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Leveraging ReSound AutoREM for Complex Cases

Presenter: Valerie Kedem, AuD

Alright Guys.

So thank you so much. It is the top of the hour. We are go ahead and get started. As Anna said, my name is ValerieKedem.

I am a field training audiologist with GN resound. And for the next 30 minutes we are going to be hanging out with our course entitled Leveraging Resound Auto Room for Complex Cases. So as the second slide here shows, with anything that we do in life, including learning, there's always inherent risk and benefit. This is what we have in relation to ao. And so I'll just give you a moment here to kind of cruise through those really quickly and also know that this is a part of the slide deck that is part of the materials located within this course and the materials section for this course.

So it'll be here for you if you ever need to take a look at it again. Because this is 30 minutes, we'll kind of cruise through this information. We do have three learning outcomes that we would like for you to take away today. They are, we'd like for you to be able to leverage verification of domes receivers and fitting rules for unusual or complex hearing losses. We want you to also be able to leverage verification to troubleshoot patient concerns and feedback about overall sound quality or maybe specific sound quality issues that the patient's coming back to you, telling you about.

And then last but not least, be able to describe the benefits of auto. Remember, we are pretty deep as far as help, so we want to make sure that if you have any questions or concerns that you do get that help that you need, that information that you need. Customer care is always a great place to start. Or if you have the name or number or a smoke signal for anybody else that you see here, whether it's your outside rep, your inside rep, somebody like myself who's an audiologist that cruises through your territory and comes to see you in person typically. Or our wonderful remote training audiologist, Megan Bishop, who covers the entire country.

We're always here for you. Just reach out and we will do the best we can to get you the information that is needed. So I know this is talking about verification and oftentimes in our heads that goes to REM or maybe even our hitboxes. And that is correct. And we will be talking to that in some degree with this course.

But before you spend the next 30ish minutes thinking, okay, well, where is the step by step for Resound Auto REM feature located in their Smart Fit software? This is not that course. We will not be doing a step by step demonstration of Auto REM for this one reason I do not have real ear equipment on me. I don't have it in my bag, my house, my desk, my car. I just don't have access to real ear equipment unless I come to your office.

So if you are looking for that side by side or step by step training, we are more than happy to do that. But we will come to your office. Office. Just make sure that whatever real ear equipment that you do have is compatible with the Auto RIM feature within our Smart Fit software. You should know that it will be kind of white or highlighted.

It'll look like it's an active button where it says Auto Rem under the gain screen within the Smart Fit software. So just wanted to do that public service announcement before you wait and wait and wait for something that just is not coming. However, we are going to be talking about our Auto Rem feature in the way that we talk about our other advanced features. Just like you can use directional mix or our directionality or our time constants or one of our two options for noise reduction to address your patient complaints or patient issues, you can also use autorems to get your patients to a better place a lot faster. And so we're going to break this down to two different categories.

Category one is complex losses. So sometimes you've got, you know, you've got your patients that had that standard maybe presbycusis type hearing loss. We typically can address that fairly well and fairly easily for most of our patients. I've been in this business a long time now, so I like to say most and

typically. Usually and in theory because there's always our outliers.

And we can also have our troubleshooting that we can address using Auto Rem as well. Just sometimes for those average complaints or the stuff that you hear day in, day out, and sometimes for maybe something a little bit more complex. So we can use Auto REM to have our complex losses like reverse slope, steeply sloping, etc, as well as troubleshooting common patient complaints. Just again, we're always just looking. How can we get our patients to a better place quickly and efficiently?

So this is our opportunity here to use our reactions. I'm excited about this. I've never done this in an AO course personally, but when we're thinking about using verification as a tool, how do you use it for supporting your patients? So if you just want to find that reactions tab and you can choose thumbs up real your measurements for everybody. I get got that one.

Or heart electroacoustic analysis for problems. Okay, I got a lot of thumbs up here, real your measures when more information is needed. Another use case. It could be any and all of these. Absolutely.

How you can use verification as a tool and maybe you use it for every single patient who walks through the door, but you also utilize verification for any of these other three options as well. This is definitely into a judgment zone here. It's just a way to kind of see what other providers are doing with the tools that they have in their toolbox. So great. Lots of real ear measures for every initial fitting and or electroacoustic analysis for every hearing aid that I saw there.

