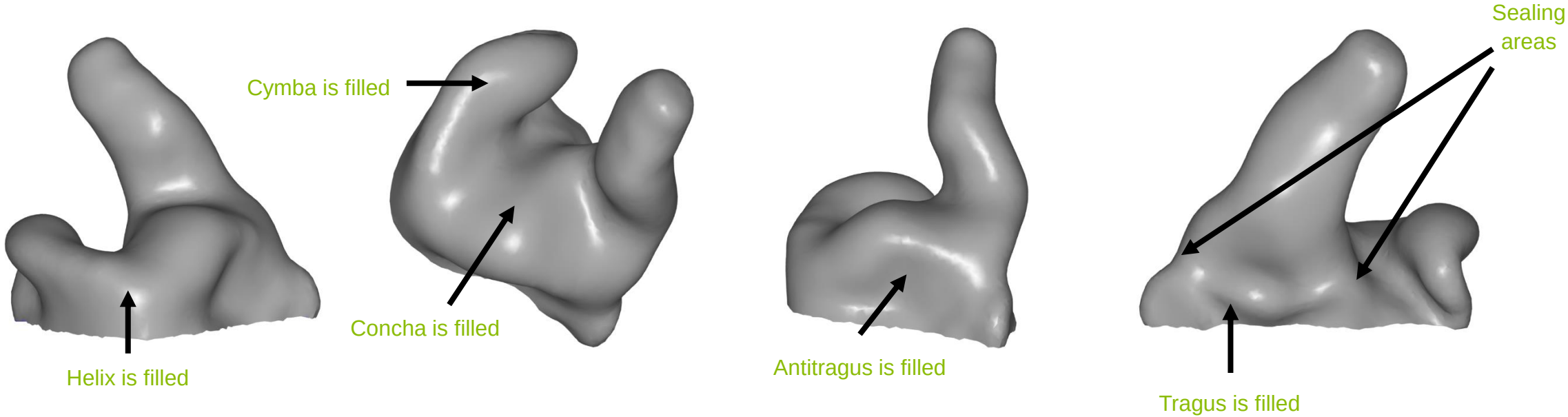
- Always wait at least three minutes before testing the impression material for doneness

- **To test if the impression is ready for removal:**
  - Gently press the tip of your fingernail into the impression material
    - If a mark is left in the material, the impression is not ready to remove
    - If no mark is left, the impression is ready for removal

- It is always better to leave the impression material in the ear longer than suggested rather than taking it out too soon

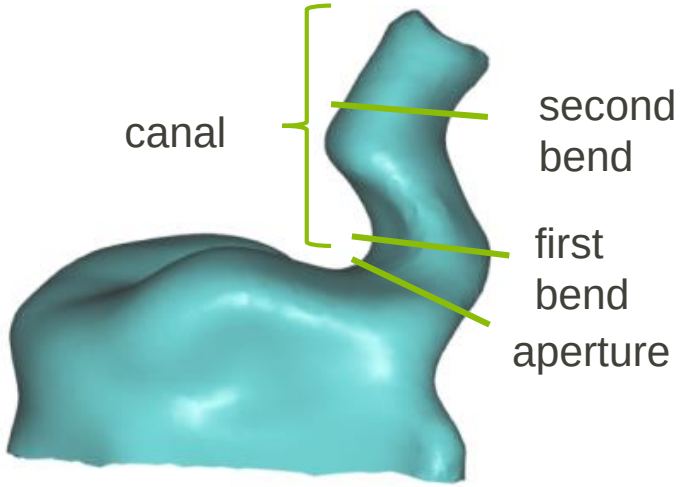
Ear impressions: requirements

- The impression is free of bubbles and wrinkles
- The sealing areas are present (between tragus/antitragus, notches and first bend)
- The Cavum Concha and Cymba Concha are filled completely with material



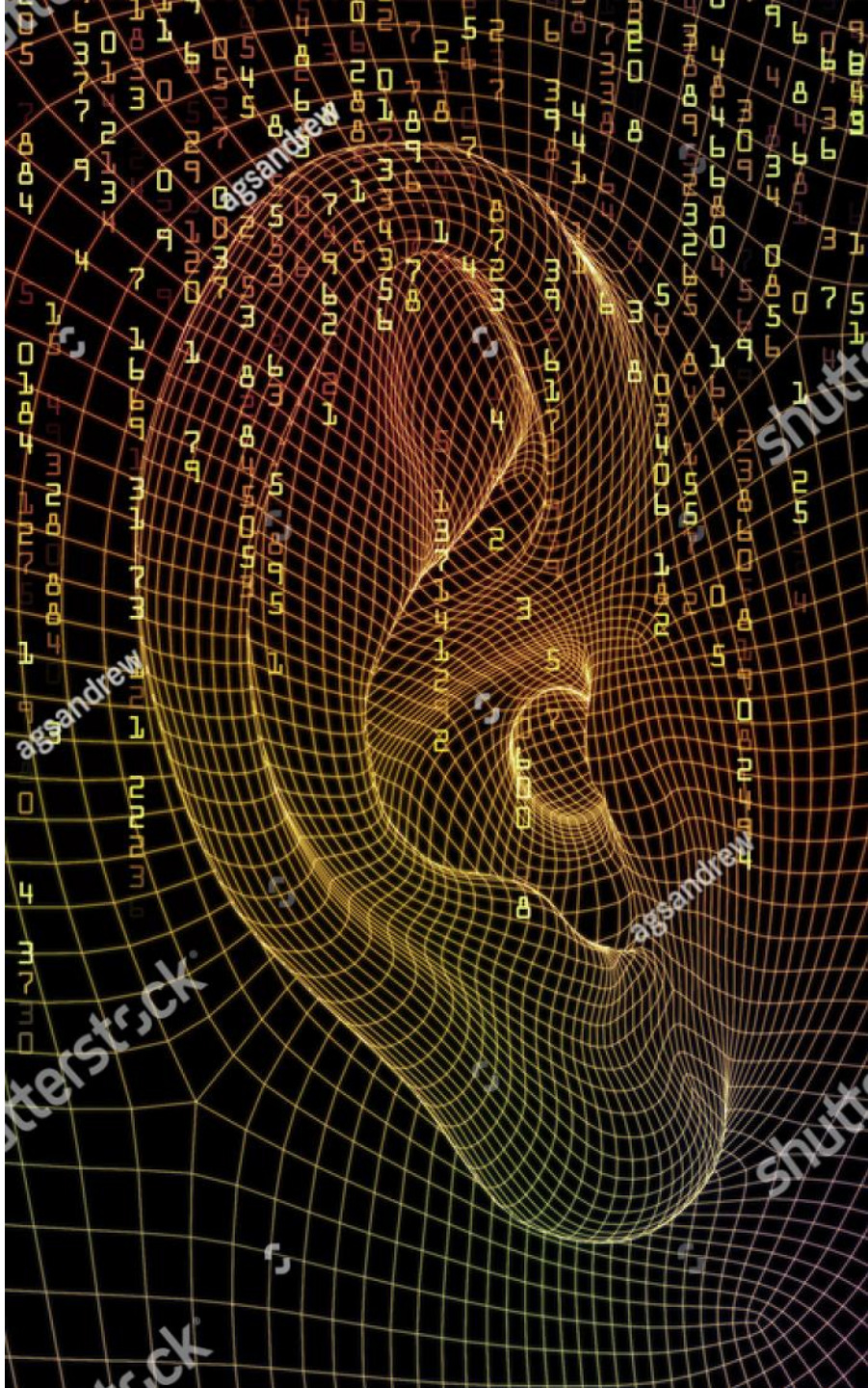
Ear impression requirements

- Necessary length is based on the ITE form-factor being ordered:
  - **2 mm past second bend for ITC and larger**
  - **4 mm past the second bend for CIC & IIC**
  - Keep the otoblock attached to the impression
- **Take a new set of impressions for every order!**
  - Ear physiology can change over the span of six months
- **Consider taking a 2nd sets of impressions**
  - If the client has small or bendy ear canals
  - Open and closed jaw impressions



