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61% Better Hearing in Noise: The Roger Portfolio

Presenter: Steve Hallenbeck

- Okay, great. Thank you so much. And welcome, everybody, today. Hope everybody's doing well, wherever you are out there listening and calling in from. I'm just gonna do a couple of things on my screen here to get some stuff organized, and we'll kick off, as we oftentimes do with AudiologyOnline presentations, with our learning objectives. So today, we are going to talk all about Roger. And so after participating in this course, you're going to be able to list all of the different components of the Roger portfolio. And then also we're gonna spend a good chunk of time today, so you'll be able to describe the benefits of using Roger technology. And then on top of that, we will also spend some time talking about how to select the best solution for any of the patients that you might be working with with this technology in the future.

So again, feel free to drop any questions in the Q&A throughout. I'll see if I can grab them along the way. And then otherwise, we'll take a moment at the end to jump into things. But let's start off here. I'm gonna try to stay on track and give you a lot of great stuff over the next hour or so. But I'm already going to switch gears and kind of go a little bit into a different direction. If we think about Roger technology, it is for sure part of a system. There's many different things that go into making this Roger technology work. And so I wanted to bring up one of the latest and greatest things on the receiving end of our Roger technology and talk a little bit about Phonak Slim.

So the tagline here, of course, unique and elegant, based upon the shape. And then the connection here is the other part of it that's also important is that, you know, of course Roger in the lower-left hand corner, just to remind you that Roger does connect into these. Then we also have our made-for-all, or MFA, connections to different things like smartphones, tablets, computers, basically anything that uses Bluetooth. And again, we've got our two active connections here. So in this case, we're able to connect to two different devices basically at the same time, so that if you needed to share, if you're watching something on a tablet, phone call comes through, and you're able to pick those up.

So these also have the push button and tap control and then as well, myPhonak app. And so now let's get back to the topic at hand here and talk a little bit about Roger Technology and the Roger microphones. So if the hearing aid is the receiver in the system, then the microphones are basically the transmitter. So along with Phonak Slim, these are compatible with nearly all of our other devices. I might be hard pressed to think of ones that it wouldn't connect to, probably something like very small CIC or a titanium shell or something like that. But at any rate, the connectivity is pretty consistent across the board here. And on the screen we've got our Roger microphones across the top here, so the Roger On, the Roger Select, the Roger Table Mic II.

A little bit of background for you here, I'd say that these days, I haven't checked in a little while to see which one is being fit more often, but the Roger On and the Roger Select are, by far and away, the two most often fit Phonak Roger devices. And I think that probably now the On has overtaken the select a little bit. One of the key takeaways with this microphone is that it is kind of an all-in-one type solution where you have a lot of the same beamforming technologies that made the Select very attractive to many different users. And so this is becoming a very, you know, one size, one microphone that does so much across the board and especially just with, like, the look and feel of it, so very popular Roger microphone these days.

I would like to compare and contrast this with our other accessories and digital solutions, things like the PartnerMic, RemoteControl, and the TV Connector, and then the myPhonak app. So basically, and this is a good segue into the next slide here, is that Roger is essentially a digital standard that bridges an understanding gap by wirelessly transmitting a speaker's voice directly to the listener, directly into their hearing instruments. And it is a wireless protocol standard that operates within the 2.4 gigahertz frequency region and the frequency bandwidth. So those other ones on the prior slide, I'll put it back up for a minute, these also two will transmit in the 2.4

gigahertz domain, but they use a slightly different protocol than what the Roger one does.

And we'll get into how that differs and what it does in just a few minutes. This is always a great place to start as well. And you can see here we've got our Phonak Slim at that point where it's marked as the critical distance. And this graph, I think does a fantastic job of setting up that definition from just a moment ago about literally bridging that gap. Because yes, there's an understanding gap, I suppose, but there is also kind of a physical space. If you're new to Phonak, and let me kind of walk you through the graph here a little bit, is, well, let me start with our axes here. So this is basically distance across the horizontal axis, and then this is sort of a noise level on our vertical axis here.

And if you're new to Phonak, these are some of the functionalities within the hearing instruments themselves, some features that help us address hearing in background noise. So for your quiet environments, real ear sound, this is the type of processing that helps, especially for your BTE devices, kind of maximize or maybe the other way around, minimize the microphone location effect and try to digitally reproduce the offsets that you get from the shape of the ears on the head and that kind of influence that the pinna has on the perception of sound and directionality, for that matter. So real ear sound. Moving up, then we've got fixed directional. This is basically like, you know, a wide directional pattern that makes things more easy to hear from the front versus things from the back by suppressing some of that background noise.

