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ReSound Smart Fit 1.17: When and How to Use Advanced Features

Presenter: Valerie Kedem, AuD

- [Valerie] Okay, it's right at the top of the hour and we're gonna go ahead and get started with our course, which is titled Smart Fit 1.17, When and How to Use Advanced Features. Welcome, thank you so much for joining us today. My name is Valerie Kedem. I am one of the field training audiologists for GN ReSound. And for the next hour or so we are going to spend some time together doing a little bit of a deeper dive into this new Smart Fit software. So when I say new, I just mean that we have a new version. In October of this year, we went from ReSound Smart Fit 1.16, to ReSound Smart Fit 1.17. That also coincided with our newest launch of Nexia.

So you have Nexio, which is a new product and with the Nexia also have a cross by cross solution. So if you haven't done this update, we encourage that to do it. If you like everything to go along with Nexia, you're gonna have to have 1.17 to do the programming and there's also been a few changes that I think will make your lives easier in the long run. So we do have three learner objectives that I'll read to you right now. First one is after this course, participants will be able to address common patient complaints using ReSound Smart Fit 1.17. Number two, after this course, participants will be able to solve challenging patient issues using ReSound Smart Fit 1.

17 Advanced Features. And the third objective is after this course, participants will be able to differentiate features and technology levels and that would be for Nexia or OMNIA or one or ENZO Q. Those are gonna be your numbers of 5, 7, 9 or good, better, best. We do have a variety of support, if you like to call, we have these people that you can call on customer care. We have a lot of outside sales teams that are happy to help you with any and all questions that you may have. And we even have a remote training team that is virtual, but can help you with patient fits, questions, follow up, anything that you need. So please don't hesitate to contact any of us if you have further questions.

Now with that being said, this is a software course, so I'd like to spend pretty much all of our time in the software. There we go. And we are gonna go and start sharing Noah. And it doesn't look like I'm sharing anymore, so hang tight and let just do this. Okay, here we go. So the reason we're gonna start here with Noah and click on the ReSound Smart Fit icon is because I do wanna remind everybody that ReSound Nexia, ReSound OMNIA, RICs, BTEs, Customs, they all have this feature called Push to Assign. And what this allows you to do is push the button on the back of the hearing aid and assign it to the right or the left.

Why this is important or why this is nice to have is that sometimes you have multiple providers and when you open up the Smart Fit 1.17, you'll see multiple hearing aids there as well. With Push to Assign, you don't have to worry about getting the hearing aids the wrong ones. So I'm just going to take my rechargeable Nexia micro hearing aids out of their charger and I'm gonna push this big red button which says Connect to ReSound Smart Fit and we will do a realtime fitting here. And so on this screen, if you look here in the middle where my pointer is, there is a little hand with a finger pointing. That is what lets you know that these hearing aids have that Push to Assign feature or that function.

And I'm gonna go ahead and just push buttons on the back of my hearing aids and boom, it assigns to the left and it assigns to the right and I'm gonna hit the continue button at the bottom right. That continue button is gonna be your friend. It's gonna keep moving you through the software so you can go from screen to screen to screen. These short fit three receivers, which is what we're using for Nexia and OMNIA and even ONE do have automatic detection. So you might note that I'm not ever having to tell the software which side is what, what strength I have, anything like that. It just automatically knows. And I'm gonna go ahead and use the session from much earlier today and I'm gonna reset to an initial fit.

So if you have hearing aids that have been programmed prior, these are some of the things that you will see. Because this is more of an intermediate course and the things that we're gonna talk about today aren't necessarily things that you would be doing at a first fit, more likely than not you will see some of those audiogram mismatches or data mismatches and then you just pull from the data that's appropriate for what you're trying to do. Here on our physical property screen, the main thing to know is that you have ear pieces with recommendations and that's gonna be this ribbon or this badge right here. You can do whatever you want, what's better for your patient, whatever they want and do better with, please by all means choose that, but it will default to whatever the recommendation is based on the severity of the hearing loss as well as the configuration.

We do recommend that you truly have told the software what you do have on that hearing aid just for a better fit. And then we're gonna hit continue. And by better fit, what I mean is you'll have access to some low frequencies as you plug up that ear canal that you might not necessarily get if you're telling the software you have an open fit. Now this is our calibration screen. At a first fit, you will be prompted for this. Do not bypass this, we want you to run the calibration. Calibration is what activates the feedback control system individually per patients ear within our Smart Fit software. So I'm gonna go ahead and do the calibration and activate these hearing aids.

Oh, I lied, I hit the continue button and not the calibration button, but that is okay. I'm gonna go back to instrument setup. Here's my Calibration Tab and I'm gonna hit Calibrate. Try this again. And we're gonna do this one more time. Once the buzzing has stopped even in between ears from right to left, you can speak over, especially if you need to maybe re-instruct our patients not to talk whenever they hear the buzzing. What we're looking at now is the red MSG or maximum stable gain curve and the blue or the left MSG, again maximum stable gain curve. Once you've run calibration and

activated the feedback control, the DFS, this will be here and you can't ever really get rid of it.