Direct ear scanning

- Advantages
  - Longer impressions past the 2nd bend
  - More ear information
  - Auto-Preview in the POS, right after scanning the ear
  - Quality rating of scanning data



Things to consider

Titanium FitGuide

Use the correct **ear impression material**

Additional 6mm with **EasyView Otoblock**

Full ear impression

Ordering custom-made hearing aids

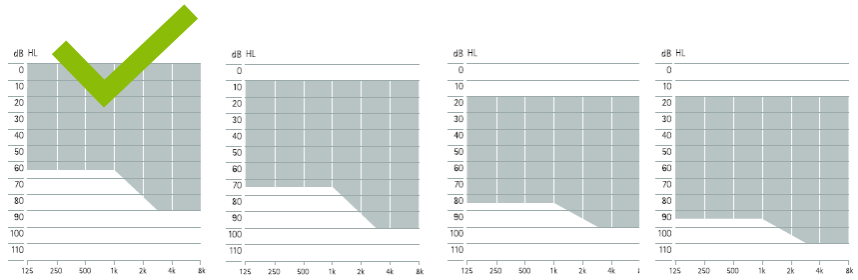
Receiver selection considerations

The size of an ITE hearing aid is dependent on:

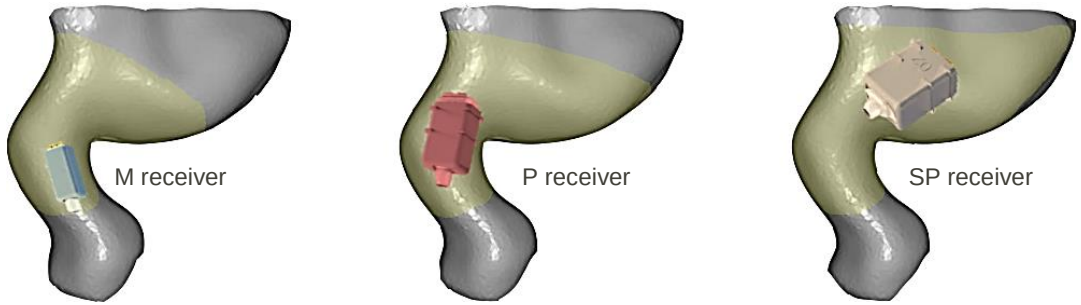
- Ear canal geometry/volume
- Receiver size
- Venting, t-coil, user controls, etc.

- Most clients need less than 10 dB of headroom
  - Average acceleration of age-related hearing loss is 1-3 dB /year[1]
  - Non-age-related hearing losses may require more headroom

- Selecting the appropriate receiver can help ensure the hearing aid is as small as possible



Determine which receiver the client needs, then examine the ear to ensure there is enough space.



1. Wiley, T. L., Chappell, R., Carmichael, L., Nondahl, D. M., & Cruickshanks, K. J. (2008). Changes in hearing thresholds over 10 years in older adults. *Journal of the American Academy of Audiology*, *19*(4), 281–371. https://doi.org/10.3766/jaaa.19.4.2

Acoustically optimized vent

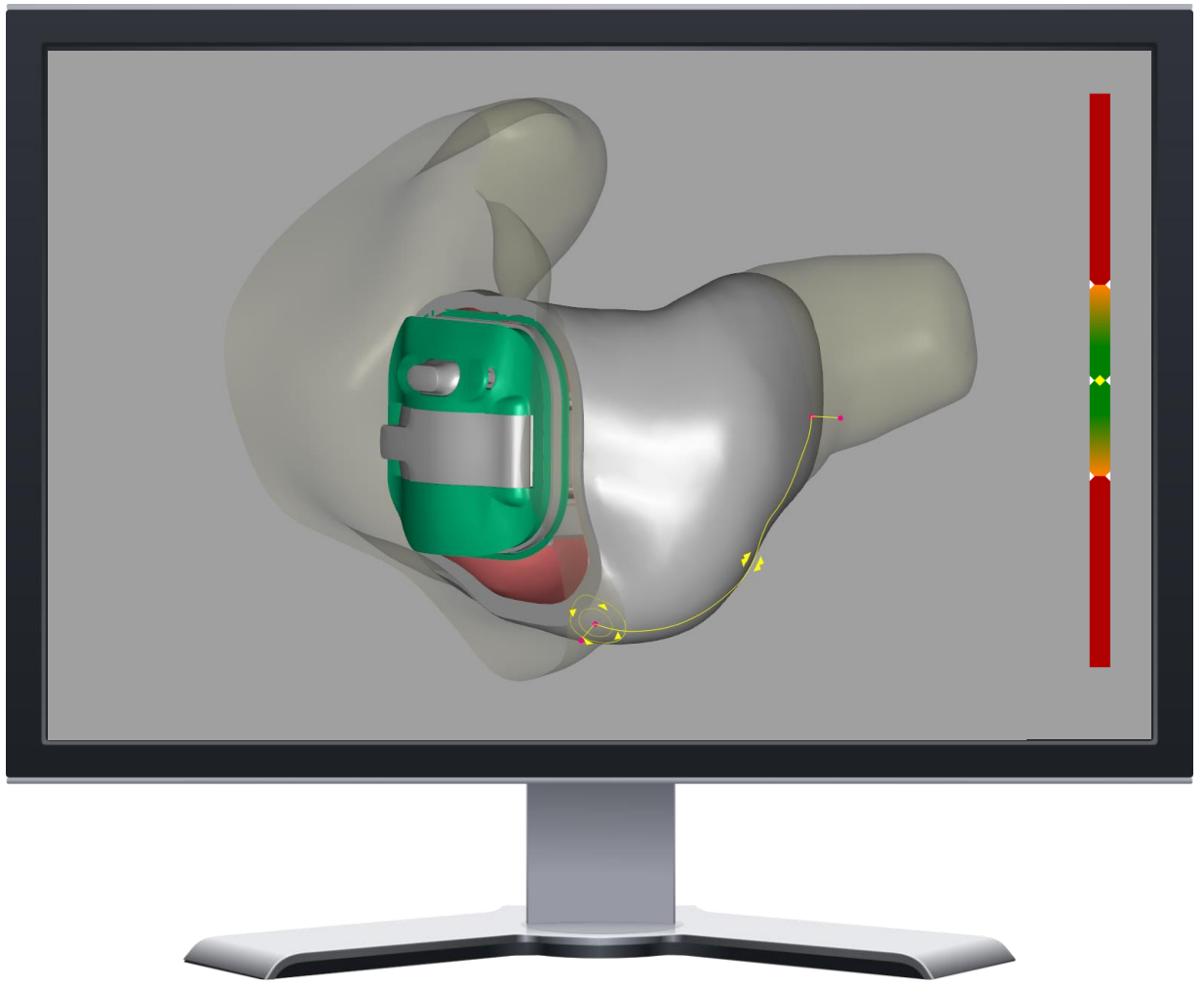
audiogram

shell style

risk of feedback

risk of occlusion

benefit of direct sound



Vent size and shape optimized for each client's unique needs

AOV & AOV-O

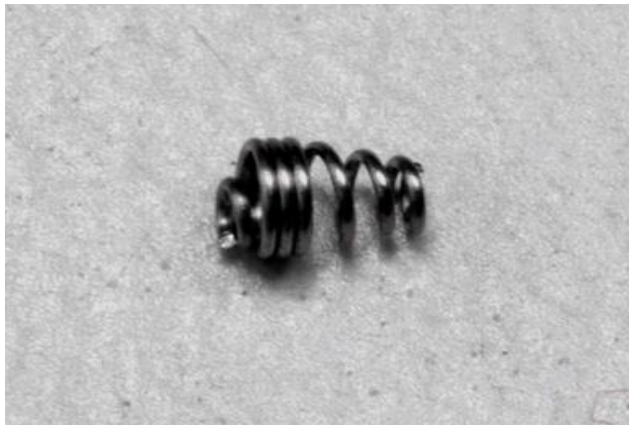
- Default venting option – prioritizes a small device
- Balances occlusion, feedback, and sound quality
- **Hearing aids with AOV are returned less than hearing aids with a manually-selected vent**

