

Reduced Contact Audiology

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natus[®]

A photograph of two men in white lab coats walking away from the camera down a modern, brightly lit hospital hallway. The hallway has a polished floor that reflects the overhead lights and the figures of the doctors. The walls are white with recessed lighting and glass partitions. The overall color palette is a soft, teal-tinted white.

Healthcare solutions
with one thing in mind.
You.

natus.

Training

Onze missie: het ontwikkelen en delen van klinische- en productkennis om onze klanten op te leiden en hen in staat te stellen de patiëntenzorg en de efficiëntie daarvan te verbeteren. Dit doen we via onze academy's



Reduced Contact concept - Learning goals

Reduced Contact	The principles to consider for reduced contact in Otosuite®
Adjusted Workflow	Proposing an adjusted workflow for minimal contact.
REUG & RECD	Aurical® HIT / Freefit overview
Coupler verification	How to verify a fitting on the coupler.
Coupling Guide	Visual examples of coupling adapters and different Hearing aid (HA) types.

Reduced contact

Factors to consider:

- Distance
- PPE (Personal Protective Equipment)
- Time
- Number of visits
- Number of different members of staff
- Local protocol on patient interaction

“Transmission of SARS-CoV-2: implications for infection prevention precautions”

WHO, Scientific Brief, 9th July 2020.

<https://www.who.int/publications/i/item/modes-of-transmission-of-virus-causing-covid-19-implications-for-ipc-precaution-recommendations>



Adjusted workflow

Current Workflow	
<u>Contact</u>	Initial assessment, History, <u>Otoscopy</u> , <u>Audiogram</u> and <u>Impressions</u> .
<u>Contact</u>	<u>Fitting assessment</u> , <u>Fitting</u> and <u>Verification</u> .
<u>Contact</u>	Follow up / Verification / <u>Fitting check</u> .

Number of contacts: 3

Potential number of different staff: 3

PPE requirements: 3

Proposed Workflow	
No Contact	“Pre-test phone call” or an over 2M in clinic: History, patient expectations.
<u>Contact</u>	<u>Video Otoscopy</u> , <u>Audiogram</u> , <u>Fitting assessment</u> , Digital Impressions, <u>RECD</u> & <u>REUR</u> .
No Contact	Fitting and verification on the coupler.
No Contact	Postal / Collection of hearing aids. Optional in clinic at 2M “Fitting check”.

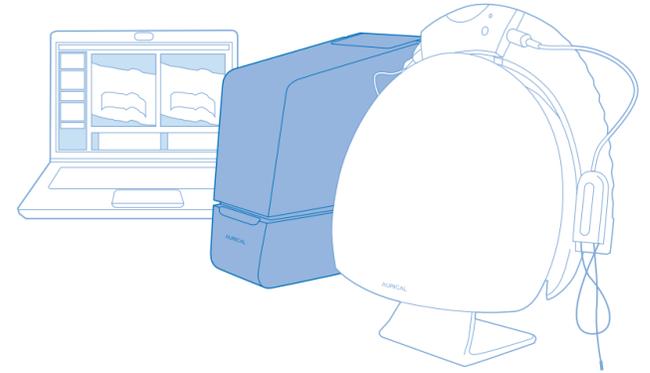
Number of contacts: 1

Potential number of different staff: 1

PPE requirements: 1-3

Reduced Contact Options

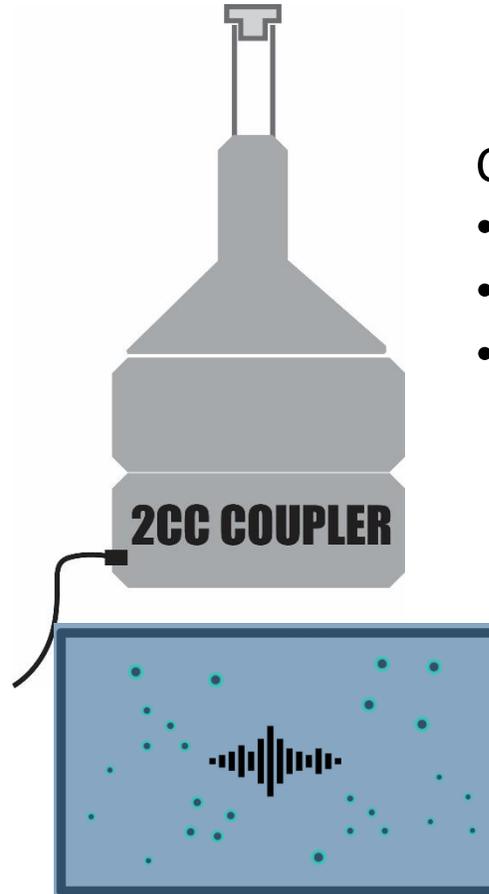
- Otocam 300 for distance increased video Otoscopy
- Otoscan for reduced contact impressions
- Using RECD in Aurical HIT & Freefit
- Capturing REUG at point of test
- Headphone covers