Even if these curves happen to be touching your targets, that is okay. That does not mean that we're cutting gain. So if you happen to have something that's like going whoosh all the way down in here, that's not a problem. It's just saying, "Hey, we're really glad that you listened to best practices and that you're in the calibration and that you activated the feedback system for this patient. So they don't have any type of feedback." So this is all looking great. I am going to go into my Gain Adjustment screen. So when you're doing follow up visits, more likely than not you will spend a majority of your time right here. I like to call this my meat and potato screen because this is where the action typically happens.

If you ever call ReSound, you might hear us talk about ribbons. We haven't lost your mind completely. These are just software terms. So if I say black ribbon, I'm talking about the top line that's black for my pointer, I'll edit view instrument. If I'm saying red ribbon options, that would be the red line. And these are basically the screens that you're gonna cruise through. And if I say white ribbon options, that would be what's directly below the red ribbon. If you are looking for something and you swear it's in the white ribbon, just keep tabbing over into the red ribbon until you find the correct white ribbon option. Now with each generation of software, we are trying to streamline this.

We want to make it easy, user-friendly, intuitive for those of us who use a lot of ReSound. For those of us who are new to ReSound or even maybe new to the industry, we don't want you to feel super overwhelmed with this. With that being said, you will note that under our Gain Adjustments tab and my white ribbon options, pretty much everything that's directly related to increasing or decreasing the volume of these hearing aids is located here. So we have our Fine Tuning, our Environmental Optimizer, if we happen to have some real ear measurement machines attached to this computer

and these are the ones that are gonna be compatible, this would be active, and then of course our Acceptance Manager.

So when we're taking a look here at how to change the gain or the volume in the hearing aid. We're gonna have a conversation about that and it's gonna take about 10 or 15 minutes. There's a lot of different ways that you can do this and all roads lead to Rome. So there's not necessarily something that's better or worse than the other thing. It's more of a comfort, what do you prefer to do? How do you feel more comfortable making these changes? So when your patient comes in to see you and they're like, "Hey, these hearing aids are too loud or too soft all day, every day." There's two main ways you can address for this. One under Gain Adjustments, Fine Tuning is again to do what I like to call old schooling.

So when I click on All here, you'll see my gains and my frequencies become gray or active. And if my patient's like, "Hey Valerie, my hearing aids are too loud all day every day." I'm gonna click All, I'm gonna come here into the middle and I'm gonna say, ah, you know, let's go down by two DB. These are one, two, and three DB increments. I'm gonna push my down arrow. And that is gonna be one of the ways that you can adjust for the volume in the hearing aids. If you need to fine tune based on specific complaints and you wanna do it within the gain values, this is also where you would do it. So maybe it's too harsh, sharp to me.

Cool, I'm gonna do that and then I'm going to just bring it down a little bit. Now the other way that you can address that complaint of everything is too loud or everything is too soft, is by going up here into the middle where it says gain percentage. This is going to allow you to go up or down in gain in 10% increments. These are just trying to make these hearings louder or softer. That's all that this is doing here. That is another way that you can address, it's too loud, too soft. Now the third way that you could address the complaint, of everything is too loud or everything is too soft, it's going to

be under my patient screen, under Profile, under Prescribed First Fit, I have Experience Levels.

So we have four different Experience Levels. We've had these for a really long time. If you're familiar with this software, you might be going, "Well wait a second, I don't remember it being First Time User - Onboarding." And you would be correct, First Time User - Onboarding is new to this version of the software. It used to be called Comfort User. So there are some differences between comfort and First Time User - Onboarding. The main thing to know right now is that Comfort's out, First Time User - Onboarding is in. When you're looking at First Time User - Onboarding versus First Time User, the differences are going to be that the onboarding experience level has a 70% of the gain that you would get in a first time user.

So First Time User is gonna have 30% more gain than First Time User - Onboarding. And also the Advanced Features that are directed towards noise reduction are gonna be more aggressive in First Time User - Onboarding. The point of this particular experience level is to help ease our patients into the world of hearing aids. Some of our patients do not adapt well. Everything is always too loud. Maybe you see a slew of people come in and they're like, "Man, it just always feels too loud, too loud, too loud." That is when I would go into First Time User - Onboarding and just get my patient more comfortable with just having the volume in their ears for a little bit of time.

I would not recommend leaving them in First Time User - Onboarding, maybe first follow up or second follow up. At that point I would wanna change into First Time User 'cause I really do want them to have that gain that they need. When we're looking at the experience levels as a whole, these are taking into consideration three different parameters. So we're looking at how much gain is being applied to the fit, how much high frequency emphasis is being applied to this fit and how much compression is being applied to the fit. So First Time User - Onboarding will have the least amount of

gain, First Time User - Onboarding, First Time User will have less gain, less highs, more compression than what you would get in an experienced fit.

When we're looking at experience levels versus gain level percentage just up one, two gain level percentage is just all about increasing or decreasing the volume. Experience levels are more sophisticated because they are taking into consideration those three different parameters. So it's not just about gain, it's about gain highs at compression as well. So what about if your patient comes in and we're gonna go back to our Gain Adjustment screen and they're like, "Hey, my hearing aids are always too loud, always too loud, always too loud, always too loud." And you have come in here and you have gone down three DB. Maybe you've gone to gain percentage and you're at 60 and they're like, "No, it's still too loud.

