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How to Personalize Your Patient's Hearing Solution Recorded February 3, 2023

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- Welcome to today's course, how to Personalize Your Patient's Hearing Solution. Presented by Leanne Powers and Danielle Robertson. It has been said that innovation is seeing what everyone has seen and thinking what no one has thought. This month on AudiologyOnline, we're celebrating innovation in the hearing industry with our third industry innovation summit. Thank you for joining today and we hope to see you in other summit courses, which you will find in our course library. We'd like to thank our title sponsor Care Credit, and all of the companies who have been participating in the 2023 summit. And now it's my pleasure to turn the microphone over to Leanne.

- Hi, thank you to AudiologyOnline for holding this summit and we are very happy to be here from Signia. Today we are going to be talking about how to personalize your patient's hearing solution. And my name is Dr. Leanne Powers. I am the Senior Director of professional education at Signia. I am joined today also by Dr. Danielle Robertson, who will be walking us through the software portion of our presentation. So technology has advanced significantly over the past few years and with it our patient's expectations. So it's more important than ever before that you as a provider of hearing healthcare are able to personalize your patient's hearing aids to their individual needs. And so today's presentation is going to look at how you can do just that with Signia.

After this course, we have three main objectives. Participants will be able to describe how to find the dynamic soundscape adjustment in our Connexx fitting software. Participants will be able to describe how augmented focus our unique split processing works, and participants will be able to explain how Signia assistant can adjust the dynamic soundscape processing for your patients and help them personalize their fitting when they're out wearing their hearing aids in the wild. So first we wanted to start with just a quick look at Augmented Xperience and how we had something very unique here at Signia. We have a way that we can process sound without compromising how speech and ambient noise are received by the patient. And we do that with what we call augmented focus.

So augmented focus is often referred to in research supporting the augmented focus process as split processing. And that is something that is unique to Signia. What it means is that we can process speech separate from the background, applying different compression knee points and ratios to each so that we can create a bigger contrast between speech and the background sound. This enables the wearer to listen with ease. It makes the speech pop out from the background a little bit more. Now that is accomplished in a variety of ways and we have a very simplified diagram here to kind of walk you through that. We have soundscape analysis that's always happening in the background because we want our hearing aids to be as automatic as possible for your patients.

So that soundscape analysis is going to look at the type of environment, whether or not your patient is moving through the environment through motion sensors, the signal to noise ratio, the dynamics of the sound itself, as well as own voice processing. Another thing that's unique to Signia, this is where our hearing aids can tell when the patient themselves is speaking as opposed to just listening to their environment and adjust appropriately. Now Danielle will get into that a little bit when we get into the software and show you how we calibrate for own voice processing, but I really wanted to focus right now on the split processing ability. As you can see from this simplified diagram, we can determine the focus area from the surrounding again, based on that soundscape analysis.

The focus area could be in the front or it could be on the side or behind the patient. Does it matter which way it is? The hearing aids can process in two different pathways using all of the channels that are available in the instrument. So at Signia we have different technology levels and what we're showing here is our premium technology level referred to as our 7AX. And that means for a 7AX we would have 48 channels of processing for the front focus or the speech focus and 48 channels of processing for

the background sounds that gets intelligently mixed for the patient. And the result that smooth, comfortable, really easy to listen in any environment experience. Now it's not enough just to deliver that automatically for the patients.

Again, as we talked earlier, we wanna be able to personalize it to your patient's needs. So I'm going to turn it over to Danielle. She's going to do a screen share and walk you through some options how you can personalize in our software.

- Thank you Leanne, I appreciate that introduction. And hello everyone and it's a pleasure to be here today. Happy Friday. For some of you that are here, I'm sure you're ready for the weekend. I'm gonna get into the software and I'm gonna go live. I want to show you exactly how easy it is to get through a first fit. So I'm gonna share my screen. All right, so the first fit is quick and easy. I'm gonna start in simulation only because detecting and using live instruments can, you know, slow things down just a smidge. So I'm gonna go through simulation first. I will detect the hearing aids live because I want everyone to also see how easy it is to run own voice processing.

So if you have a pair of hearing aids to detect, you can do that from your home screen. So you can click on the big green arrow here and detect your hearing aids. You can also go into the top toolbar, just under the word documentation and click on that icon as well. When you detect your hearing aids for a first fit, your software will open into the first fit window. This is indicated if you take a look in the top left corner, you can see that first fit is highlighted in red to indicate that this is the screen that you are viewing, from here. Three easy steps. The first step is take a look at your acoustical parameters and tell the software how you will be fitting your patient.