The RECD Theory

Real Ear:

- Smaller than 2CC
- Irregular in shape
- Individual response to stimuli



Coupler:

- 2CC volume
- Regular in shape
- Predictable and repeatable response to stimuli

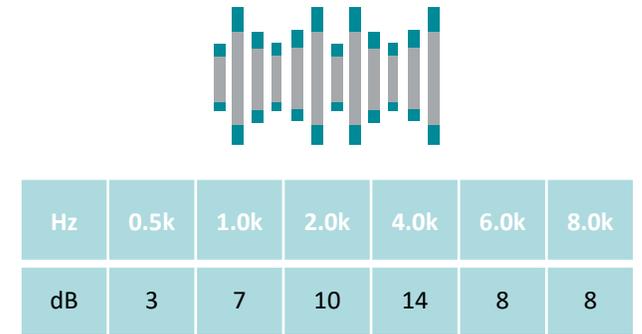
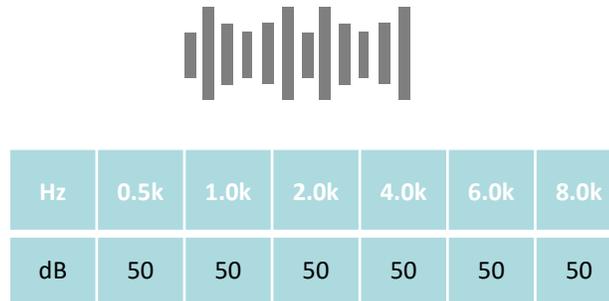
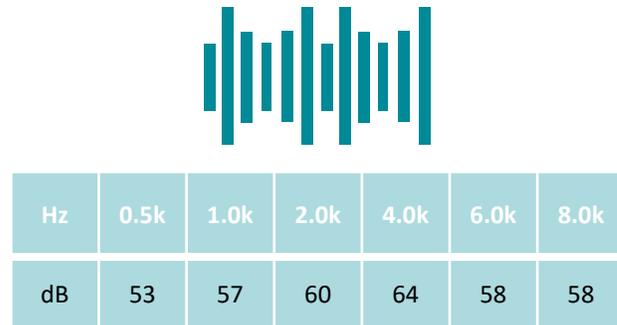


RECD

The REUG Theory

Real Ear Unaided Gain:

Formal Definition (ANSI S3.46-197): Difference in decibels between the SPL, as a function of frequency, at a specified measurement point in the ear canal and the SPL at the field reference point, for a specified sound field, with the ear canal un-occluded.