It's still too loud." That is when in my head I'm gonna come over here to my patient screen and I'm going to go to the next one up. So I'm that First Time User right now I'm gonna go to First Time User - Onboarding. That should eliminate that particular complaint. Now the reverse of that, maybe your patient has come in a month post fit or six months post fit or maybe even a year post fit and they're like, "Hey, these hearing aids just don't have that razzle dazzle that I remember them having and we've bumped up the volume a couple three times, but just not that mph." That's actually a good thing in my opinion. That means that these patients are wearing their hearing aids and that their brain can take more information.

So if that's the complaint or if that's the case, I'm gonna come to Experience Levels and I'm gonna go to Experience Non-Linear. Our software does default to First Time User. It's been like that for quite some time. And we do have kinda this outlier if you will, experience level, Experience Linear. And this is really good for our folks who heart an analog fit, very difficult to find them these days. It's also good for our patients who have medical errors, they have conductive hearing loss, they have mixed hearing loss.

They tend to like the sound quality of Experienced Linear. Now I'm gonna go here to the Gain Adjustment screen so you can see what Experienced Linear actually looks like as far as compression.

And you can see that we still have 50, 65 and 80. It's just in a little bit more linear form, a little tighter if you'll. Back into our patient screen here. Just so I don't forget to tell y'all, under the target rules, we have a variety of options for you. Audiogram+ is ReSound's proprietary target rule. That's what we're gonna default to. If you like NAL - NL2 or you prefer DSL, that is totally fine. We are not going to de-feature anything because you've chosen to do a different target rule than Audiogram+. So whatever makes you happy, makes us happy or happy that you are using the software and you can use whichever one of these that you want without losing any functionality.

So we talked a little bit about gain changes, right? Very kinda a basic way to start, but we have these three ways that you can do it. One is gonna be old schooling it here, everything is too loud or too soft, up and down by three DB increments or two or one. The other same idea, but just gain percent changes in 10% increments. And then if this isn't working out and it's always too loud or always too soft, that's your cue to come under patient profile and change the experience level. So maybe it'd be Experienced Nonlinear for our patient at a hundred percent. This is the end goal. This is where we want everybody to be. In a perfect world, we know that that doesn't happen all the time, but again, all roads lead to Rome.

There isn't anything right or wrong with having different experience levels. So that takes into account the complaint of everything is too loud or too soft. But sometimes our patients come in and they say, "You know, everything is pretty good and everything sounds good, but." So they have a complaint that is in that category, Everything sounds good, but..." That is when Environmental Optimizer II will come into play. If you have not used this particular feature, I highly encourage that you do in the future. It will

save you a lot of back and forth with these Fine Tuning. You may you fix a problem and then the patient comes back in and you've created another problem and you kind of just do this back and forth, back and forth.

Environmental Optimizer can eliminate a lot of those types of appointments. In Valerie's opinion, okay, audiology according to Valerie, Environmental Optimizer should be called automatic volume control wheel because that is all that it is. It is just taking the entire hearing aid volume up or down by whatever number that you happen to see here. So in quiet, the default is for my hearing aid volume to get two decibels louder anytime the hearing aid recognizes I'm in a quiet place. The default setting for maybe a noise loud setting or environment is a reduction of volume by three DB. When we're looking here at these different environments, it's just describing where am I standing with these hearing aids on?

I'm standing in a quiet environment that would just be us sitting here doing nothing. Speech, that's telling us that the patient's in a speech only environment, speech and noise, maybe that would make more sense if it said speech and noise. So you're in an environment that has both speech and noise together. And then noise. I feel like sometimes their audiology brains want to always make this background noise, it is not. What it is saying is that I have my hearing aids on right now and I'm in a noise only environment. So I think about like, I don't know, rush hour traffic, I'm standing on the side of a road that is a noise only environment. The default settings that we see here, 2, 2, 2, 1, 0, these are all representative of true decibels.

We put about 900 people in hearing aids and we said, "Okay, cool, wear these for about a week. We're gonna run your data logging and we're gonna see on average when you walk into a quiet environment or speech only environment or a place that has both speech and noise like a restaurant or a noise only environment, what do you do on average with your V control wheels?" So in a quiet one, we go up by two DB and a

speech only environment, we also go up by two DB, speech and noise, one or zero and then noise we go back. And that makes sense, right? If I'm on the side of the road, probably don't need to hear all that road noise.

I'd want my volume to be a little less. And this just allows those volume control changes to happen automatically without the patient having to fiddle with either their app or the volume control on their hearing aid itself. Why we like Environmental Optimizer, AKA, everything sounds good, but... Patient comes in to see you and they say, "Hey, I really enjoy these hearing aids, but I watch my granddaughter two hours a day, five days a week, so about 10, 12 hours depending on the week and she's the only person, the only person I cannot hear. Can you help me out?" Now if we're not using Environmental Optimizer, more likely than not we're gonna cruise over to our Fine Tuning stream.

And this is not wrong, by the way. There are many, all roads lead to Rome. There's many ways to do this and I might give a boost here. Maybe not there, but here. And I'll say, "Okay, try that out and see what you think." Patient goes away, they hear the grand baby really good, but when they come back next week, now the complaint is, "Hey, granddaughter's awesome. Wow, can I hear a lot better, but every time my dog walks across the tile or I open up my newspaper to read it or my book just to read, ugh, I kind of wanna jump outta my skin." So she's only watching her granddaughter two hours a day. So you've fixed a problem for two hours a day and you've created another problem for all the other time that that patient is wearing their hearing aids.