- Available exclusively for Virto Titanium
- Prioritizes occlusion-reduction
- Could make hearing aids slightly larger

Cerumen management options

Cerustop*

Wax spring

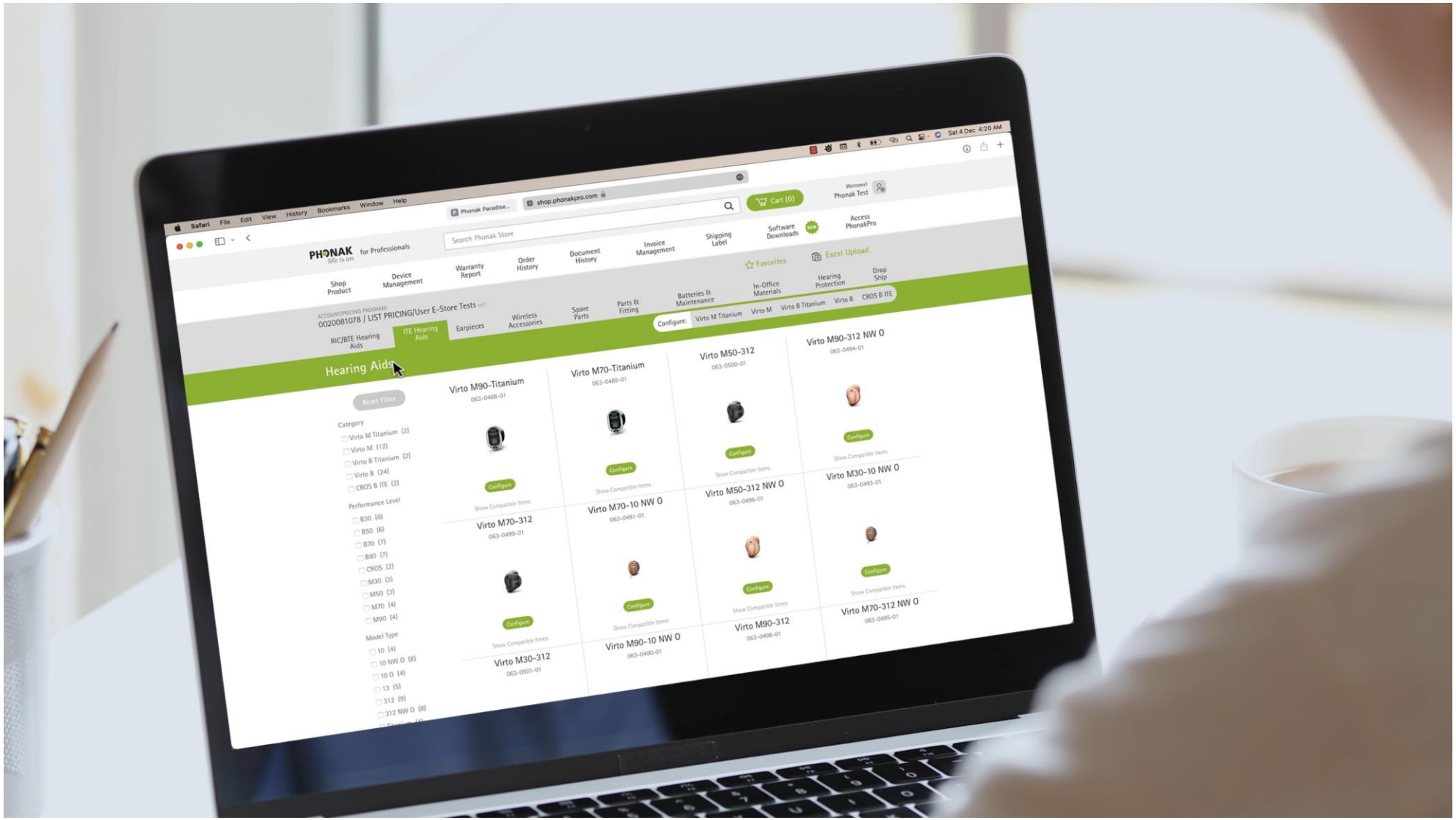


HF4

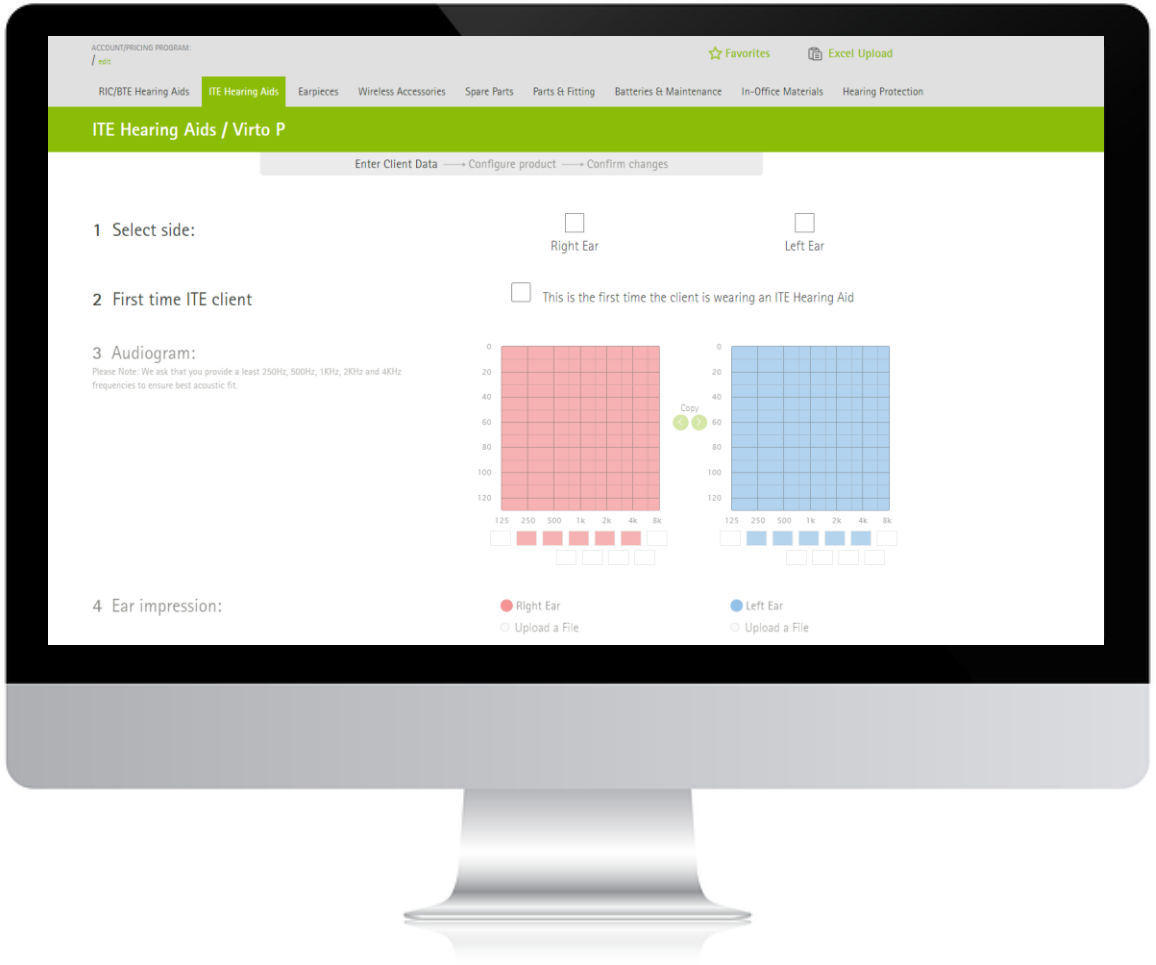
HF3

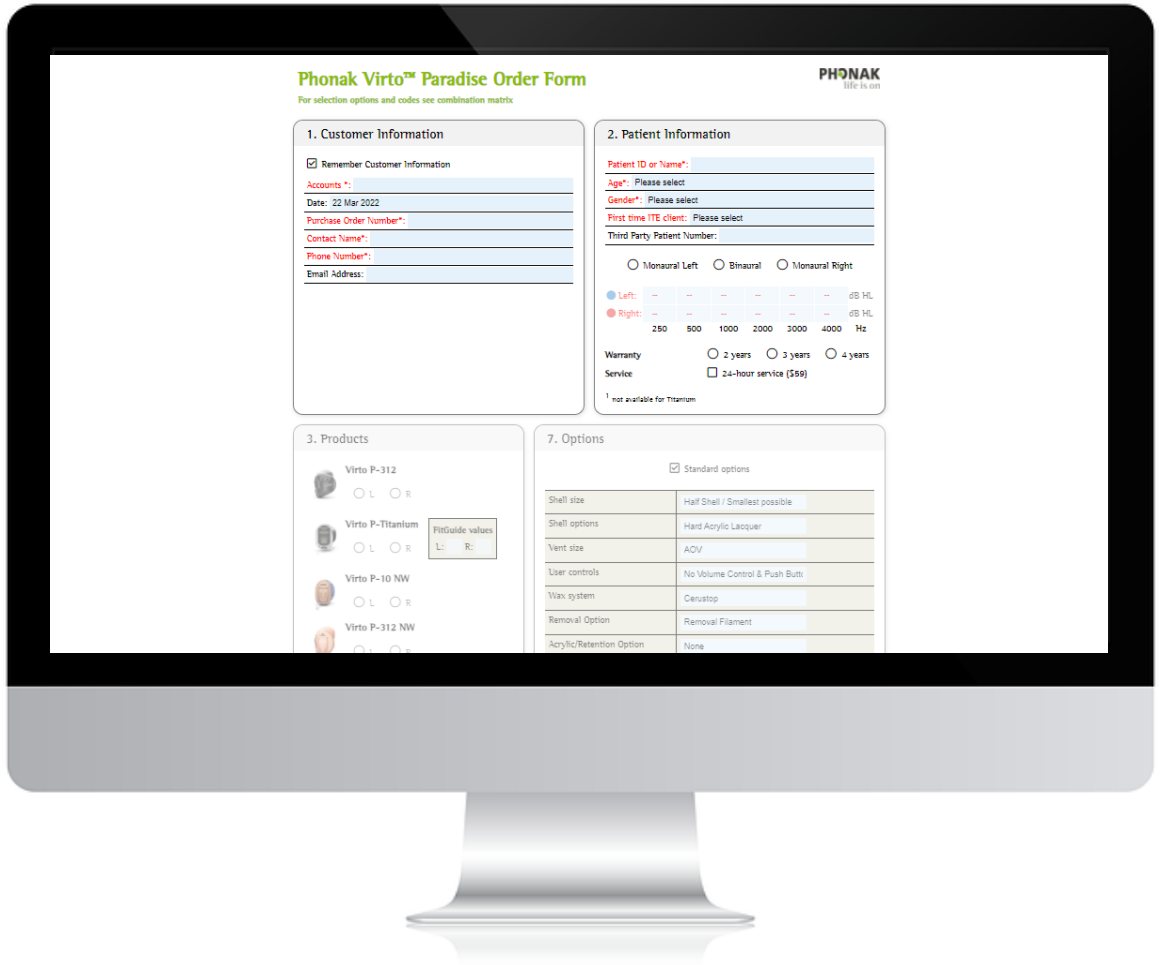
*standard

Easy ordering process with EasyOrder

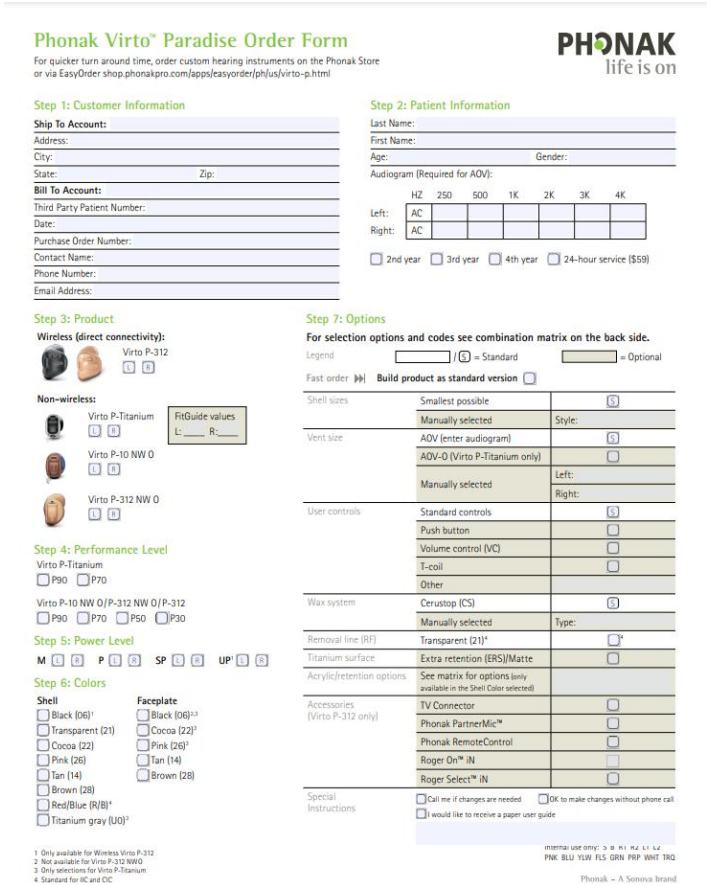


Web Orders


ACCOUNT/PRICING PROGRAM:
/ edit
Favorites
Excel Upload
RIC/BTE Hearing Aids
ITE Hearing Aids
Earpieces
Wireless Accessories
Spare Parts
Parts & Fitting
Batteries & Maintenance
In-Office Materials
Hearing Protection
ITE Hearing Aids / Virto P
Enter Client Data → Configure product → Confirm changes
1 Select side:
Right Ear
Left Ear
2 First time ITE client
This is the first time the client is wearing an ITE Hearing Aid
3 Audiogram:
Please Note: We ask that you provide a least 250Hz, 500Hz, 1KHz, 2KHz and 4KHz frequencies to ensure best acoustic fit.
Copy
125 250 500 1k 2k 4k 8k
4 Ear impression:
Right Ear
Upload a File
Left Ear
Upload a File


Phonak Virto™ Paradise Order Form
For selection options and codes see combination matrix
1. Customer Information
Remember Customer Information
Accounts *:
Date: 22 Mar 2022
Purchase Order Number*:
Contact Name*:
Phone Number*:
Email Address:
2. Patient Information
Patient ID or Name*:
Age*: Please select
Gender*: Please select
First time ITE client: Please select
Third Party Patient Number:
Monaural Left
Binaural
Monaural Right
Left:
Right:
dB HL
250 500 1000 2000 3000 4000 Hz
Warranty
2 years
3 years
4 years
Service
24-hour service ($69)
1 not available for Titanium
3. Products
Virto P-312
Virto P-Titanium
FitGuide values
L: R:
Virto P-10 NW
Virto P-312 NW
7. Options
Standard options
Shell size
Half Shell / Smallest possible
Shell options
Hard Acrylic Lacquer
Vent size
AOV
User controls
No Volume Control & Push Butt
Wax system
Cerustop
Removal Option
Removal Filament
Acrylic/Retention Option
None