And then these next three are sort of variations on that theme that just get narrower and then even very narrow with our StereoZoom 2.0, so UltraZoom and StereoZoom. And then last but not least, we have our ActiveVent, which is an acoustic coupling device, which will switch back and forth between open sound quality, or I should say an open fitting for great sound quality without the occlusion effect and things like that. And then it can close up so that you get the most amount of directional benefit out of

things like StereoZoom and UltraZoom and so on and so forth. So again, all of these work great when you're within about five feet of the person using the hearing instrument, or if you're the person using the hearing instrument, whenever the things that you wanna listen to are about five feet away from you.

So if you think about that, you can consider a person's wingspan, probably side to side, is gonna be somewhere around five feet. So it's not, you know, these things work well, but you really have to be inside of that person's, you know, hearing bubble in order to get the most effect of all of these features. So that's where what we're talking about with that physical gap is that if somebody's outside of this wingspan range, this five-foot or 1 1/2 meter space here, you know, you're not gonna do so well. And Roger can take the sound of whatever that signal is that you want to hear and stream it directly into the hearing instruments for far-field, much more than 1 1/2 meters or five feet, you know, some somewhere out there in kind of your typical wireless transmission range of somewhere around, like, you know, 60 feet or so, something like that, 60, 80 feet, something along those lines.

Now, again, we talked a little bit about the idea that it's a protocol, and let me get my cursor back over here. And these are the things that set Roger apart from many of the other protocols that are out there. So the first one to talk about and spend a little bit of time on, and especially when it comes to think about demoing and talking about some of those benefits of using Roger microphone is this idea that the Roger microphones are adaptive. So I like to describe this in terms of something very naturalistic, right? So like something that happens in the real world outside of using technology or microphones. What does this mean? Well, when I go into a noisy restaurant or someplace, a noisy party, something like that, I might walk in there, and I might be talking to somebody, and then all of a sudden, I begin to raise my voice to counteract the level of the sound around me.

And then, of course, if everybody stops talking at once, I'm still shouting, telling the most private details of my life. I then wind up screaming this over the quiet room because of the shift in volume so fast. Well, that thing that we do when we go into noisy places is exactly what Roger does, and that's what we mean by it's adaptive. So as the background noise gets louder, then the Roger signal gets a little bit of amplification added onto it as well in order to keep that positive signal-to-noise ratio. So that as this goes up, so does the level of the streamed microphone signal. As well, it's automatic. So AutoSense OS, which, again, if you're new to Phonak, this is the name of our automatic operating system, so.

When you are streaming signals via Roger, it will select whether or not it's, like, a speech signal or whether or not it's an acoustic signal streamed off of some kind of a devices, and it will automatically switch to those different settings. And then as well, there's some neat stuff how when you come into range of a Roger microphone that's turned on, it'll switch over automatically for you. So there's a lot of ease-of-use features that go along with us. Beyond that, you also have access to multiple talkers. In the adult space, sometimes with, we'll talk about reasonable accommodations and using Roger in the workplace later on. That's probably the main place where you see some access to multiple talkers for most adult users of Roger.

For your kids, this is less a luxury and much more a necessity in the sense of Roger being able to choose signal mixing so that it will pull in the signal from different sources and blend those into one singular stream signal for the patient to listen to. And then last, of course, but not least is that compatibility. So here there's loads of different, and as I think about the learning objectives, one of the things that I did not include in this was sort of the comprehensive list of all of the different Roger receivers that go on different types of hearing instruments. So the Roger X being the one that's probably the used most often, but then we also have different integrated receivers and various battery doors that fit onto cochlear implants and different devices like that.

And this is all because of Roger's compatibility, which makes it an ideal solution to use in classrooms and places like that where there might be many different types of hearing aids or many different brands of hearing aids being used. So this is some of the main characteristics, some of the main features that make a Roger a Roger. Now, why, is the big question. Why do we do this? So we know that listening in noise is difficult. I myself am not a hearing aid user at this stage of my life. And even when I get into difficult listening environments in noise, I'm usually struggling to follow along the conversation. That doesn't oftentimes go away once you start using a hearing aid.

In fact, sometimes it can get a little bit worse, such that 31%, so nearly one out of every three people that you're going to be sitting here talking to about using hearing aids, is gonna experience that kind of difficulty, even with the hearing aids in. Now, granted they have their directional features that might help lower that, but it still probably won't take that part of the pain of using hearing instruments away completely. When we think about it in different environments, you know, in general, we've got the hearing bubbles sort of overlaid on top of these two people here. And in 60 dB with conversational speech, that's probably reasonably all right. But once that noisy environment starts getting louder and louder with other conversations with the plates and the glasses clinking in the background, some noise from the kitchen, music playing, this can get pretty hairy pretty quickly.