Now if you have Environmental Optimizer and you get that same complaint, "Hey, I can't hear my grandbaby", then you might choose to come into Environmental Optimizer, say, "Oh, that's probably a soft speech environment", and boost the volume in that environment by one DB. So now it would go up automatically by three. A quiet environment, maybe somebody would come in and you could do this a couple different

ways. Maybe the patient's like, "Hey, I'm not home by myself all day long and I just feel a little bit uncomfortable with the volume. I just like it to be louder. But when people start coming home, the volume is perfectly fine." So again, if you don't use Environmental Optimizer, you could come to Fine Tuning and maybe you just give a overall boost of volume.

That's not wrong, but the patient might come back and say, "Hey, now I feel real good at home when nobody's around, but as soon as that garage door goes up, I've gotta run and find my app to bring the volume down or I've gotta run and remember to push my push buttons because now it's too loud." So again, fix one problem, created another. I'm just gonna kind of cruise through here and give you a few examples of how you would use each of these different environments. Speech Soft, what about the patient saying, "Hey, a month ago at first that you told me that my own voice was going to be more comfortable and it was gonna get softer, but it's just not.

" Well, what we're seeing right here in Speech Loud is that the hearing aids are automatically going up by two decibels when that patient begins to speak. So what you might wanna do is come into Environmental Optimizer and pull to the left, bringing that two down to zero, meaning that as I start speaking, my hearing aids will not get louder in volume. They will maintain the values that you have set here. Speech in noise loud, speech in noise moderate. Again, it's just describing where am I standing right now with these hearing aids? This is telling me I have both speech and noise together. So maybe somebody's like, "Ah, I go to lunch every Friday with my girls.

Only place I struggle to hear is this particular restaurant just doesn't seem loud enough. Can you help me with that?" You can handle this a couple of ways. You could remind them that they do have a Hear in Noise program, they have a restaurant program. You could maybe go back into your Fine Tuning and again, maybe give 'em a little boost here, maybe cut your lows a little bit and that's all fine, but you might fix one problem

and create another. If you use Environmental Optimizer, you just come in here, you say, Hey, speech in noise, and you just boost it up, volume gets louder and then recovers once you're out of that particular environment. And then the last two here are my noise moderate and noise loud.

And again, that is just a noise only environment. Maybe a baseball game, the mall, the holiday season, just a lot, it's just loud noise. So this makes sense, right? Usually we don't wanna increase the volume of noise, so we'll just decrease it. Something to remember when you utilize Environmental Optimizer is that it takes one second per decibel change. So if you have a positive six here in speech in noise moderate and a negative six here in speech in noise loud, that will be a 12 second transition. Your patients will probably notice that. They will probably be like, "When I walk from room to room, my hearing aids turn off, my hearing aids get wonky, my hearing aids are doing some weird compression thingy.

" I always, if I hear that complaint, I'm coming to Environmental Optimizer and making sure I don't have this. It's not necessarily wrong, it's just that your patients for sure will know that transition. If you wanna make it super streamlined, just keep it tight between two and three DB from line to line to line. So this is the way that you can quickly address those, "Everything sounds good, but..." volume complaints. So the four ways that you address for volume, old schooling it right, everything is too loud or too soft right here. Gain percentage, go up and down your 10% increments. If that's not working out, my patient profile change my experience level and then for "Everything sounds good, but.

.." you're going to use Environmental Optimizer too. If you haven't used it yet, please do. I think you'll be pleasantly surprised with how nice this works. Acceptance Manager over here, this is your adaptation manager. You can turn it on. You have a bunch of different options as far as the duration. Maybe they, your patient wants it here

and you're like, "Wow, that's really soft." You can over a course of four weeks, just little by little, you get it, the hearing aids louder and louder. Just remembering that the patient does have to wear them for eight hours per day in order for that volume to move forward. Now you might have noticed that we still are defaulting to these two programs all around and program number two.

The program number two is a little bit different than what we've seen in the last several generations of software. It is now just called Hear in Noise. So what we're trying to do with this is we want you and your patients to look at the name of these programs and be very confident as to what the function is. Oh, what's the function of this? Oh, it's so I can Hear in Noise. This is gonna show up here in the software, the smart 3D app, the native function, if you happen to have a remote control tube with that LED screen, it also shows up there. Now what's going on in the background is you still are getting those more sophisticated speech in noise programs as you go up from a five, a seven, and a nine.

So if you have a level nine, Hear in Noise is still going to be Front Focus. Front Focus is our restaurant programs on steroids, the narrow fixed beam, it gets a really big boost in those mids to pull out all that information of speech. If you go down to a level seven, that is Ultra Focus, which is what came before Front Focus. If you go down to a level five, that will be your standard restaurant program. Now some people like a aggressive background noise program and they also like the idea of a little bit more flexibility with the width of the beam form when it's in directional beam form. So if you have a patient like that and they want that Ultra Focus or that Front Focus program, but they also like a traditional restaurant program, just add a second, Hear in Noise program, find Advanced Features up here in the red ribbon, go to directionality, which is telling us, oh yeah, we have Front Focus.