So our second chance to use our reactions is this one. Reverse slope hearing loss can be more complex because why is reverse slope hearing loss such a challenging fit? There is no wrong answer here, just FYI. Is it due to the upward spread of masking? Is it that previously inaudible background noises or more audible.

Okay, I've got a thumbs up. Another thumbs up. Lots of thumbs up. Patient reports their own voice is too loud or booming, has an echo sensitivity to high frequency sounds that may be over amplified. Absolutely.

Lots and lots and lots of thumbs up for sure. And some hand clapping. Absolutely. And like I said, anytime I do research on how to best fit reverse slope hearing loss, it kind of just comes up as whatever because we don't really know where our patient are or we do know where our patients are in their hearing journey, but maybe they were fit 15, 20, 30 years ago this one specific way and that's what their auditory system is used to. You might fit it a different way now knowing what you know, but we always have to kind of figure out where the patient's coming from, what their auditory system is going to handle, and then move from there.

And it's. That's like that for all of our patients, but it's even more complex and challenging because of what reverse slope hearing loss can do, specifically the upward spread of masking. Absolutely. So when we take a look here at our patient, let's just go ahead and assume that this is a bilateral symmetrical reverse slope hearing loss. Looking at this audiogram and finding your chat box, what dome and receiver would you pick out the gate knowing that this potentially could change.

And again, no judgment. This is just kind of an initial gut reaction. Without knowing this patient, talking to this patient, having any idea or clue what this patient's experiences are, what dome and receiver would you pick?

I got one. Chat. Let's see. Oh, good morning everyone. Hi.

Would you pick a closed dome? Would you pick a tulip dome? Would you pick our New sleeve dome. Would you pick a medium higher receiver? A base dome.

Okay, good. Anybody else? What about receivers? Closed dome, closed dome, closed dome, medium receiver?

Yeah, absolutely. All good choices. Absolutely.

So let's see what we have here. So with reverse slope hearing loss, I too will want to try and include as much as it warrants, as much as I can. But we also, you know, we don't want to have that upward spread of max skiing either. And so oftentimes our patients, as we know, for any type of hearing loss, they prefer to go more with an open dome. They just like that.

Open fit feels better, it sounds better. All the things that go along with an open fitting.

But you can also see here, when we're looking at these different tool, the tulip dome, the sleeve dome, the vented dome, the power dome, that you can see the bent effects for what you are getting. So you can use the autorem system as you know to determine the benefact of the dome in your patient's ear. And what this will do is just better allow us to set realistic expectations. If you want the open dome, this is what you're getting. If you do a tulip dome, this is what you're getting.

And also to kind of see what those different domes are going to do in the patient ear for sound quality adaptation and just better counseling tools overall. So we kind of talked a little bit about which dome that we would use and we got a lot of closed domes. Just as an FYI, when you see the word vented here last or this February actually, we've changed over from sure fit three domes to offit domes, you can use them interchangeably. The sure Fit 3 domes were our previous generation of domes. All fit domes are our our newer generation of domes.

We are now calling the closed dome vented. Just FYI, it's still got a little venting up here, but we just wanted to better address what the dome is actually doing. So it's not a true closed dome, it's more of a

vented dome. And sure Fit three, if you call us and say I want a closed dome, we know that you actually are looking for a vented dome with the all fit dome. So just a little FYI there as well, how about our receivers?

So I saw some medium power receivers for what we might choose out the gate for this patient and that is perfectly fine. It's kind of our go to for receivers, kind of more of a universal option. But I just wanted to point out a few things here on this slide. When we take a look here where my little pointer is on the left box, it has LP and MP here. MP is showing the fitting range for our medium power receiver.

LP is showing our fitting range for our low power receiver. So if you have a patient that has a reverse slope hearing loss, and maybe they have really, really good high frequencies, sometimes using that low power receiver is a better option than the medium power receiver for a few reasons. A sometimes it's more comfortable, you have less occlusion effect because it's thinner and it's more narrow and also it can cause less distortion of the sound quality. And patients that have that really good high frequency hearing loss sometimes do hear the circuit noise of the hearing aid. And using that low power receiver can eliminate or greatly reduce that distortion as well as the circuit noise.