So that idea of 60 decibels all of a sudden shoots up quite a lot. I remember once I was traveling, and I took out a sound level meter at a coffee shop in the airport and was really surprised 'cause, subjectively, I actually thought it was kind of quiet, and just with the amount of noise that was there, it was 73 dB. And, you know, that's also kind of akin to city traffic. You know, food courts can get up around 80 decibels. You know, wine bar might be something like 86. You know, so all that sort of stuff gets pretty noisy

pretty fast. And 86 dB is about the same level as a lawnmower. Your brew pubs, 90 decibels, the same as a motorcycle.

So proving the point here that the world that we live in gets super noisy, and it can be hard to keep up, even with hearing aids. So Roger gives us this proven performance, and one of them, this might show up a little bit on part of your quiz here in a little bit, but MultiBeam Technology is one of those things in Roger that makes it work really, really well. And the MultiBeam Technology takes, you know, some of those configurations on the microphone, the Roger microphones themselves and can triangulate so that it will pick up where speech is coming from and reduce noise coming from, you know, opposite directions and stuff like that. So here, this is a slightly older study from 2019 here where between looking at using hearing aids alone and using hearing aids with MultiBeam Technology in the Roger microphone.

We saw 61% improvement in speech conversation, so a really good opportunity to improve the listening scenario in that super noisy environment. What this relates to then is basically about 10 times better speech understanding in noise and over distance than even folks with normal hearing. So that claim also too comes from a study back in 2014. And then of those using Roger microphones, 90% of them will recommend them to friends. And so this is like, you know, one out of, or 9 out of 10 dentists recommend this kind of toothpaste. So you have the same sort of user thing. There's always one. We'll need to find out who that person was and find out what we can do to help them better. Also, too, in a very recent study, this is available in some of our field study news publications, that speech intelligibility improved from 27% to 81% using a Roger system in background noise, compared to using hearing instruments alone.

So very similar to what we saw in that presentation previously. And one of the things too to say here is that this was a group of folks with mild to moderate hearing loss in speech in noise testing, and they used just their own non-Phonak hearing aids, and

then they used their own hearing aids. And again, these were non-Phonak hearing aids, and they were set up with a Roger NeckLoop and a Table Mic II. So this kind of also is a good opportunity to show that this isn't just like in a, you know, in the perfect world where we're using Phonak technology, and everything is fit. We're completely under control of all this and all the variables have been accounted for.

But this is, again, you know, using other hearing aid manufacturer's technologies, other settings in the instrument, and we're still able to get a significant improvement using a NeckLoop and Table Mic II. So we'll talk about the NeckLoop a little bit more. I believe this was the same study, and all of those participants, 100%, so unlike the 9 out of 10 previously, this time, we got it. And all of them preferred using the Roger system, compared to using only their hearing aids alone. So their hearing aids with the Roger system, compared to only their hearing aids alone. So it's hard to please everybody all the time, but apparently Roger can do that. One of the participants remarked, "Why would I choose to hear less?"

Now to kind of round out some of the evidence section on the Roger Microphone technology. A lot of times, and I think that during my career, and as I think about, you know, prioritizing patient needs and then kind of try and do, talk through what any given human might need in any of our fitting sessions, it's not uncommon for Roger to come up, you know, towards the end or maybe even at a follow-up visit or something like that. And I think it's more or less human nature because we need to, you know, take these things bit by bit and a step. Also, you know, a significant barrier to Roger over the years has been pricing for it.

And so we have some tools at the end that we'll talk about through reasonable accommodations which might help defray the cost for certain patients out there. But at any rate, I bring this up because this is the reminder that, you know, I think most of the time, we have a tendency to think of Roger as being a tool that's available, and it's very

helpful for folks with severe to profound hearing loss when hearing aids alone are not enough. When we look at the data of who's actually using these, it turns out that about 60% of clients fitted with Roger have a mild to moderate hearing loss, which is good news because, oftentimes, it's those folks who have good residual hearing who still maybe have a little bit of a signal-to-noise ratio loss or something like that that can benefit from these devices quite a lot.

So this has changed when we think a little bit over the years about who is a Roger candidate. So a Roger candidate might be somebody who has any type of hearing loss, but they still have poor speech understanding in noise. Maybe their word discrimination is below 100%. Now, granted, we're not gonna be able to do anything to get that word recognition score to go above 100%, or not above, or I should say improve it to 100%. We all know that those scores are, you know, essentially what they are, but what we can do is clean up the signal so that the impact of lower word recognition scores is less. Of course, cochlear implant and BAHA users, you know, the pleasure of having dinner with a friend the other night who uses cochlear implants, and he was using those along with a Roger Table Mic II while we were out to dinner.