REUR

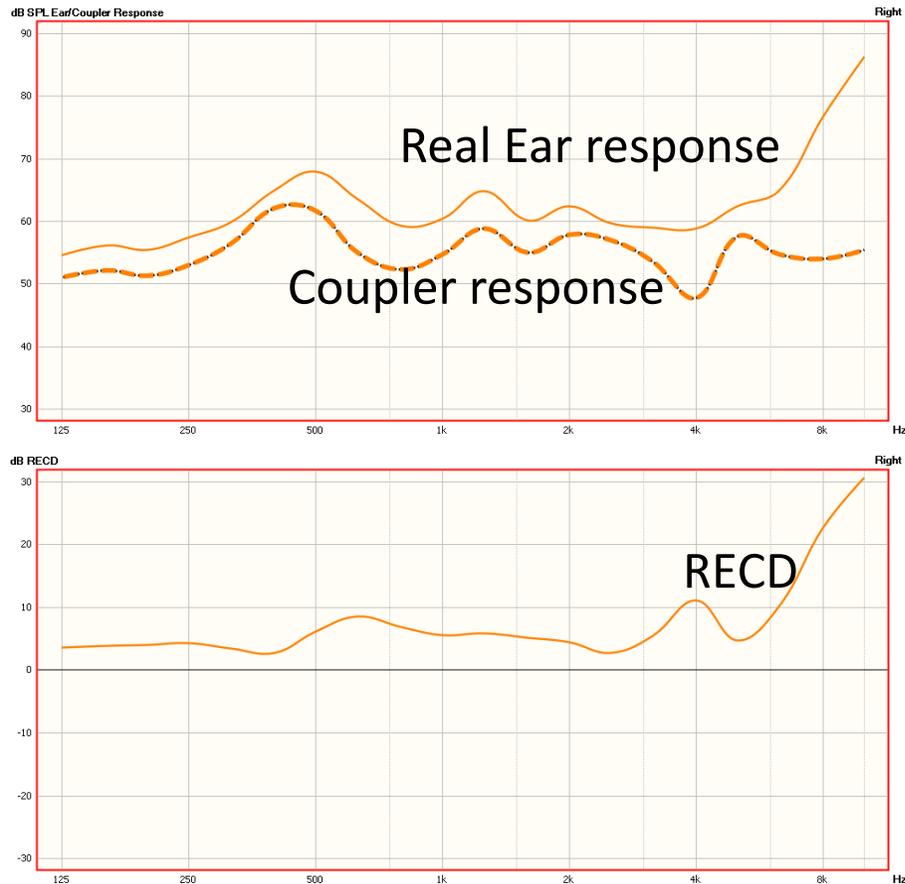


Input



REUG

The RECD – Expected Results



Real ear responses should be positive and usually peak toward high frequencies.

Troubleshooting

Real Ear lower than coupler at Low Frequency:

- Poor fitting of mould/ tip to real ear i.e. sound leaking.
- Possible perforated TM i.e. larger volume of air than expected.

Real Ear too low at High Frequency:

- Too shallow probe tube placement.

Unusual shape:

- Hypermobility or hypomobility of TM

The RECD – Coupling Guide Coupler response



Coupling:

1. HA1 met tip
2. HA1 met oorstukje
3. HA2 Adapter

Verification on the Coupler



Fill in the fitting details box as usual for a REM, i.e. patient's target, HI Type etc. ensuring that you select:

- Fitting mode: Coupler
- Applied REUG: Measured REUG
- Applied RECD: Measured RECD

Fitting Details

Target Rule:	NAL-NL2	Date of Birth:	01/01/1990
Fitting Mode:	Coupler	Gender:	Male
Applied REUG:	Measured REUG	Applied RECD:	Measured RECD
H.I. Type:	BTE (RITC)	Transducer:	Insert Tip
Venting:	Occluded	Use Bone Conduction:	No
Amplification:	Bilateral	Experience:	Experienced

Use Stored EQ (Equalization)

>> Advanced Settings Apply Close Help

Hearing Aid Coupling in HIT Box

RITC / Thin tube



Custom / CIC



BTE



Clinical Considerations for RECD*

- **Open vs Closed:** Performing an RECD to fit a hearing aid that is “closed” creates a predictable environment for amplified and unamplified sound, just like in the coupler. This can therefore be a reliable verification tool. Be aware however that performing RECDs on “open” fittings, or large vents (>3mm) is less predictable and potentially less accurate (Dillon, 2012), even with measured RECD results.
- **Vent Adjustments:** Hearing aid manufacturers will often build into their target a “vent adjustment”, to overcome low frequency leakage from large vents. You will not necessarily see this displayed on the insertion gain target. So the SPL target may have a low frequency component that does not corroborate with the fitting software.
- **2cc View:** Hearing Aid manufacturers displays are not always set to 2cc, if you are viewing a response on the coupler in Otosuite then you need to ensure that your fitting software display is also set to “2cc view”.



We will continue to support you in creating a gold standard fitting for your patients. If you need any support with any of our products, please contact your local regional sales manager.

Thank you for listening.