So medium power is perfectly fine. There is nothing wrong with that whatsoever. But also take in consideration, looking at this fitting range, that the low power receiver could also be your friend and sometimes is our first recommendations for not just our reverse power hearing or reverse slope hearing losses, but also a lot of different hearing losses that you're fitting. In addition to considering that low power receiver, you might also consider this other one over here on the left called the MM or the Marie receiver. Marie stands for microphone and receiver in the ear.

You can see that it also has a very robust fitting range. And this could be really good for patients who not only have a reverse slope hearing loss, but also are starting to lose their hearing a little bit in that high frequency range. And so now you're kind of getting even trickier because you need to have the

occlusion that you need without getting a lot of occlusion effect and without having any type of feedback. So the beauty of this Marie receiver, this is a picture of it here on this slide, is that we've put a third microphone here where my little pointer is. It's kind of circling this microphone at the end or the back of this receiver.

It places itself right in the area in the pinna where the ear naturally collects the patient's own pinna cues. And by placing that microphone there, it helps reduce the occlusion effect. So you can go ahead and occlude down more if you need to, to accommodate both for the reverse slope hearing loss without having push back on occlusion effect. Also making sure that we've occluded enough to not have any type of feedback happening at the same time. And in addition to those benefits for reverse slope hearing loss, if you have the right hearing loss for Marie receiver, we do know that has more natural sound quality.

This makes sense, right? Because we're using the patient's own pinna cues for the processing of the hearing aid. Better localization that improves over time. It's a nice way to protect against wind noise. I'm in Florida, hopefully.

Well, maybe not right now because it's a kajillion degrees outside, but people are outside, they're outside on the beach, they're outside taking a walk, they're outside golfing, whatever it is, they're outside sailing, so forth and so on. We have a lot of complaints of wind. This is a nice, just anatomical way that we have fixed wind noise. Because where the microphone sits for Marie receiver is in that ear canal. It's naturally protected from wind, giving us up to 15 decibels less of wind noise.

So wind sounds like wind instead of somebody holding a hairdryer over that microphone, which doesn't sound that great at all. And then also can give easier phone calls because you can just plop the phone right up on that ear and collect that information just like somebody who perhaps wasn't using hearing aids. So just those are some other considerations besides medium power when you're considering

maybe a reverse slope hearing loss. So in addition to domes, in addition to receivers, we also have different types of fitting targets. So we have Audio plus, which is Resounds.

We've had it around since the late 80s, early 90s. NAL NL2 is familiar to most, if not all of us. And then additionally this year NAL launched their newest target rule, which is NAL NL3. We also have Resound has access to this within our Smart fit software version 2.3 and higher. So why am I talking about this?

Well, first, NAL NL3 is pretty cool for a couple of reasons. One, it's more revised. It used 1.8 million patients, real ear targets from NAL NL2 to see, okay, well where are there the deviations and these variations that are clinically significant and use that information of 1.8 million patients to get this NAL NL3. Additionally, instead of it just being a universal target rule, it also has what we're calling modular target rules. So this is going to be for what we can see here, reverse slope hearing loss, mixed loss, audiograms.

Also this year they're going to be introducing a minimal hearing loss module as well as a comfort and noise module. So that's really cool because we're not just saying, okay, we have a universal fitting target, but we also have targets for people that have different types of hearing losses. Again, kind of getting us to a better place faster. Why does this actually matter? Because if you use Auto rem.

So our Auto REM feature in our Smart Fit software, it's a true Apples to apples comparison. When you use a standalone real ear system instead of Auto rem, you typically are going to need to Change it to NAL NL2 and you're going to need to exchange that experience level from where we start off, which is first time user to experience level nonlinear at 100% target gain. Which is fine. And that's how you have a true Apples to Apples comparison when you're using a standalone real ear system. If you use our Auto rim, you don't have to do any of that.

You can choose whichever fitting formula that you prefer. Audiogram +NAL2, DSL NAL NL3, whatever experience level you want. Experienced first time user onboarding first time user experience nonlinear linear. You kind of get the idea. Also with the newer version of our Auto REM feature, we do have a probe to place it indicator.