He did quite well with that. As well, unilateral hearing losses, you know, it's all about improving the signal-to-noise ratio for that patient segment. Auditory processing disorders, of course, improved signal noise ratio is a huge part of it. So kind of just a little bit of a review and coming back to the evidence that we've collected, just to show that some of those folks that are very successful with Roger are those who aren't in the severe to profound hearing loss category, who I think we tend to consider as being the main, the people who will benefit the most from the Roger technology. All right, so moving right along here, I wanna spend a little bit of time talking about the Roger On because we have an update to this, and there's some things that I think are important here when it comes to demoing and for bringing up the many different features and the benefits within the Roger On device.

So let's see, to start with, I like this idea of the third ear to complement a patient's lifestyle. So this is like that way that picks up sounds from a distance. Your two ears are right here, monitoring everything, but then you've got the Roger On picking up the vibrations and sending them right back to the patient. You can see here, and I think there'll be some more clear pictures on it, but we've got microphone array that goes in one direction, and then you can see here with this triangle shape, you're able to use this to pick up some other directions and point that speech signal so it can move around, do a great job of focusing on the speech that the user wants to hear.

Now, this, I think is just about coming out, or it's already been released. I'm terribly sorry that I don't have the the precise date or availability here for you. But we have Roger On version two that has some hardware updates in it and then also some software updates which provide you with a headset mode. So this Roger On version two can be used like a headset during some online calls here. So you can see that in the picture, this is being set on the table, and it will stream directly to the hearing instruments. So I know some of you who have experience with using Phonak, you might be thinking, "Well, wait a minute, can't the hearing aids pick up and go directly into the computer or whatever device they use?"

And in fact, yes, they can. And so the idea with the microphone here is for more of, like, your all day, online call users and things like that, especially, you know, we all sort of adopted a remote working paradigm in one way or another. So to have this plugged in, it's a huge battery improvement. You know, so you've got, like, great longevity of always being able to stream here. Also the different microphone modes will be engaged, depending on how you have it. So for example, this gentleman in the picture here, he's got it worn kind of in lanyard mode, and so you've got some of the adaptive sound cleaning features, you've got the different modalities in here, you've got the connection of it to the computer physically for improved battery life.

And these things all make this feature, you know, a great new option and a new update to go along with the Roger On technology. So I referenced this just a little bit earlier, so let's go back and kind of go into it in a little bit more detail. What you're looking at here is this is a description about how to position the Roger On during your online calls and the hearing aid wearer can use Roger On version two in all modes, placed on the table, pointing in his or her direction, or worn on their chest, or through a lanyard or something like that. And so we've got these different modes, and the display on the microphone will show this for you.

So you have a circle here, and each one of these illuminated pieces of the circle tell you the direction that it's picking up from. So the fact that they're all on right now say that it's picking up sounds from all different directions. You've got this one which is a pointing mode so kind of will engage this sort of directional processing so it's able to pick up, you know, specifically a voice of somebody in front of them or wherever they're pointing it at. And then last but not least is the lanyard mode here where it would be kind of hanging around someone's neck in some capacity. So these are the three different modes. We'll talk about those in a little bit, but, again, you can use all of those when you're in your headset mode.

Headset mode is indicated here by this icon, and it's engaged when you plug it into the computer. So as well, we talked about Roger as a system, and that's the the overarching theme in a lot of this. So we can demo with trial aids and with the Roger receivers in those trial hearing instruments. So this way, you don't have to, if you have a Roger On but not a Roger On iN, that will allow you to, you know, connect that straight to any of the Phonak devices, especially in this case, we've been highlighting the Phonak Slim. You'll be able to pair those up, you know, straight away, very easy to use so that that way you can demo it quickly for patients in the office.

And here, you know, is another kind of food for thought, ideas about how to make the demo come alive is you could plug the Roger microphone into a computer and then demo a call so that they can get a sense of the sound quality of the instrument. Then as well on our docking station, this is a update here where there's a visualization for the volume control on it. Those are some of the primary updates that come along with the Roger On version two. So again, it's not just for some hearing aids, so it's compatible with virtually all hearing aids and cochlear implants. One microphone with the Roger On to suit so many different situations. So you've got group discussion.

You've got the distance of somebody talking. You've got the handheld mic style. TV and music streaming as well through that docking station. You can connect it and plug it in, and you've got some, you know, great ability to use it also as a streamer, basically. And then complete solution for your online calls. So those are kind of the main high points for your Roger technology. Touched on this just a little bit a few moments ago where we said, you know, we've got these ones, Roger Select, Roger On, and Roger Table Mic II, and then, otherwise, you've got the Rogers Select iN, On iN, and Table Mic II iN. So the idea, the difference between these is that the ones that just say the name of the Roger microphone, they don't have any Roger receivers digitally inside of them while these ones that have the iN after it do.