Alternative option
Paper custom order forms



Phonak Virto™ Paradise Order Form

For quicker turn around time, order custom hearing instruments on the Phonak Store or via EasyOrder shop.phonakpro.com/apps/easyorder/ph/us/virto-p.html

PHONAK life is on

Step 1: Customer Information

Ship To Account:
Address:
City:
State: Zip:
Bill To Account:
Third Party Patient Number:
Date:
Purchase Order Number:
Contact Name:
Phone Number:
Email Address:

Step 2: Patient Information

Last Name:
First Name:
Age: Gender:
Audiogram (Required for AOV):

	HZ	250	500	1K	2K	3K	4K
Left:	AC						
Right:	AC						

☐ 2nd year ☐ 3rd year ☐ 4th year ☐ 24-hour service ($59)

Step 3: Product

Wireless (direct connectivity):
Virto P-312 L R

Non-wireless:
Virto P-Titanium L R — FitGuide values L:____ R:____
Virto P-10 NW O L R
Virto P-312 NW O L R

Step 4: Performance Level

Virto P-Titanium
☐ P90 ☐ P70

Virto P-10 NW O / P-312 NW O / P-312
☐ P90 ☐ P70 ☐ P50 ☐ P30

Step 5: Power Level

M L R P L R SP L R UP[1] L R

Step 6: Colors

Shell	Faceplate
☐ Black (06)[1]	☐ Black (06)[2,3]
☐ Transparent (21)	☐ Cocoa (22)[2]
☐ Cocoa (22)	☐ Pink (26)[2]
☐ Pink (26)	☐ Tan (14)
☐ Tan (14)	☐ Brown (28)
☐ Brown (28)	
☐ Red/Blue (R/B)[4]	
☐ Titanium gray (UO)[2]	

1 Only available for Wireless Virto P-312
2 Not available for Virto P-312 NW O
3 Only selections for Virto P-Titanium
4 Standard for IIC and CIC

Step 7: Options

For selection options and codes see combination matrix on the back side.

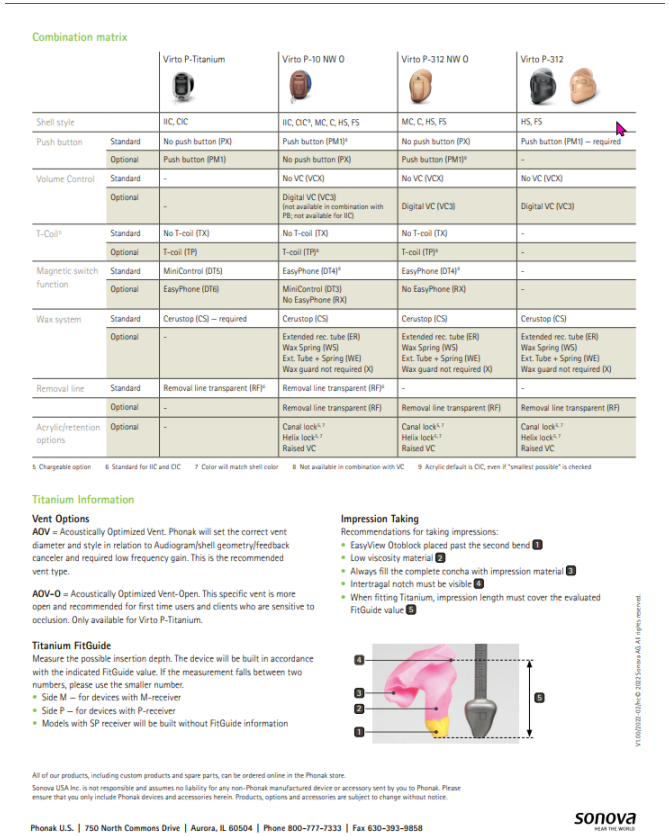
Legend ☐ / (S) = Standard ☐ = Optional

Fast order ⏭ **Build product as standard version** ☐

Shell sizes	Smallest possible	(S)
	Manually selected	Style:
Vent size	AOV (enter audiogram)	(S)
	AOV-O (Virto P-Titanium only)	☐
	Manually selected	Left: / Right:
User controls	Standard controls	(S)
	Push button	☐
	Volume control (VC)	☐
	T-coil	☐
	Other	
Wax system	Cerustop (CS)	(S)
	Manually selected	Type:
Removal line (RF)	Transparent (21)[4]	☐[4]
Titanium surface	Extra retention (ERS)/Matte	☐
Acrylic/retention options	See matrix for options (only available in the Shell Color selected)	
Accessories (Virto P-312 only)	TV Connector	☐
	Phonak PartnerMic™	☐
	Phonak RemoteControl	☐
	Roger On™ iN	☐
	Roger Select™ iN	☐
Special Instructions	☐ Call me if changes are needed ☐ OK to make changes without phone call ☐ I would like to receive a paper user guide	

Internal use only: PNK BLU YLW FLS GRN PRP WHT TRQ

Phonak – A Sonova brand



Combination matrix

		Virto P-Titanium	Virto P-10 NW O	Virto P-312 NW O	Virto P-312
Shell style		IIC, CIC	IIC, CIC[7], MC, C, HS, FS	MC, C, HS, FS	HS, FS
Push button	Standard	No push button (PX)	Push button (PM1)[8]	No push button (PX)	Push button (PM1) – required
	Optional	Push button (PM1)	No push button (PX)	Push button (PM1)[8]	-
Volume Control	Standard	-	No VC (VCX)	No VC (VCX)	No VC (VCX)
	Optional	-	Digital VC (VC3) (not available in combination with PB; not available for IIC)	Digital VC (VC3)	Digital VC (VC3)
T-Coil[5]	Standard	No T-coil (TX)	No T-coil (TX)	No T-coil (TX)	-
	Optional	T-coil (TP)	T-coil (TP)[8]	T-coil (TP)[8]	-
Magnetic switch function	Standard	MiniControl (DT5)	EasyPhone (DT4)[8]	EasyPhone (DT4)[8]	-
	Optional	EasyPhone (DT6)	MiniControl (DT3) No EasyPhone (RX)	No EasyPhone (RX)	-
Wax system	Standard	Cerustop (CS) – required	Cerustop (CS)	Cerustop (CS)	Cerustop (CS)
	Optional	-	Extended rec. tube (ER) Wax Spring (WS) Ext. Tube + Spring (WE) Wax guard not required (X)	Extended rec. tube (ER) Wax Spring (WS) Ext. Tube + Spring (WE) Wax guard not required (X)	Extended rec. tube (ER) Wax Spring (WS) Ext. Tube + Spring (WE) Wax guard not required (X)
Removal line	Standard	Removal line transparent (RF)[4]	Removal line transparent (RF)[8]	-	-
	Optional	-	Removal line transparent (RF)	Removal line transparent (RF)	Removal line transparent (RF)
Acrylic/retention options	Optional	-	Canal lock[6,7] Helix lock[6,7] Raised VC	Canal lock[6,7] Helix lock[6,7] Raised VC	Canal lock[6,7] Helix lock[6,7] Raised VC

5 Chargeable option 6 Standard for IIC and CIC 7 Color will match shell color 8 Not available in combination with VC 9 Acrylic default is CIC, even if "smallest possible" is checked

Titanium Information

Vent Options

AOV = Acoustically Optimized Vent. Phonak will set the correct vent diameter and style in relation to Audiogram/shell geometry/feedback canceler and required low frequency gain. This is the recommended vent type.

AOV-O = Acoustically Optimized Vent-Open. This specific vent is more open and recommended for first time users and clients who are sensitive to occlusion. Only available for Virto P-Titanium.

Titanium FitGuide

Measure the possible insertion depth. The device will be built in accordance with the indicated FitGuide value. If the measurement falls between two numbers, please use the smaller number.