And then you can make it Autoscope Adaptive Directionality, which is just a lot of words for saying, "Hey, in a level nine, if I have this set up like my directionality set up like this, depending on where speech in noise is, the width of my beam is gonna get more narrow or more wide." When we're taking a look here at our Advanced Features, you might notice that in the white ribbon underneath here, we have started to break them out as to what the purpose of the Advanced Feature is. So anything that's listed under Advanced Feature speech is telling us all these features, right, directionality, Directional Mix, time, constant sound, shaper, this is all related to better understanding of speech.

Next is comfort, under Advanced Features. All of these features, their job in life is to make these hearing aids more comfortable. Okay, so DFS stands for digital feedback system. We do not want our hearing aids to be feeding back. We've already run the calibration to activate it for that patient, so we should be good to go here. Noise Tracker II is all about background noise reduction. Wind Guard, reducing wind. Impulse Noise Reduction, that's gonna be the sudden loud sounds. Expansion, quiet, environmental sound the patient wasn't aware of before they put these hearing aids in their ears. So again, all about comfort. If I come back over here to my Speech and I look at Directionality, this is just telling me what is my microphone doing in any given time?

How sophisticated are we right now? When you have a five or a seven or a nine, these hearing aids, no matter what level of technology that you have, are operating in this manner. I'm gonna show you this video here. All of the Advanced Features in the software have a video. Do not make yourself crazy trying to unmute this. There is no mute unmute function for any of the videos within the software. I learned that the hard way. I spent many, many minutes just gonna understand this isn't working, but it doesn't. So when you have directionality in the level five, the level seven, level nine,

that goes back to OMNIA, Nexia, your hearing aids are automatically cruising through these four different microphone patterns.

Both hearing aids are the omni. As the signal changes or maybe more background noise comes into the mix, the hearing aids will automatically go to this asymmetrical pattern. So one hearing aid is in directional beam form and the other's an omni, it will automatically change if needed, again, based on where speech and noise is in the environment. As this environment, this listening environment becomes more difficult, more noisy. The hearing aids will automatically go to directional. Directional, which is what most of us are more familiar with when we're talking about a noise program. But no matter what you see 360 all around, all access, binaural directionality three, with spatial sense, it is all doing those four microphone patterns automatically.

The differences as you go from a level five to a seven or to a nine, you get an improved signal to noise ratio and you also get a reduction and/or an elimination of the head shadow effect just depending on which level of tech that you have. But in a nutshell, we gain this for automatic microphone patterns. When I come back to directionality, we have omni if you so desire, you can change that for your patient. Typically, I see this done in bigger hearing losses. Patients don't like their microphones to be cruising around. They feel like they can hear them. Something going on like that, you could switch it to omni just mean it's always an omni no matter what.

You also have soft switching. Soft switching will also be the default directional setting if you have a monaural fit. And remembering with Nexia, we also had a cross by cross and this will be the directionality for the hearing aid side of things as well as the cross side of things. This used to be our super fancy microphone pattern and it is going to automatically switch between omnidirectional, directional depending on where speech and noises in the environment. 360 all round, the fanciest of them all, four automatic microphone patterns, an improvement in the signal noise ratio of 4.36 DB and an

elimination of the head shadow effect based on the fact that we have a magnetic induction radio that will process and send audio information from left to right ears or vice versa.

And then we have this one called Spatial Sense. So I'd like to point Spatial Sense out. What is going on here is that these hearing aids will be in a fixed omnidirectional pattern. So there's gonna be omni omni, but there's gonna be some average put into the sound quality for better localization. Not seeing a lot of people switch off 360 all round or all access directionality or binaural directionality three with spatial sense. But you can if you need to, and those would be some of the reasons why. I'm just gonna cruise through these different Advanced Features and talk a little bit about what they're doing and some complaints that you might hear that would trigger your brain to say, "Ah yeah, I need to go into the Advanced Features and do this one thing.

" I always like to preface a deeper dive into the Advanced Features, that conversation with this. You do not have to use the Advanced Features very often. We do not want you to have to use the Advanced Features very often. If you have to make one bajillion changes out the gate, then maybe we didn't do our job really well on the research and development side. So what these Advanced Features are here for is, "Oh, Valerie's back on my schedule again and I don't know what else to do. I've done all the stuff I typically do that for the most part takes care of everything and now I'm kind of stuck." That is when you're gonna insert these Advanced Features and hopefully not before.

Now Directional Mix is your crossover frequency. We have another video here. So it's just saying based on this hearing loss and also based on the style of hearing aid, how much omni versus directional processing is gonna be happening here. The bigger the hearing loss, the more safely sloping. You tend to have a higher Directional Mix. The flatter the hearing loss or the less of the hearing loss, you tend to have a lower Directional Mix. Reasons that you might want to change the Directional Mix would be

something like your patient is in a quiet environment and you have cut lows, reduce the volume, increase the noise reduction to maximum, and they're still complaining that it is noisy in this quiet environment, I would come into Advanced Features, to Speech and I'm gonna take my Directional Mix from whichever one it is and I'm gonna pull it to the left to make it lower.