Are you going to fit your patient more open, more closed, or are you going to use a custom mold? So in this case, I have a pair of pure charge and go, TAX seven level technology that I'm going to simulate in a first fit for you. For this patient, I would like to

fit this patient with closed domes. And so you can see under mold type, I'm gonna change that from an open to a closed. If I had custom molds that I was going to fit for this patient, I would change that Here where it says coupling type. Once you have chosen your fitting strategy here as far as open, closed, semi-open, you choose, you make that decision for your patient.

The next step is to go to your fitting formula down at the bottom toward the right there, it's going to default to the AX fit. This is our proprietary and we recommend leaving it at AX. We also know that you may need to make some changes that are specific for your patient. So if you do need to change your fitting formula, you can do that by simply clicking on the downward facing arrow and choosing a different fitting formula that best suits the needs of your patient. Once you have chosen that fitting formula, you can choose the experience level, which you'd like to start your patient. I'm going to select experienced, and then the final step is to click first fit in the bottom right corner.

So once I click on first fit, the gain in the hearing aid is now going to calculate and match the ideal target that I have chosen for the patient based on my acoustical parameters, my fitting formula, and my experience level that I've chosen for my patients. You'll notice in the top left corner next to first fit, you'll see the green check mark to indicate that that first fit has been completed. So you can go through that first fit very quickly. You know, choosing those acoustical parameters, the fitting formula, hitting first fit, very, very quick and easy for you and your patients. Now once you have completed that first fit, the next step, own voice processing. So if you look over to the left, you can see own voice processing is next on the list there.

And for this, I am going to go ahead and I'm gonna go live and I'm gonna detect a pair of hearing aids so I can show you how quick and easy it is to run own voice processing. Now for those of you who don't know about own voice processing, we've actually had it around for a little while. We introduced it with our NX platform and with

the own voice processing, you can run it for everyone. It does not matter if your patient is in an open dome, a closed dome, mild loss, severe loss, it's going to help your patients and it's going to improve their acceptance of their own voice. So once you have detected those hearing aids, you've done your first fit and you come to your own Voice pro, oh, let me click on it, sorry, come to your own voice processing tab here.

Now in the bottom right corner area, you can see where it says Go to training. So I'm gonna go to the training and this will give you the instructions for running on voice processing. So just limit the amount of noise you have in the environment, making sure the patient isn't sitting close to a wall, make sure there's no reflective surfaces and make sure the patient's looking straight ahead and the hearing aids are on the patient's ears. So once you're ready, you'll start that training and ask your patient to count and we recommend that they start from 21 and count up from there and keep the counting consistent. 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34. And you'll see that the training is complete, very quick, very easy.

It's not gonna take up too much time from your first fit and still give you that amount of time that you need to go through your care use and maintenance or any fine tuning that you may need to do. So to continue on with fine tuning, the next thing you may need to do in your first fit over to the left, I'll click on fine tuning and this is going to take me to my gain window. That's going to allow me to make changes as needed for my patient. You'll notice that the first thing that is highlighted here is frequency shaping. And for frequency shaping, I like to call this overall gain changes. So if I were to make a gain change, I could click, drag and highlight.

You can click and drag and highlight anywhere in this area, whether it's on the numbers, on the sliders, and it will allow you to highlight a specific frequency range. So if you look at the bottom of the sliders, you can see I've highlighted the frequency range from 1500 hertz up to 3000 hertz. And from here you can make changes across

all of your targets. So this is gonna impact your soft, average, and loud. I can choose to make smaller changes with the one arrow that's gonna give me a one DB increment or I can do three DB increments by hitting the double arrow. If I wanna make a really big change, I can also come and click and drag and make a global change across all of those inputs.

So you can see that on the graph the soft average and loud are highlighted and I did make a gain change across all of them. For some of us we want to be a little more specific. Maybe there's something that your patient is requesting that you need to only make an adjustment to your soft level input or your average. So if you click on gain, this will allow you to see those individual targets. If I click and drag, I can highlight the frequency range from 1000 up to 2,500 hertz for my soft level input only. And again, I can make three DB increment changes or I can do one DB increment changes for my patient. Now in this case you can also highlight all I know some like to see their soft, average and loud all the time.

You can do that here in this window. You can click and drag everything and highlight everything and make a gain change across all frequencies. Most of these changes you'll probably make at a follow-up visit. But again, if you're performing realer and you wanna make sure you're matching your targets, you can do that by going to frequency shaping and you know, using that to match your 65 or you can go to your gain window and you can adjust your 65, your 50 and your 80 individually. Now when we have a patient come in for a follow up visit, a lot of times they may ask for something specific. If they're asking for a program, you can easily add that right here in this window.