- Side M – for devices with M-receiver
- Side P – for devices with P-receiver
- Models with SP receiver will be built without FitGuide information

Impression Taking

Recommendations for taking impressions:

- EasyView Otoblock placed past the second bend 1
- Low viscosity material 2
- Always fill the complete concha with impression material 3
- Intertragal notch must be visible 4
- When fitting Titanium, impression length must cover the evaluated FitGuide value 5

All of our products, including custom products and spare parts, can be ordered online in the Phonak store.

Sonova USA Inc. is not responsible and assumes no liability for any non-Phonak manufactured device or accessory sent by you to Phonak. Please ensure that you only include Phonak devices and accessories herein. Products, options and accessories are subject to change without notice.

Phonak U.S. | 750 North Commons Drive | Aurora, IL 60504 | Phone 800-777-7333 | Fax 630-393-9858

sonova HEAR THE WORLD

V1.00/2022-02/Nc © 2022 Sonova AG All rights reserved.

https://www.phonakpro.com/content/dam/phonakpro/gc_us/en/resources/forms/2022/PH_Order_form_Virto_Paradise_8.5x11in_EN_V1.00.pdf

Things to consider

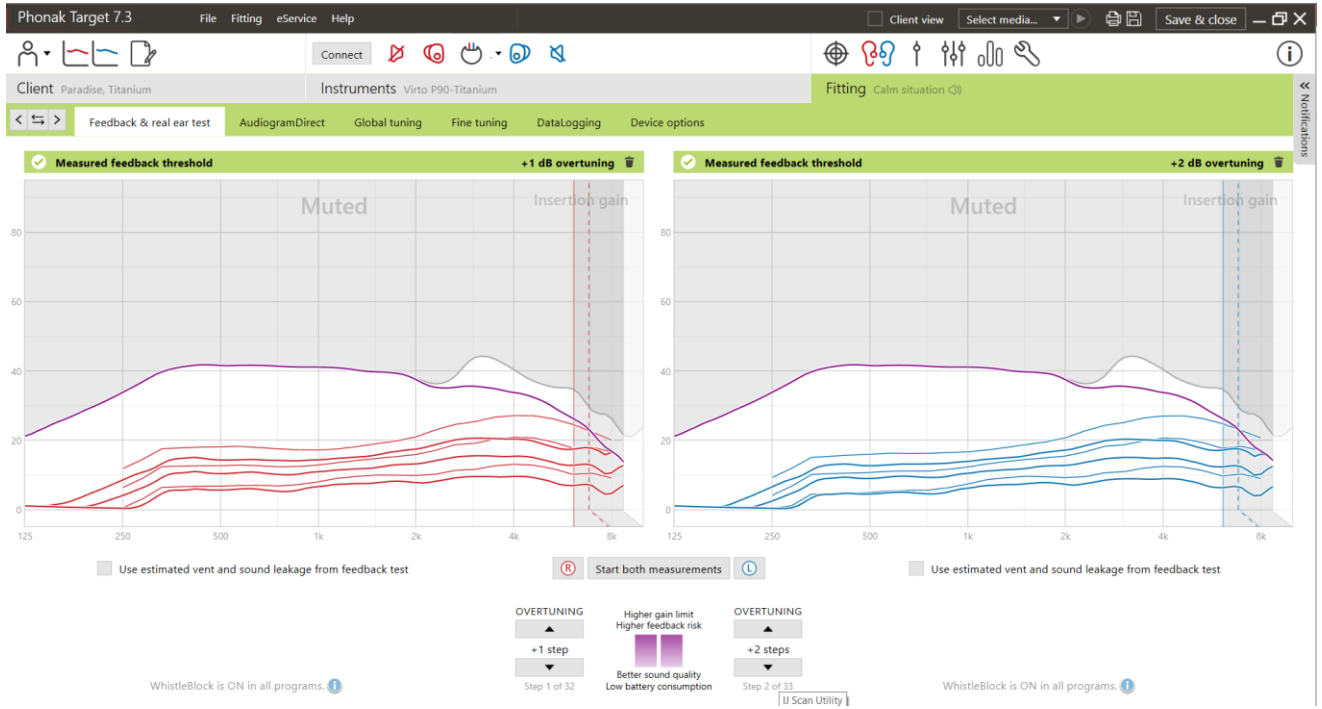
When ordering your clients custom hearing aids, consider the following

- Ear geometry and volume
- Receiver size
- Additional options
- Venting and occlusion
- Cerumen management

First follow-up & troubleshooting

Feedback: a refresher

- Feedback happens when sound leaks out of the ear and back into the hearing aid repeatedly
- Feedback is another major reason clients do not regularly wear their hearing aids
- **Run the feedback test at every hearing aid fitting**

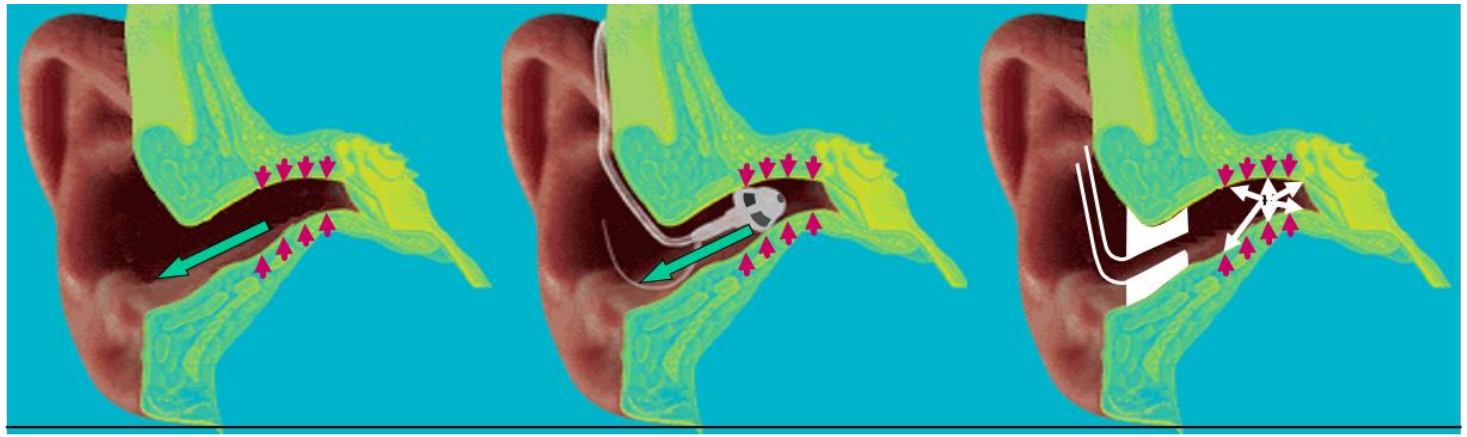


Feedback: troubleshooting

- **Verify the hearing aids are fully inserted into the ear canal**
- **How to know if the problem is vent-related or shell-fit related:**
  - Completely plug the vent and rerun the feedback test
- **If the feedback curve allows more gain than before:**
  - The current vent size is too large
    - Remake with smaller vent
- **If there is no change to the feedback curve:**
  - There is a problem with the fit of the device
    - Take an open-jaw impression and send for remake

Occlusion: a refresher

Own voice via bone conduction



Open Ear Canal
- sound can drain off
- no occlusion effect
- natural sound

Open Fitting
- sound can drain off
- no occlusion effect
- natural sound
- high wearing comfort

Occluding Fitting
- sound is trapped
- occlusion effect
- unnatural sound
- low wearing comfort