So what this means is that if you have a hearing instrument that's a non-trial device that you've gone ahead and purchased, and there's a little insulation button on the back of each one of these microphones that are the iN ones, and they can transmit the receiver into the hearing instrument instead of needing to add a boot onto the end of it or something like that. So that goes a long way in keeping the cosmetics of the device intact without having to attach it. So more on that a little bit as well. I want to kind of round out a discussion on the way that the hearing instruments work here, or I'm sorry, not the hearing instruments, the Roger microphones, how they work, and kind of round out with this section, just by going through a couple of these key details.

So we had talked about two things so far, MultiBeam technology 2.0 and pointing mode. So these are performance features in the Roger On that can help balance the signal-to-noise ratio of the sounds that the user wants to hear versus the things that are still considered noisy for them. Now, along with that, there's also something called the myRogerMic app, and we'll talk about when this would be appropriate. We also have Naida Link CIs and Naida M and Sky M Link devices so that these can be used in a bimodal capacity, and the Roger will be able to connect to each of those. And then last but not least, we talked a little bit about the phone call functionality with the headset mode for two-way communication with our version two devices.

So let's focus in on MultiBeam technology. And again, I believe this was first introduced with the Select iN. I think the way that I heard it most very playfully described as kind of, like, the game Simon from when we were kids, or when I was a kid at least, where, you know, you'd have this kind of circle, and there'd be these quadrants that would light up in different directions and stuff. And you know, essentially what it would do is you could tap one of them, and it would make it more sensitive to this direction, you could tap the other side, and it would make it more sensitive to that direction. And then, as well, when it's in kind of an automatic mode, it will select the microphone beam with the best signal-to-noise ratio.

So one thing to remember with that is that this MultiBeam technology is only available for the Sonova hearing instruments with Roger direct installed. So you've gotta have that part to get this one to work. But basically it tells the client the direction of the speaker. So here, you know, they might be saying, or they're ordering their drinks. Maybe the waiter comes up and asks if you're ready to order, and then, you know, this individual using the instruments that the microphone is streaming to, they'll be able to hear all these different sounds coming from around and then respond appropriately. So that's the idea with MultiBeam 2.0 technology. Pointing mode 2.0 uses the three

microphones to make a very well defined microphone beam and sort of zoom in on the speaker in the conversation here.

So that's also a very important, I think probably one of the things that you see beyond the lanyard mode is sort of this idea of folks using them maybe attached to a clipboard if they have to use that for their work or something along those lines. But at any rate, this pointing mode is kind of a nice key feature for folks to really be able to zoom in specifically on some different sounds that they want to listen to. I think this is probably as good of a place as any to touch base on lapel mode. So that's that, I'm sorry, I think I was calling it lanyard mode earlier on in the presentation. Force of habit there.

So lapel mode is that version that's intended to be worn around the neck of somebody like a lecturer or maybe it's somebody at a religious service of sorts. And so this will kind of create, I think it's very much tied to pointing mode, but in the sense that, this time, it's pointing very specifically at a much more fixed direction. And so the accelerometer that's inside of the Roger On is gonna be able to tell sort of where it is in space and depending on if it picks up on some of just the normal movements, jostling, things like that, that might be there from wearing it on the lapel will indicate that it's there, the orientation of the direction will tell all those things so that it engages automatically.

And so I think that's probably a really good segue into the myRogerMic app. I think, on some level, you might be sitting here and thinking, "Well, wait a minute, why do I need to have an app to control a mic? I just thought you showed me all of these different icons that were on the screen there for the Roger microphone." And yes, it is easy to use, and you can do a lot of functionality at the push of a button, but I think that idea of a lecturer or being at a worship service or something like that is kind of the perfect ideal case to describe the use of the app. You could also think about it as maybe at the noisy dinner table where if the hearing aid wearer is at one end, and they want to hear

the conversation so far away, the app, again, bridges that physical gap by putting the control and the phone in their palm of their hand.

Like with any of the apps, I think this is one of the things that we oftentimes take for granted is that the size and space and the real estate that you have to communicate the functionality is much bigger and much more engaging. So here, you can do some of those manual changes to get a microphone mode that points in a specific direction. Maybe if you want to mute or unmute the microphone, maybe if you want to, you know, do some different things, if you needed to know if the battery's about to die or something like that. So the app is paired to the Roger On device, Bluetooth has on on the smartphone, it's compatible with Roger On and Roger On iN.

And you get the app from your typical places, like the Apple App store and the Google Play Store. And the long and short of it is that the hearing aid wearer is then able to control all these things. So think about it like if they're listening to a lecturer, they're not walking up on stage and say, "Oh, excuse me, can you, you know, please mute that for me or something?" So this gives them all this control when the microphone is sort of outside of their physical reach. So I think there's a lot of really cool things with that. Earlier when I was talking about the evidence, I mentioned about something called a Roger NeckLoop, and this is it.