So just let you know with it's red, yellow, green, Green is good for insertion depth and just allows this whole process to be a lot easier. You know you've got the probe in appropriately and you also know that you're truly doing an apples apples comparison based on the fitting formula. The experience level you run the Auto rem, it's a five step wizard process. And then all those changes will be made automatically to meet the targets based on what you have chosen within the software. So it's pretty slick.

So when we take a look at how we might use that for more of a complex hearing loss, these are our big talking points. Points. You can balance vetting effects with gain requirements of the hearing loss. You can provide that more objective data which we're always looking for to better set those realistic expectations and goals. We want to make sure our patients understand where they're going to be and what the realities are of these fittings.

You can make sure that you are getting truly if you're trying to use NAL NL3 that you're truly getting those target. You're matching those targets along with individual fitting methods along with those experience levels. And that you will be able to just take that information and automatically apply it to your patient fit. So that's how we can kind of use Autorim specifically for our more complex hearing losses. How would you start for your next one?

Would you your next complex loss? Maybe it's a steeply sloping hearing loss or another reverse slope hearing loss. Where would you start with your solutions Those domes and receivers, those auto rem, the fitting formula, or call me and say, hey, Val, I don't know. What do you think with our reactions

there?

Auto rem and domes and receivers and fitting formula, excellent. Perfect. Okay, so we talked about complex losses in the last 10 minutes that we hear. I told you, it goes by super fast. Let's talk about how we can use auto Rem for troubleshooting.

So again, another reaction. Where would you start for troubleshooting for this complaint? I'm not hearing as well as I once was. This is fairly typical. They were good and now they're not.

Where do you guys start again? No wrong answers. Okay, we've got new audiogram. We've got change receivers, dome filters. Yep, absolutely perfect.

New audio. All good decisions. All good choices here. So this is our case study that we're going to walk through together. So your patient comes in and they say, hey, my hearing aids used to be great, but they aren't as good as they used to be.

So this is good information to start with, but it's kind of vague, right? It's like, okay, so what else do we need to do? What other information would you want to get out of this patient or would you want to get out of the hearing aids to kind of troubleshoot what's really happening with this patient? And if you want to find that chat box again and just kind of type in some different things that you would like to know about, and I'll pull up the chat here.

Otoscopy hearing check. Battery life updated. Hit. Okay. Check to make sure the hearing aids printing properly.

Absolutely.

Hearing aid check. Wax. They need to be cleaned. Yep. You guys are on it toscopy.

Absolutely. First things first. Is the hearing aid working? Is the ear canal plugged up? Perfect.

Absolutely. So I think you guys are on target here. We have this decision matrix, and it's just, you know, kind of what we already do in clinic, I think in our heads, right? We already say, okay, well, this is the problem, so what is the solution? So for here, for this patient, it we've kind of broken it out into these three different categories.

Category one is when is it happening? Only when streaming. Category two is, well, it sounds horrible when I'm not streaming, but it's great when I am streaming. And category three is all the time. So if the problem is it sounds weak only when I'm streaming, here could be some solutions for you.

Increase the phone volume on the actual phone. Increase the bass boost. And this can be done within the Smart Fit software. Under device controls, accessories. Under mobile devices, you can make that base boost stronger if you so desire.

Or maybe you could just occlude it more. Maybe it's a physical thing. And this is when I highly recommend that you use the offit domes. Because not only can you include more of the offit domes, but they also are using the same type of silicone that we have with ShortFit3domes, but it is a thicker version of it. So the streaming response should be much better, should sound much more robust and overall, just in general, just better sound quality.

And I also recommend that you try the Sleeve Dome. It is kind of our. I know it seems to be a winner here. I usually only get called for the things that are really, really bad or really, really good. Nothing in between.

People are calling me and saying, the Sleeve Dome, it works. It works really great for problem fits and it's working really great for my streaming issues. So I would recommend trying that if it were me in clinic. So we've kind of figured out what's going on. Only when streaming.

This would be our troubleshooting. What about if it sounds best when you're streaming? So if it states, if it's best in your streaming, then it's probably not the receiver. It's probably not going to be your domes, it's not going to be your wax guards or anything like that. But it could be the microphone filters.