Occlusion: two-types

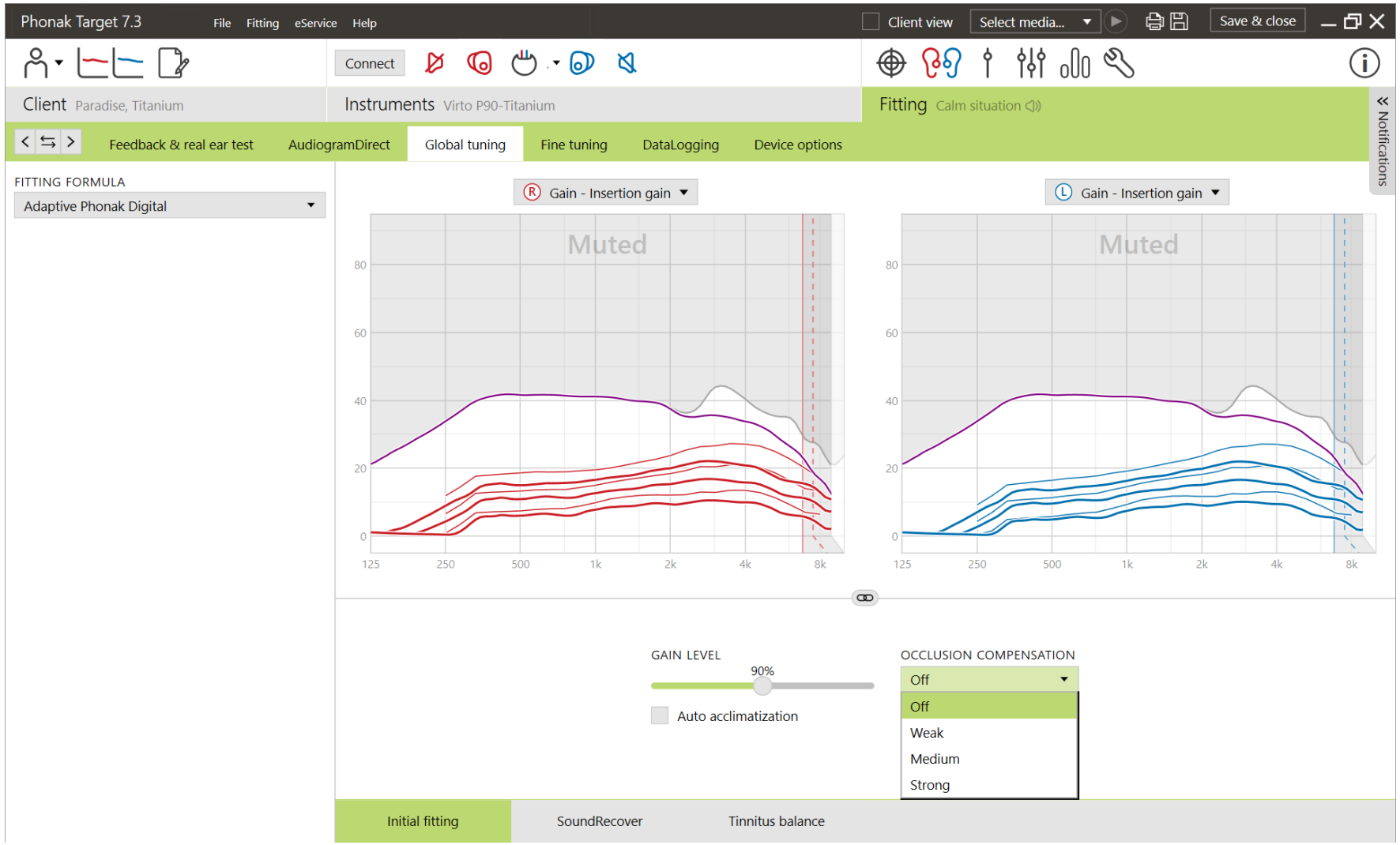
Shell-related

- Related to the physical fit of the hearing aid in the ear
- Solved only with a remake of the hearing aid
- Troubleshoot to determine what features need to be remade differently

Amplification-related

- Innapropriate levels of amplification can cause problems that appear similar to occlusion
- Because this type of occlusion does not require a remake to fix, it is the easiest to solve in the clinic
- Troubleshoot to determine cause

Troubleshooting occlusion in Target



Remember!

- For clients new to custom hearing aids, some degree of occusion is perfectly normal!
- Clients can take anywhere from minutes to weeks to adjust
- Counsel on realistic expectations and work with them to determine how much occlusion they can adjust to
- Use the next slides as a guide to troubleshooting occlusion problems

Things to consider

Once your client has received their custom made hearing aid, consider the following

Run the **feedback test** at every hearing aid fitting

Shell related or **amplification related** feedback

Troubleshooting feedback

Counselling on occlusion and **setting realistic expectations**

If you need to further troubleshoot occlusion…

Troubleshooting occlusion: Step 1

- With the hearing aids inserted, connected to the software, and not muted…
- Have the client count to five at a normal volume
- Now mute the hearing aids and have the client count again

If muting the hearing aids made it better:

- Problem is amplification-related
  - Reduce low-frequency gain

If muting the hearing aids made it worse:

- Problem is underamplification or shell fit
  - Increase low-frequency gain
  - Remake with larger vent
  - Remake with longer canal

If muting the hearing aids had no effect:

- Problem is shell fit
  - Remake with larger vent
  - Remake with longer canal

Troubleshooting occlusion: Step 2

- With the hearing aids inserted, connected to the software, and not **muted**…
- Have the client count to five **loudly**
- Now have the client count again **softly**

If worse when counting softly:
- Problem is underamplification
  - Increase low-frequency gain

If worse when counting loudly:
- Problem is overamplification
  - Decrease low-frequency gain

If there was no difference:
- Problem is shell fit
  - Use step 3 to determine solution

Troubleshooting occlusion: Step 3

- With the hearing aids inserted, connected to the software, and **muted**…
- Have the client count to five at a normal volume while pushing on the battery door of the hearing aids
- Now have the client count again at a normal level while slightly pulling the hearing aids out

If pushing them in sounds better:

- Problem is shell fit
  - Remake with longer canal length
  - Remake with larger overall shell

If pulling them out sounds better:

- Problem is shell fit
  - Remake with larger vent
  - Remake with shorter canal length

If there was no difference:

- Problem is over or under-amplification
  - Adjust gain based on client complaint

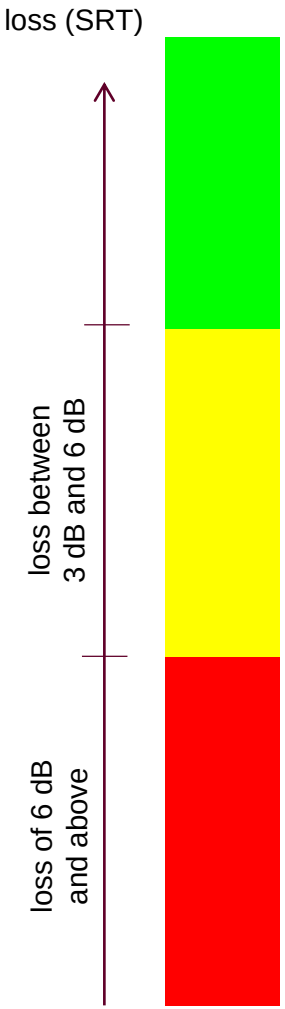
Troubleshooting hearing in noise

PHONAK
life is on

If the client has difficulty hearing speech in noise…

1. Add a manual speech-in-noise program
2. Increase directional response in applicable programs
3. Increase level of NoiseBlock in applicable programs
4. Increase high frequencies of G30 or G50 gain curves
5. Utilize automatic fine tuning to make further adjustments
6. Remake with belled bore vent (passive enhancement of high frequencies)
7. Suggest a Roger microphone or PartnerMic accessory

Quantifying Spatial Processing Deficit: LiSN-S PGA



With amplification the patient's loss of speech understanding in noise is very mild, and the patient should be able to understand speech almost as well as people with normal hearing.