And so this kind of comes back around to this idea of universal compatibility. If you don't recognize this, this little box up here with this kind of direct audio input style plug is Roger X receiver. So these can be plugged into a boot that goes on the bottom of many different types of hearing instruments, and it will receive the Roger signal and then get transmitted into a hearing instrument. For the most part, these days, these are probably used less often with Phonak hearing aids and more with other hearing aids that are out on the market in order to get this universal compatibility. In this particular case, you've got the the NeckLoop receiver, so it will receive the signal from the Roger

On, and then it will turn it into, like, a near-field magnetic induction type system that will allow for it to be transmitted into a telecoil of either a cochlear implant or a hearing instrument with a T-coil.

So this is a nice way to be able to bridge that gap and, again, use the time tested technology of t-coils to allow for Roger compatibility. With all of this, and actually there's a couple of things, there's a few updates that I just received this morning that I dropped in here, is that if you're ever unsure of what's the best way to get the Roger signal into the hearing instruments, we have a website called the Roger Configurator, and this can check the receiver options and check to figure out what are the best ways to transmit or to get the Roger signal from the transmitter into whatever type of hearing aids you're using. So you can do the whole thing, you can start with whatever transmitter they're using, whatever their hearing instrument is, and then whatever receiver you might be interested in using along with them.

The website is there, and again, it's there for you as your reference if you wanna download the PDF of the slides. And then as well if you'd like to now, you can get your cell phones out and scan that QR code and then bookmark that page. But this will take you to the configurator if you ever have any questions about the best ways to set up for the various transmitters and receivers. All right, just very quickly since we talked about RogerDirect with a couple of slides prior with the MultiBeam technology, MultiBeam 2.0 technology and then some of the evidence pages. Just as a quick review here, RogerDirect gives you easy access to the Roger signals by having this, as kind of the before picture, changed into just the hearing aid alone.

So you don't have any more external receiver needing to be attached to it. So this allows for direct Roger streaming for any Marvel, Paradise, and Lumity hearing aids. So in general, it makes the device without the boot on it now 42% smaller than it had ever been. So this is also in comparison to the Roger 18 devices. And then, as well, you

have about 27% less battery consumption because not having to power that external piece. It's all part of the the current hearing aid chip set. So another, I'm hoping that you're able to see this okay, if not, you'll find it in the slides. This also too recently updated here. We've got a couple of new, and when I say recently updated, it was like some of these things just came through this morning.

So I was like, "Oh, what perfect timing for those who are dialing in today." So this, one easy guide at phonakpro.com. And then, again, you have a QR code that will link you to the page here. And this one specifically is geared towards sort of what is the scenario that the user finds themselves in, and then how can we relate that to the Roger microphone that's going to be best for them? So you've got different types of ideas here, like with meeting in noisy places, meetings with moderators, so on and so forth, one-to-one conversations in the cafeteria. Then we've got our things like our phone calls and then our audio or multimedia devices.

So all of those, this kind of outlines the different scenarios that a user might find themselves in. And then this is a map then to the Roger microphone that's likely going to be the best fit for the situation. When we started the conversation today, we were focusing in on the Phonak Slim, but also this is a little reminder about the Lumity and Phonak Life products that will also be compatible with our Roger On portfolio. And then we spent a lot of time so far talking about this category over here. So Roger for home or Roger for adults. You know, we talked very specifically about the Roger On, the Select, the Table Mic. Also too a little bit of a legacy device here with the Roger Clip-on Mic, one that we're not really seeing so much use of but still out there these days.

And then, of course, we have our Roger, excuse me, Roger Direct and our Roger NeckLoop. I think I tried to combine those into one thing here. I do wanna switch gears and talk a little bit about Roger for education, mostly with these microphones up here,

the Touchscreen microphone and the Pass-around microphone. And then this one actually not a microphone, but still a transmitter where it's a multimedia hub where it can take an output from a smart board or some other kind of multimedia device and stream it in. You'll recognize Roger Direct and the NeckLoop. Then we've got our Roger X. This is our Roger Focus. We talked of improved signal-to-noise ratio for auditory processing disorders and then even in the space of if you're ever working with autism spectrum disorder.

This improvement in signal-to-noise ratio, this is kind of the device. If hearing thresholds are essentially in the normal range, this is kind of the one to consider here because it doesn't provide any gain or very low level gain, maybe just something to overcome a bit of insertion loss. And then it will improve the signal-to-noise ratio using the Roger microphone being streamed straight into this Roger Focus II device here. Last but not least, we've got our DigiMaster over here, and we'll talk a little bit about that now because we have some updates to that particular piece of technology. Just to kind of put them in context here, if we think about the modern day classroom, we've got some Pass-around mics here, able to pick up the ambient noise.