The other time that you might change Directional Mix is I know this would happen to me in clinic sometimes. No matter what I did, my patients would be like, "I can hear everybody else around me, but I cannot hear the person sitting across from me. And I do not like that." That's fair, that's valid. So if that's what's happening and I've done a couple three different changes and it's still not working, I'm gonna come to Advanced Features, Speech, Directional Mix and I'm gonna go from the left to the right. This isn't a feature that we typically use a whole lot, but it is there for you in the level nine. It's always running in the background, but you do have the ability to change it when you go up into that premium product.

Now one of the features that I see utilized quite often and with success is the next one, which is called Time Constants. And Time Constants are just your attack and release times for compression. So how quickly are we going into and coming outta compression? ReSound starts at syllabic. Syllabic are very fast attack and release times. But we also know that not all auditory systems are created equal. And there are times since when slowing them down it's gonna be more appropriate and the patient's going to be more successful. You can change the Time Constant in the sevens, in the nines, but they will always and forever be fixed at syllabic and a level five. When I think about Time Constant, why I might change it, I had two different categories.

One is more of a permanent change and one is a preference for sound. So sometimes your patients come in and they're like, "Everything's too harsh, too sharp, too tinny, everything's too harsh, too sharp, too tinny." And so you've gone to your Gain

Adjustment screen under Fine Tuning, you've reduced your highs. You got something crazy like this. You've even increased your low. And you're like, "Ugh, I hope nobody ever comes up behind me to see the spinning because you're gonna think that this is not good." Sometimes it does happen and the patient's still saying, "No, no, no, it's too harsh, it's too sharp, it's too tinny." Harsh, sharp, tinny. If that is happening once or twice, then that is my cue to go into Advanced Features, go into Speech, cruising to Time Constants and I like to go to moderate.

That gives me a little bit of wiggle room on either side. I think it's visually nice for our patients to know that we aren't stuck like this isn't just the end of it and what this is gonna do, it's going to round out sound quality. When you have a fast attack and release time, it does make the sound quality sharper. When you have a slower attack and release time it does make the sound quality a little bit rounded. I don't wanna say softer because on the volume thing, it's just kinda like riding in a Cadillac versus a sports car. Cadillac is very, very cruise worthy and if you're in a sports car, you get to feel the road.

This is probably a temporary change. And then over time we wanna pull them back up into those faster attack and release times because at the end of the day it does promote those. So if I have these targets, and that is my complaint, I'm gonna wanna go into my toolbox here and I'm gonna wanna do recalculate. With Smart Fit 1.17, we have two options for you now. One is ah, I just need to reset that gain out to an initial fit. Second option is what I like to call the mayday button. You've done a lot of stuff and nothing is going right and you just wanna reset. It is a mayday moment. So it just depends on what's going on.

For the purpose of this conversation, I just wanna reset my gain and I'm gonna hit recalculate. So I'm gonna get back up to where I want my gain values and I'm gonna come into Time Constant and slow them down. You can physically see patients

respond to this. It's actually quite nice. And then you can feel confident that you've done what you wanted to do. You've made sure they've had that audibility because the only reason people get hearing aids so they can understand people speaking to them. And if you're taking all this gain out, we're not really accomplishing our goal. And you'll make sure that that sound quality is more tolerable for them. Now the second reason that you might change your Time Constant is more of a permanent type change.

This would be for folks who have a really big hearing loss. They have really poor word recognition. Sometimes this is also associated with a bimodal fit. So implant on one side, hearing aid on the other. Maybe they have some sort of cognitive issue, they've had a stroke, they've got dementia, you've seen them for quite some time and you're just watching them slow down mentally and physically. At that point, these types of patients tend to do better with slower attack and release times. So you can pull it down to moderate or slow. I usually again do moderate and then see where we're at. And this will be more of a permanent change. Their word recognition's not gonna get any better.

Typically that cognitive is not gonna get any better. Hearing loss doesn't usually get better so we're just gonna set it and leave it. And the last one here under Advanced Feature, Speech is Sound Shaper. So Sound Shaper is our frequency lowering, our frequency compression. We do it in a lowering strategy. It's linear, so it'd be very, very scientific and technical where you're just going to take the area of inaudibility and we are gonna smush it down into the area of audibility. So we got a good section and not so hot, no problem, we're just gonna smush it down. So frequency lowering versus frequency change position. Now with Sound Shaper, it's compression. So we always, the software always defaults to it off.

For this particular hearing loss, the recommendation for Sound Shaper is also off. But if the hearing loss is such and the software's like "Hey, you know what? This hearing loss might do better with it being on very mild or mild or moderate or strong", it will be

bolded. That word will be bolded. For all of the other Advanced Features, the bold is the default and the recommendation. We will never turn it on. You actually have to manually come in and make this happen. It is very black or white. I've never seen anybody be like, "Ah, I'm not really sure." It's a yeah or no. When you're looking at Sound Shaper, you do get it in its full capabilities in all levels of technology.

So a five, a seven, or nine have all of this no matter what. Now the next category of Advanced Features here is gonna be comfort and we did touch on this a little bit. DFS stands for digital feedback system. This is what becomes active once you run the calibration, you cannot undo it. If you do not run calibration for some reason it'll say auto DFS here and auto DFS over a timeframe will learn where the potential feedback occurs and make those automatic adjustments. But it does take quite some time for the hearing aid to learn that information. So we really just want you to do the calibration out the gate, activate that feedback system knowing that we're not cutting gain because we are doing phase cancellation.