If you look in the middle, you'll see where it says universal and just under that is a plus sign. If you click on that plus sign, you'll see the different programs that you can add here. So you can add up to five more programs here in this seven level technology. I don't know that patients need that many, but you do have the ability to add up to five

here. So you can very easily add and remove programs here if that's something your patient is asking for when they come in for a follow-up visit. Now if your patient comes in and they are expressing that they need a little more help with background noise, but they don't necessarily want to push the button on the hearing aid or open their app to make that change, you can do that by going to dynamic soundscape processing.

Again, over to the left, when I click on dynamic soundscape processing, you're gonna see there is a slider here. Dynamic soundscape processing is going to manage the universal program. So the universal program is adaptive and we want to change how adaptive that hearing aid is and how much noise reduction it's providing for that patient. So if your patient is asking for greater noise reduction, maybe they have some auditory processing or some cognitive things that they're having a hard time with, when they get into an area that has just even low level noise and they're still having a hard time, you can take this slider and move this slider up toward highlight, it's gonna give them greater noise reduction, greater directional speech enhancement.

On the other hand, if they like to hear all of the sounds in the environment and they feel like they're getting, they're losing too much and they want to hear more noise within the environment, you can move that slider toward awareness. The hearing aid is still gonna go into a directional pattern. They're just gonna get less noise reduction for the things that are happening outside of that directional pattern. Now the next thing I would like to show you is the sound settings tab. So remember, dynamic soundscape processing is going to control that hearing aid within that universal program. So if I go to fine tuning and we take a look at the sound settings, you're going to see that the microphone arrays are locked so to speak.

So you can see speech and noise management, your microphone modes are all grayed out and that's because these are relying on what you have done for dynamic soundscape processing. So you wanna keep this setting here locked and rely on what

you have changed under dynamic soundscape processing, you still have that control to change your windscreen and the amount of reduction that your patients are getting for, you know, the wind and impulse sounds such as you know the plates clashing and dishes and those sounds that might happen in a restaurant or even at home when they're loading a dishwasher, then you can adjust the sound smoothing can give them greater reduction for those impulse sounds. You'll see that feedback cancellation is activated.

So if you noticed when I did the first fit, I didn't mention anything about feedback or feedback test and that's because as soon as you first fit our hearing aids, that feedback cancellation system is activated. So the way we manage feedback with that two path system is automatically engaged when you first fit the hearing aids for your patient. And you can see here under the sound settings tab that the feedback cancellation system is active and set to max. So you can set it to something that's more fast acting or slow acting so you can make that change if needed. And you'll also see here that our premium level technology has our auto echo shield. It's automatically engaged for your patients within that universal program.

Now the other thing I would like to show you is we all know that many patients are coming in and they are streaming to their devices and they may ask for some changes to that streamed information. So again, I'm still in the fine tuning tab and I'm gonna come down to audio streaming. Once you get to audio streaming here you can see that you can change this gain offset for your patients when they're streaming. So if they're asking for it to be a little louder, they don't want to make that, you know, change every single time they're streaming or they want to hear a little more of those lows versus the highs. You can change the streaming offset for media and phone calls or if they're using a TV streamer, you can make that change for the TV streamer only.

And one of the things that I know Leanne really enjoys is the adaptive streaming volume. You can see that here. If you put a check mark there, you're gonna activate that. And it's very similar to what the cars do these days. If I'm wearing my hearing aids and I'm streaming and the environment, the noise in the environment starts to get louder, then my streamed information will also get louder. Leanne loves it. I personally keep this turned off for myself when I'm walking around downtown Chicago. I don't like it to get louder and then go down and back up. So I prefer to keep this off. Leanne really enjoys it when she's working out in the gym.

So this is something that you wanna keep in mind for your patients if needed. Now I'm gonna go over just a couple of more things before I let Leanne pick back up. And if you look in the bottom left corner, you see that it says disconnect. So my hearing aids are connected to the software right now. If you look at the very bottom of the software, you can see the serial number of the hearing aids and you can also see two little green arrows that go around in a circle. And it says synchronized, everything saves to the hearing aids in real time. So my patient could walk out of the office right now and everything I've done is saved into the hearing aids.

So all I have to do is disconnect those hearing aids from that Noahlink Wireless and patient can leave the office. Now from here, you simply need to save this session to your database. So when you close your software and it prompts you to save, you simply say yes and then you can retrieve this session later when their patient comes in for a follow up. So that is a quick tour through the software and I'm gonna let Leanne take it back over from here. So all you, Leanne.