Even with amplification, the patient will require speech to have a SNR significantly better than people with normal hearing in order to understand the speech. In many situations (where there is a close target talker or a close dominant noise source) advanced directional microphone technology will enable the patient to understand speech in noise almost as well as people with normal hearing.

Even with hearing aids incorporating advanced directional microphone technology the patient will require speech to have a SNR significantly better than people with normal hearing in order to understand the speech. In adverse listening conditions the patient is likely to be able to understand speech only with the aid of wireless technology coupled to the patient's hearing aids.

Troubleshooting hearing in noise

Because…

31%

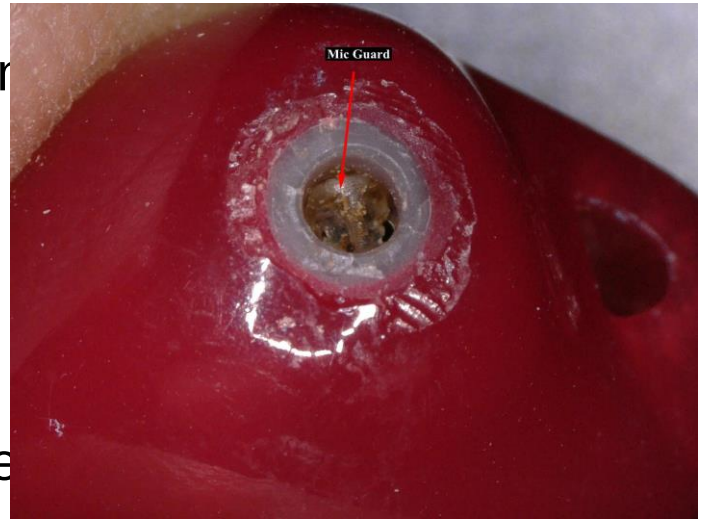
of hearing aid wearers report they have challenges hearing in background noise

Abrams, H. B., & Kihm, J. (2015). An Introduction to MarkeTrak IX: A New Baseline for the Hearing Aid Market. Hearing Review, 22(6), 16.

Use, care & maintenance

Cerumen management

- Cerumen build-up in the ear can negatively impact hearing performar with or without hearing aids
- Because of their location deeper in the ear, custom hearing aids can particularly vulnerable to damage from cerumen
- Regular cerumen management can ensure your client has optimal he at all times
- Before performing cerument management, ensure your local laws permit you to do so.
  - If not, refer the client to the appropriate professional

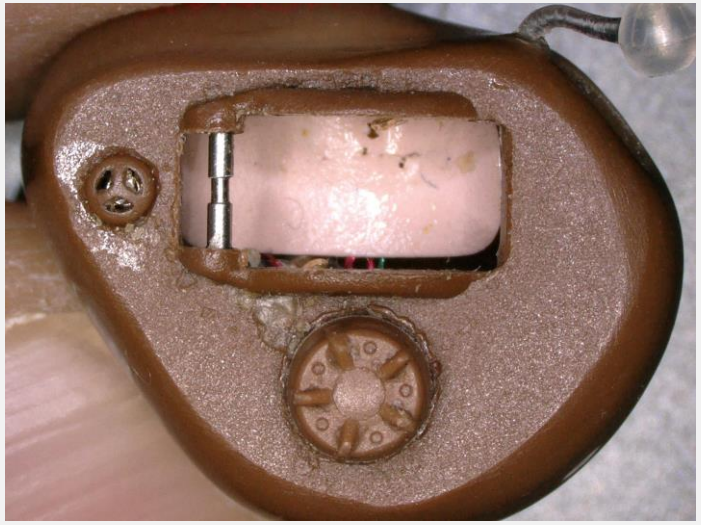


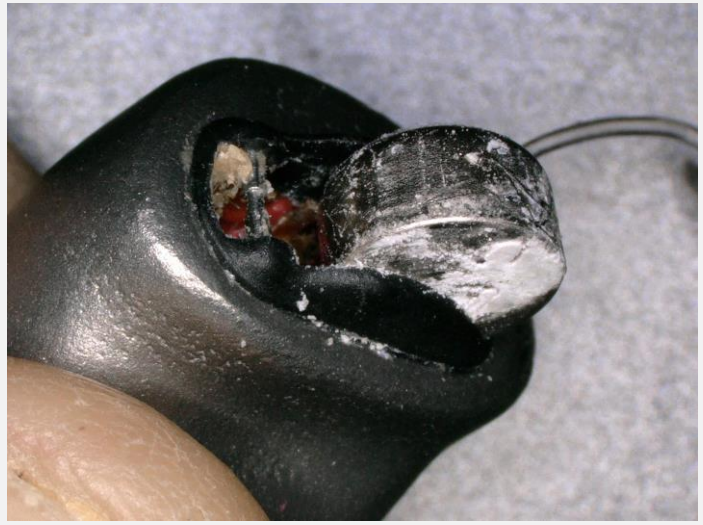
Cleanliness is important

- Regular cleaning of the hearing aids is the best way to maximize their lifespan
- Demonstrate to the client how to clean their hearing aids
- If a client is unable or unwilling to clean their hearing aids they should make an appointment to have them cleaned in the clinic
  - A family member or caregiver can also be taught how to clean them

Proper ITE Maintenance

- ITE devices are particularly exposed to earwax, as they are placed in the ear.
- About 40 % of the repair cases with ITE devices can be traced back to ear wax related issues.
- These issues can be prevented if proper cleaning and care is implemented.
- By integrating proper maintenance into your counselling with the client, you can minimize these issues, and save time and costs for you and your client.
- We recommend highlighting proper care & maintenance to your client as part of the best practice with custom hearing aids.





Cleaning custom hearing aids

Daily

Weekly

As needed

How to clean a custom hearing aid

In-office modification

Warning: In-office modification of a hearing aid could potentially void the manufacturer warranty. Fit issues are best handled by the manufacturer to ensure build changes are tracked in case a rebuild or replacement is necessary.

- In-office modification of hearing aids is not recommended, as it may:
  - compromise the integrity of the acrylic shell
  - reduce biocompatibility of the acrylic shell
  - cause injury to client or HCP

- Additionally, if the hearing aids have to be remade or replaced the manufacturer will have no record of these modifications and they will have to be repeated

Sending for repairs or remake

- When sending in a hearing aid for remake, please mark on the hearing aid where the problem is
- For instance, if there is an irritated spot in the ear canal mark that location on the hearing aid with permanent marker
- When completing the repair/remake form, be as specific as possible
- We recommend taking a new impression for remakes

Returns

- While returns are inevitable, they are NOT the end of the client journey
- If they do not adapt well to custom hearing aids, ask questions to find out how you can better address their overall needs
- Consider a trial of RIC or BTE hearing aids to rescue the sale
- Remember, the client came to see you for a reason… they need help!

Things to consider

PHONAK
life is on

Before your client leaves your clinic, consider the following

Cerumen management and **regular cleaning**

Cleaning options available for all environments

The client journey is now clear

- Physical limitations of ear (size, shape, injury, etc)
- Power needs
- Expectation management
- Unrealistic expectations

- Expectation checklist
- Cerumen management
- Negative experiences
- Emotional readiness
- Financial restrictions

- Poor ear impression
- Incorrect information

- Occlusion
- Feedback
- Discomfort
- Cosmetics
- Unmet needs

- Remote microphones like Roger
- Understanding in noise

- Cerumen management
- Reprogramming
- Cleaning options
- Repairs
- In office modifications
- Returns
- Reliability issues
- "Ive never heard well with these!"
- "They dont work!"

Every client is unique, so is their custom-made device

Custom hearing aids have a different customer journey than other hearing aids

A well-fit custom hearing aid gives you the opportunity to stand out in the community and grow your practice

Phonak offers an array of tools to optimize custom fittings

For additional resources visit…

www.phonakpro.com

Together,
we change lives