So if you think back to physics, you got something that's equal but opposite, you get zero. If there's feedback at 3000 hertz, the hearing aids gonna recognize that it's going to send out a signal that's negative 3000 hertz and it can do it for multiple peaks all at the same time. So 30,000 hertz, 3150, 3175, 3192 multiples at the same time. And make sure that the patient's not getting any feedback. I recommend if you get your hearing aid back from repair and all of a sudden there's feedback, just rerun the calibration. Sometimes it fixes a multitude of sense. If we continue to have breakthrough feedback, all is not lost. You get this feature fully in the five, the seven, or the nine.

So what we're looking at right here, mild, moderate, strong, and music. When we go from mild to moderate and moderate to strong, what we're doing is we're telling the feedback system to be more sensitive. And by that I mean it is going to classify more

sounds in the environment as potential feedback. Strong is the most sensitive. Music however is the least sensitive. It does not wanna classify very many things as potential feedback. And this is actually a good thing because if you're in a music setting, singing, piano, musical instruments galore, we don't want that hearing aid to be classifying those as potential feedback 'cause then what will happen is the patient will say, "I sing and my hearing aid sings.

" I remember when this feature first came out when I was a baby audiologist and we ended up turning off a lot because it was really, really good at his job. And anybody who was in a music environment, they were singing in their hearing aid was singing. So if you happen to be on strong and your patient comes back and says, "Every time I use my microwave it my hearing aid beeps at me", yes, it's doing its job. It thinks that beep is feedback and it's sending out that equal the opposite signal. So maybe it does its job a little bit too well, either the back off to moderate or maybe go to music. Now the way this feature is explained to me, I will explain it to you, is very, very technical.

Mild's like, "Hey, you look like feedback. You sound like feedback. Cool, I'm gonna do my thing" Moderate's a little faster. "Oh hey you look like feedback. You sound like feedback. Come on, we're busy. I'm gonna go ahead and do my thing." Strong has had 18 to 30 Red Bulls already. It is 7:45 in the morning. Strong loves this job a lot. Strong, he's like, "Hey, hey, hey, hey, cool, cool, cool. I'm gonna do my thing." Hence why you get that entrainment from time to time. Music is on the beach, music's on vacation. Music has his lawn chair just right. He's even got the clips for his beach towel. Everything's good to go. Drinks, chips, books, magazines, whatever. Music's like, "Hey man, well you look like feedback and you sound like feedback.

Are you gonna make me work? Fine, okay, fine, I'll do my thing." So it's not very sensitive, which is again that good thing. We're not having to use this feature very often. Once you run the calibration it's pretty accurate. But you do have it here if you

need it for all levels of technology. Noise Checker II, noise reduction program. So when you have a level five, you actually have quite a bit of noise reduction. A mild is a noise reduction to negative three decibels. Moderate is a reduction of six DB. So that's what you get in a level five. When you bump up to the seven, we add considerable. So that is going to be negative three, negative six, negative eight.

When we have a nine we add Strong, which is 10 DB of noise reduction and this magical thing called par environment. Now if you're looking at this going, didn't we just see this someplace else? Yes, but no. These are the same exact environments that Environmental Optimizer uses. There's only so many environments that we could have in a day-to-day. I'm in a quiet environment, I'm in a speech only environment. I have an environment where I've got speech and noise hanging out together. I'm in a noise only environment. So yes, it's the same environment, but this is all about reducing background noise for the patient. Environmental Optimizer, it's all about pinpointing independent, individual moment in time volume issues.

We give you a cheat sheet here at the bottom to let you know when I pull to the right I am increasing the amount of noise reduction being applied. So that means the patient shouldn't be getting as much background noise. And then conversely, if I go to the left, less noise reduction, more background noise. It doesn't really matter how far away you have from line to line. So remember the Environmental Optimizer, we wanna keep these lines within two or three DB of each other. That is not the case with Noise Tracker II, whatever makes you happy, go for it. But that is something that you do get when you go up into the level nine. So sometimes numbers are helpful at a level five you have two options for noise reduction, at a level seven you have three and a level nine you have 11 because you have these four hard cuts of noise reduction plus these seven independent environments.

When we have Noise Tracker Two on Strong, just be aware that Strong is 10 DB and if your patient comes back and they're like, "Wow, background noise is amazing, but I'm not really understanding that speech so well." Take a gander here and either back off to considerable or if that's where you were prior, go to Noise Tracker Per Environment and maybe just pull these sliders to a hard cut of not. Wind Guard, Wind Guard's wind guard right? Wind's too much. Not a problem. It does default to on and on around on to mild in the five to seven and the nines you do get this feature, but in a five it's gonna be mild or basically on/off and a seven you get mild, moderate, and a nine, you get mild, moderate, strong.

And that pretty much holds true for most of these different Advanced Features. Wind Guard will not activate itself unless three parameters have been met. A, you have to have a certain frequency that's happening around 70 DB, I'm sorry, not frequency but volume. That frequency has to be between like 500 and 1500 hertz, 750, give or take somewhere around there. And then there has to be a turbulence or an asymmetry between the front mic and the back mic. So Wind Guard is a two mic feature. So if you have like a mic and helix or a CIC, nothing is wrong within the software. Wind Guard just isn't a feature that you get because we do need to have that asymmetry or that turbulence from front to back microphones.