- All right, I just wanted to recap a couple of important things that we've mentioned so far. So at Signia we have our augmented focus technology, which is our split processing, and that enables the hearing aids to adjust uniquely from all other manufacturers using our directional microphone system in a completely different way

so that we can separate that focus from the background sounds. It also can be adjusted in the software as Danielle showed you by navigating to that left menu on your software screen. And of course, the things that we've talked about so far are things that you can do to personalize the fitting for your patients. But what about when the patient is not with you?

So I want to take just a few minutes here at the end to talk about Signia assistant. Signia assistant is an artificial intelligence application that we have at Signia that your patient can access using the Signia app. So as you can see on the screen here, we have the Signia app and there's a couple of things I want you to take note of. We do have face mask mode, and I don't want that to be confused with Signia assistant face mask mode was developed to help people hear speech when they're communicating with somebody who's wearing a face mask. And now we're all very happy that face masks are not as prevalent as they were a while back.

If your patient has to go to, to their doctor or have any medical procedures. There are definitely areas where face masks are still necessary and still used. And so that feature is really great for your patients to have a very quick activation and they get a boost right where it's supposed to be to make speech easier to hear through a face covering. Now what we're gonna talk about with Signia assistant though is the other face in the upper right hand corner of the Signia app, and that is our Signia assistant. It's available for iPhone and Android users that have our our Signia app and our Bluetooth enabled hearing instruments. So the Signia assistant is what I like to refer to as your patients fall back so that they always have a way to make things better if they need to.

We love hearing aids to be automatic. We love that we have the tools and Danielle showed you just a few of them that you can adjust things for a patient if they're a first time wear and they give you feedback of what they like and don't like. But we also know that we cannot control every environment that they go in. We cannot predict all

of the different situations they might be in. So whether they're talking to somebody who's soft spoken, has an accent or in a very diverse listening environment that they're not used to, and it's very challenging for them, they have an option. They can tap the Signia assistant and ask for help. It's very intuitive and easy for the wearer to use.

It uses a closed response system to ask them a few quick questions. It looks at the environment that they're in based on the soundscape analysis and then applies a real time change for them. And this is important because as I like to say, "Thanksgiving only comes once a year." So if your patient happens to be trying to hear their grandchild sitting around the Thanksgiving table and they're struggling, they can have an immediate response that'll make that better. They don't have to wait a couple weeks to come back and see you and who knows when the next time they're going to be in that environment and get that chance to listen to that great story they're telling again.

So Signia assistant is great for your patient. It's also really important that when you utilize something like this artificial intelligence, that we give full transparency to you the hearing care provider because your patients do rely on your expertise for a reason. And so we want to make sure that you know, if they come back in to see you for their follow up, or maybe it's just their annual check that you have visibility into what they've changed, how, why they've changed it. And so we give you that visibility in the Connexx fitting software. So as many of you who have fit Signia before may know that the default screen, once you've done a first fit when you read out the hearing aids, is to start in the data logging or data insight screen that I'm showing here, on Data Insights.

You can see an area towards the bottom, in the middle called personalization, and this is the area where Signia assistant changes will be noted. If you look at the right side of your screen right now, you can see that there's two different icons for the Signia assistant, one showing a little question mark within the icon. And that's indicating to you that changes have been made since the last time you have read out that patient's

hearing aids. Now, of course, the history is saved all the time, so you can look back to other changes that may have been made previously as well. On the bottom in that center personalization section, it says show details. And if you click on show details, you can get even more detailed information about the exact changes that have been applied for your patient.

So the important thing to note is that the changes that are made are based on the patient's responses and that it is taking into account the environment they're in. Those changes are saved than real time to the universal program, but only for when the patient is in a similar sound environment. So it is very intelligent system in what gets saved for your patient. And that applies also to dynamic soundscape processing. So not only can you change it if you feel that your patient needs a little bit more focus because they have cognitive, maybe they struggle a little bit with cognitive issues, they need to focus a little bit more and they want more of that highlight in their dynamic processing, more narrow directionality or if they want more awareness.

If your patient seems to have a preference for that when they're out in the field, when they're out wearing the hearing aids at home, they can, if they report something to the Signia assistant that makes a dynamic soundscape processing change, you're going to see that here as well. Now again, we want you to have full control as well as full transparency. So you are able to then keep these changes that your patient has made, or if you feel that the patient just needs a little bit of counseling and you'd like them to go back to your target fitting, you can discard any changes that they've made along the way. So we wanna thank you for joining us today for this quick look at some ways that you can personalize your fitting.

We know that you guys have very busy schedules and we thank you for giving us a little bit of your time today. We've covered only a snippet of what's possible with Signia, so reach out to your Signia professionals if you need anything else.