So on the back of the Nexia Ricks and the Vivia Rics and the Enzo Ias, you can replace the mic filters in house. They're in little green sticks if you haven't seen them. And this could help. If the problem is best when hearing, maybe it's just that they're best in streaming. Maybe just those.

They're all gunked up. And whenever they're not streaming, their audio information isn't coming into the hearing aid through those microphones as we want. If that doesn't take care of it, then send it in for a repair. Something else is going on. And then we have our last option of it sounds bad or it sounds weak all the time.

So these would be our two options here. Option one would be to replace the receivers. Because not only are the receivers responsible for the sound of the hearing aid, it's also responsible for the streaming. So the antenna for streaming is actually in the short fit three receivers. So if you have somebody who was doing really great overall and that sound quality went bad, go ahead and replace the receivers for both of the hearing aids or whichever one happens to not be working but this is also where you could use your electroacoustic analysis, which I know some of you were saying earlier in the chat is maybe where you would go immediately.

And as we know, it's more of an objective test. You do it within your Hitbox, and it just allows you to kind of check off where things are working well and perhaps where things are not. Now, the reason that I like

to mention this is that if you haven't tried to do Hitbox testing with our Smart Fit software and the last couple of generations of software, I recommend that you do it, give it a whirl, because you are able to. It's streamlined and it's better. You are able to connect the hearing aids to the software.

You're allowed to remain connected to the hearing aids in the software. So this means you can't change through the. These different test modes that we see here and also allow you to mute and unmute the hearing aid as needed without having to open up the text box or the test box and make changes to this and that. You can do all of this connected to the software remotely without having to do anything within the Hitbox itself.

So we know that using that Hitbox information just gives us a lot more information about what is going on behind the scenes with our patients. And so sometimes, instead of only using it for whenever we are checking our hearing aids as they come in for a first fit, or checking our hearing aids again when they're coming in from repair, sometimes we can use that Hitbox information before we send it in for repair to see what's going on for real Z's, and give that information also to resound just for, you know, every little bit of info that we have as things are being sent into us. It just helps for getting our patients to a better place a lot faster. So how about this last couple of reactions. What other patient reports might you use?

A decision tree to narrow down options. So we have connectivity concerns, noise reduction, overall sound quality and clarity, and perceived benefit. Is there any other way that you might. Might use this? Yeah, and I know that you guys are in clinic, so this is kind of what we do in our heads all the time, is they're like, oh, okay, this is not what's happening.

Boom. Is it this? Boom. Is it that? Boom.

Is it this? Absolutely. Connectivity concerns would be a great way to use a perceived benefit. And last one here. How else might you leverage objective measures for the report of my hearing aid sounds

weak.

Would we Real ear measures to verify hearing aid placement, Otoscopy. I know, we got some of that earlier Riddler measurements to verify vent effects of dome and ear mold. New audiogram to verify. Verify status of hearing, which was something that was mentioned earlier. Got a heart.

I got new audio. Absolutely. Heart and new audio. New audio. Great.

So that brings us to the end of our time here and I just want to check the chat box and make sure I didn't miss anything here. Nope. Looks great. And I hope that you just feel just a little bit more confident about using yet another tool in your toolbox. That Auto RIM has been kind of gussied up, if you will, along with the ability to use our Hitbox measurements.

So just wanted to have ease of use for y', all, whether using the Auto RIM feature or whether you're trying to do Hitbox measurements. And also just maybe a different way of thinking about how to use verification and how to use the Auto RIM within our software. I think for me, just being able to pick the target role that I want to use at the experience level that I want to use and running that Auto RIM through and it just automatically is going to change and apply that information. That is like one of the best tools that we could possibly use if you have that ability, both for our complex losses, which can be very challenging, as well as just troubleshooting our day to day patients that come in and they have these little things that are going on and we're not exactly sure your that's coming from these tools are there for us to get our patients to a better place. So that is at the end of our time today.

Please don't forget to take your five question quiz so you can get your .05 CEU hour here. If you have any questions or concerns, please don't hesitate to reach out to anybody at Resound, myself included. And I hope you have a lovely remainder of your day and your week. Thank you so much.