When we're looking at Impulse Noise Reduction, these are your loud, sudden sounds, door slamming, keys dropping, wow that busboy is doing an amazing job behind you at that table. These are the sounds that make our patients flinch. We don't wanna have to go under Gain Adjustments and cut our highs because again, we're taking away that speech information, which is the reason that people wear hearing aids. With Impulse Noise Reduction, we're able to maintain that speech info, but at the same time bring out those sharp sounds so our patients aren't flinching all over the place. Defaults to mild, five, seven, or nine, you get mild four or five, then a seven, you add moderate and a nine, you add strong.

Sometimes if you get up into strong and then the sound quality starts to become mushy and that was the only change that you made, I would pull it back down to moderate. And then last but not least here we have Expansion. So Expansion is really made for circuit noise and hearing aids. We don't have a whole lot of that anymore, I don't think really anybody does. But we do have amazing feedback systems now, which means I can do a huge open fit. So now what I see Expansion used for is for our folks who are a perfect open fit candidate, they've got good lows, bad highs, and you just put those hearing aids on them and you're like, " How does it sound?

" They're like, "Great." And then they come back to you in a week and they say, "Oh, my room is breathing. I don't know what that is. I don't know, I can hear my computer run. I hear this humming and my environment." That is your cue to try Expansion and is in all levels of technology. Five would be mild, only. A seven has mild and moderate. And then a nine also includes strong. My ears are not sensitive, so the only it gets feature I actually hear when I tinker with my hearing aids on is Expansion. Now sometimes we run into, yeah, you know, not everybody can afford a level nine. And so then we run into limitations of what these Advanced Features can do because you might just have on/off and a level five.

So keep in mind that Environmental Optimizer here under Gain Adjustments, you do get this feature in all levels of technology five, seven, or nine. So if I'm in my Advanced Features and I have a Nexia RIC level five and my patient's telling me that they are hearing this low level hum and I turn it on, that is all I can do. If the patient is still complaining of that, that is okay because you can also use your Environmental Optimizer like Expansion except it's not doing the points, just taking the volume up or down. And I'm gonna go to Environmental Optimizer, I'm gonna go to quiet and I'm going to increase, I lied to you, I'm sorry.

I'm going to decrease the volume of the hearing aid in a quiet environment. So you can kind of use Expansion and Environmental Optimizer to quiet independently or together depending on what the patient's experiencing. To also note that we've moved the Tinnitus Sound Generator from the menu button over to Advanced Features because it is truly an Advanced Feature. We wanna make sure that you can find these features easily when you're looking for them. And so it used to be kind of hidden over here in the menu, but now it is front and center. When you're looking here at the Tinnitus Sound Generator you do have to turn it on per program, individually. We have these six nature sounds that you can cruise through.

Of note, they all sound exactly the same if you don't listen to them for more than like five seconds. You gotta listen to 'em for 10, 15, 20, 30 seconds to hear those differences. If you like to have a little bit more control over the Tinnitus Sound Generator, you can turn your nature sounds off. Default to on like we're seeing here where my pointer is that you could cruise into off and now you have these four presets, white noise, high frequency noise, speech noise, pink noise that you can choose from. You have the volume of the masker here. This is in depth DBSPLs, so 55 is the default. It's really not that loud. I've never ever left it at 55. You can change the range.

Maybe you need something that is pretty pinpoint. You can do that here. The amplitude fast, that modulation is. And then under volume control you have a stimulus level, which is the volume of the masker itself and then the Stimulus Level+ - Environmental Steering, meaning that when you walk into a quiet environment, the masker will automatically get louder. And when you walk into a noisy environment, the masker is gonna quiet itself down. The theory being you don't need as much of that because you just have natural background noise. Device controls here real quick, just a few things to note about it, maybe. Underneath this page, manual controls, you can enable and disable the hands free controls. So how you answer in the phone calls on the hearing aid itself, this is where you can disable it.

You're not gonna be doing it in the native function of the app anymore or the triple click on the iPhone. You can do it right here. And we also have a tap control that's only active whenever the phone call comes in. And this is where you can disable it or perhaps re-enable it. Under device controls, we have moved accessories to this page. So if you're trying to figure out where do those accessories go, they're still here in the software, but they're gonna be under device controls now. So that brings us to the end of our time together. I do see that there is one question, and I'm just gonna go here real quick and see what it is.

And I hope that I'll answer this here, that you feel more comfortable with the Advanced Features in the software in general, remembering that you don't have to go in and make a bunch of these changes. The things that we see used the most as far as an Advanced Feature would be Environmental Optimizer, Time Constants, and Noise Tracker II. But for the most part you can tinker and fine tune within that gain screen. This question is saying, "What about speech section where there's a M&RIE receiver present?" So what we're referring to here is under Advanced Features Speech, Directionality, if I had a M&RIE receiver attached, instead of spatial sense, it would say M&RIE, and that means that the hearing aids will always be in an omnidirectional microphone pattern fixed.

But instead of average that you have a spatial sense, you would actually have the patient's own . So that is right at our time. Thank you again so very much for spending this hour with us. Please don't forget to take your five question quiz so you can get your one hour of CEUs and I hope everybody has a wonderful day, take care.