We've got the teacher wearing the Roger Touchscreen Mic, and then you can see the Multimedia Hub is kind of lying down here attached to a computer which is likely plugged into the smart board. And then we've got our DigiMaster 5000 back here, broadcasting some of that signal out to the entire class. So I mentioned earlier, and I think this is a good time just to remind about the many different microphones and, again, that idea that, in this particular case, it's a necessity to have the signal mixing, which is a key part of Roger technology. So here, the Touchscreen Mic, the Multimedia Hub, and the Pass-around Mics, all of these things are being streamed simultaneously into the ear and balanced automatically to make sure that the student has access to all these sounds because we don't just learn from what the teacher tells us.

We learn from our buddies sitting next to us at school, and we learn from what's being broadcast through the multimedia. If that's being broadcast, and it's not being mixed in, the teacher might be saying things over with the film, "Hey, pay attention to this part. What was the quote that they said in this section of the scene?" Whatever it might be. And so they need that mixing of the signal in order to get the most holistic listening experience out of the system. So a couple of updates for the DigiMaster here. There's some Bluetooth connectivity now, so it connects to smart boards, or smart devices like tablets and computers. And it's got some more bass for multimedia when streaming via Bluetooth or the direct input.

So first of all, how do you do some pairing? Oops, I think that got away from me a little bit. Maybe not. Oh, here we go, so. Let me see here if I can, maybe I need to turn off my pointer. There we go. So I'll let this run a little bit, and there's a little button on the bottom of the DigiMaster version two, both for the 5000 and 7000. We'll talk about the difference. It's basically just kind of the more power to go for bigger rooms, but you press a pairing button, turn your Bluetooth on, find your DigiMaster. It says that you're connected, and then you're basically off and running. You get a blue light on that that tells you that you're ready to go, and everything is all set.

So that's how you pair, and again, this is one of those updates to it that just allows for some better use in certain classroom situations. So by that, we're thinking about, this might be for classrooms that have normal hearing students in it. Or maybe at least, like, we'll say normal auditory thresholds, and that will just improve that signal-to-noise ratio in a sound field context. And then the Multimedia Hub is still probably the best where you want that direct transmission of sound into the student's ears. So again, just kind of a little bit of a more detailed picture here and to show you, you've got a direct audio in if you need to pull it off of some other multimedia device.

And then you can also have a little bit of a throughput if you need the computer to pick up a microphone signal and mix that with the classroom if you needed to have some kind of remote learning happening at the same time here. As I mentioned, there's also some improved sound quality, mostly for those streamed signals by Bluetooth. So there's new high-quality mini loudspeakers in there, different transducers that have been updated. And then also the mechanical seal inside makes the loud, gives it that kind of low frequency response that just aids in the lovely sound of the whole experience. So we've got 12 individual speakers here. And then for the DigiMaster 7000, this has 15 embedded within it, and basically it takes that amount of distance that's available and makes it much more audible for many different rooms.

So you've got options and different devices out there to make sure that you've got the right speaker, regardless of the room that you find yourself in. So again, in a discussion on Roger, just wanted to kinda talk a little bit about the different options that are available outside of just the adult or home use and also consider some of the things that are available for our youngest users of the technology. All right, and we're kind of nearing the end of the presentation today, and I wanted to touch base on this idea of reasonable accommodations. And in essence, this is part of the Americans with Disabilities Act of 1990, and basically it's a civil rights law that prohibits discrimination based on any kind of disability.

And so this allows for reasonable accommodations to be made upon requests in the workplace. So the employer will pay for the accommodation, and this ADA law applies for businesses of 15 or more employees. So that might actually be a quiz question if you wanna keep your eye on that one. And how do you apply? You simply indicate to your employer that you need an adjustment or a change at work related to some kind of medical condition, and hearing loss falls into that. So this helps ensure equal opportunity through the application process, and it helps enable a qualified individual

with a disability to perform the essential functions of a job and makes it possible for the employee with the disability to enjoy equal benefits and privileges of employment.

So to bring this up in the context of how you practice, I think this is probably one of those things, again, that we spend a lot of time here at Phonak just considering the awareness of something like this. And so we've created some tools to help you have conversations with your patients about this. This might be one of those things to consider if cost becomes an issue, if there's some barriers about using it. The whole thing is about making sure that people who need the technology can benefit from having it. So I have the websites up. If we have a moment, I could go ahead and kind of just walk you through and give you some visualizations of some of these things.

But I'm just gonna go through a couple of examples here. So this is Roger for challenging listening situations at work. And this is essentially kind of like a trifold brochure here and then kind of a little bit of a workbook, so to speak, on the other side here. And a lot of this kind of talks through, in very approachable language, the technology that we reviewed earlier in today's presentation. So you know here you have the adaptive nature of it, the idea that it improves speech in different groups, access to multiple talkers so that you can create the network. And then one of the things that we didn't talk about, we kind of described it in much more, very specific technical terms, but the idea is that once you improve the signal-to-noise ratio, it's easier to listen to, so it's less stressful in all of these different scenarios.

And so to that end, your wellbeing will improve over time, and that's kind of the idea with this particular panel here. And then to help visualize it, we've got small meetings, large meetings, workshops, all the different places where they can be used, and then the best solution for the individual. This is a Roger and ADA brochure. So we'll talk through this. I've got a slide in just a few moments, and it breaks out these five steps and a little bit more, you know, so you can read them, a little easier to read for you if

you're listening in right now. And then, so again, a nice, like, kind of handout that will, again, break down the different microphones that are available and then also the, or not the solutions, the scenarios that somebody might find themselves in where they'll have to use this technology.

For your offices, again, to kind of, like, remember to have the conversation and to bring it up to folks as they're walking in the door, you've got these various stands that can be put outside with the QR codes and things like that so that you can go through and scan this. And again, we have a couple of different spots built into all these different materials that will link back to some specific websites where, basically, like, anything that you needed to know or any type of extra support materials you could get available, email printout, whatever it might be. And then as well, this is one, this is a poster, so this can, you know, print it out and, you know, big paper hanging on your wall, you know, have it standing around so that that way, it all comes down to raising awareness that the program is available for somebody to go for.

Then another kind of more clinical tool is this one where, you know, of course, you've got your usual information over here on this side, but then you also have this stuff where patient can kind of come in and say, "All right, I find myself in this situation or that situation. Here's the amount of effort I have to spend in listening to one of these in this particular environment." And they can check that off so that that way you have a little bit more of a checklist and a codified approach to being able to have the conversation. Here are those five steps again, and I'm gonna share those again in a slightly larger visual in just a moment here.

Basically, after you've had a hearing evaluation, and you're making recommendations for hearing instruments, and they're finding that they need to have the Roger Microphone in order to perform their very best, there are some certain requirements needed on a request, on an accommodation request and we have a standardized letter

template. So where they've got things like how to identify yourself as a person with hearing loss, the accommodations, the laws behind it, the audiological test results. It's good to have speech in noise testing if possible, what Roger Microphone you are looking to be fit with, and so on and so forth. So this is a template, can be very useful. So again, once it's determined that you need to go in and do this, then you have that template right there ready to go.

Practices, or excuse me, practiceservices@phonak.com. If you remember anything from today, you know, maybe it's if you want more help with getting these communication kits put together, you can send an email here, and we've got our team ready to support you with some of these different assets. We are doing our due diligence on the other end to try to get a lot of social media buzz going about this program to make sure that people know that it's something that's available to them. And so there's some tutorial videos here, and then, again, generating awareness that these are options out there. This is the webpage. This is the other, I would say, along with practiceservices@phonak.com, this is the other one is [US more dot, excuse me, us](http://USmore.us).

morethanahearingaid.com/ada. It's a website that you're gonna want to go to, and you can refer patients here for all the different resources to digest at their own pace, and they can, you know, really find kind of anything that they need here for, you know, ease of use. We have learning@phonakpro.com, and we also have some education and the backstory on this in order to go through and learn more about it on your own. And you can start to find out about getting the secure starter kit after you complete the training. And here are these five easy steps for reasonable accommodation. So first, determine which Roger solution is best for the patient. So here they have to, assuming they've already been using hearing instruments, and they need this technology to go further.

Set up a trial with the right Roger device and find out if the real world experience is getting the job done. Download that accommodation request letter and have them fill it out. Set up the appointment for the fitting. And then after it's agreed upon the employer, after it's agreed upon, then you provide the invoice to the employer for reimbursement, okay? And there you have it. Now we're just about at the end of our time today. So I'll go back to the beginning where we talked about Phonak Slim as kind of the technology choice for the receiver, the latest and greatest that we are working through with these instruments. We talked a little bit about the headset mode within the Roger On and the updates for the DigiMaster.

We've gone through the entire Roger portfolio, the benefits, how to select the best Roger solution for their patients with some of those things, like the Easy Guide and the Roger Configurator. And then again, I wanted to bring this one up at the end here, just to say that with your assets for reasonable accommodations for consumers, worklife@phonak.com is a great option for them. And then as well, we've got our Roger Updater that you can use in case you need to run any firmware updates for your Roger microphones. We are just about at time here, the questions are clear. I haven't seen any questions come through, so I will standby for a couple minutes if anybody has any questions coming in. And then, otherwise, I will say thank you very much for your time and attention, and I hope you have a good rest of your day. Thank you so much.