A New Generation Delivering OpenSound Experience

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- [Amy] Well, hello and happy Friday, everyone. I'm hoping everybody can hear me just fine. This is Amy Bohms speaking. I'm actually the education and training specialist for the Mountain Region at Oticon. Frankly, it's a fancy way of saying I'm your field trainer out there. I've actually been with Oticon for a little over five years and I'm so excited to be able to join all of you today and talk about A New Generation Delivering the OpenSound Experience for all of our patients. So what we should be targeting today in terms of learning outcomes, at the end of today's session, you should be able to describe how the new technology discussed in this course can further improve speech understanding in difficult listening situations, describe the new range products being introduced by Oticon, summarize the benefits of the new technology discussed in this course, and of course, list the steps for setting up connectivity and rechargeable devices from Oticon.

So let's get started. Now whether you've had a chance to work with Oticon Opn yet or not, please know that we are absolutely elated that Opn has truly elevated not only your expectations as hearing care professionals, but also the expectations of patients who naturally are looking for ever-better sound quality any time a new technology is introduced to the market, and with Opn and the BrainHearing core technology of OpenSound Navigator at Oticon, we've been able to shift the paradigm of hearing healthcare. OpenSound Navigator really has introduced us to a whole new level signal processing and fitting success, and that is all attributed to the fact that at Oticon, we always think brain first. So you heard me mention BrainHearing. That is not only the foundation and philosophy with which we create and research new life-changing technologies, but it's essential to the core of how we look at hearing loss as a whole. It's not just a hearing loss we're treating. We're treating a patient who still has residual capabilities to bring to the task at hand, and we also know that although it takes two ears and a brain to make sense of sound, it's the brain that does the heavy lifting in organizing and making sense of those neural signals that are transmitted by the auditory nerve from the cochlea. In other words, it's the brain that is giving the meaning

or the substance, if you will, to those signals being presented to the system overall. So our approach to developing signal processing to combat the effects of hearing loss goes beyond that ear-level thinking. In fact, we know that the brain can handle even more complex environments as long as the source of the sounds provided are clear and presented in such a way that the brain expects it. So BrainHearing is much more than simply a trademarked phrase. It is a core philosophy on how we approach everything that we do at Oticon. And in particular, when we think about OpenSound Navigator, the latest and greatest, if you will, paradigm shift in how we are able to process sound, works in a very unique way. In fact, there are a couple of key elements within this system that are unique not only to the system and to Oticon, but to the way we've ever looked at processing sound. So if we think about traditional sound processing, a lot of what we think of, of course, would be directional microphones in which, as an environment becomes more challenging, more complex, they're going to continue to move toward a forward-facing fixed-directional pattern that where your nose goes is usually where you're gonna have the best signal-to-noise ratio. And then on top of that, depending on the situation, applying a traditional approach to noise reduction where, after a few seconds or so, depending on that technology, it may kick in, again, being level-dependent, to provide hopefully another layer of support in those complex environments where we need to tackle that number one challenge: understanding speech and noise.

OpenSound Navigator takes what worked once upon a time with limited technology and turned it on its head. I like to think of it as taking an oldie but a goodie and putting it on steroids, if you will. That's my Amy twist, and making this unbelievably powerful and precise system, and all of that is attributed not only to the platform, the power and speed in the chip, but what we're doing with it. So with OpenSound Navigator, those two unique features are not just this process of analyzing, balancing, and removing noise, you can see kind of this three-step process, but we're also looking at two distinct sound fields at the exact same time. If you take a look at this particular slide

where we have our two microphones, that top microphone image is the front microphone on the hearing instrument. The bottom is the back microphone on the hearing instrument. That input instantly is being analyzed. The front microphones, and you can see this in the analysis process, that front microphone is scanning the environment, 360 degrees, more than a hundred times per second. So that's one view of the 360-degree environment. The back microphones, and you can see that it looks like a heart, and it is. It's that reverse-facing cardioid pattern, and that secondary look at the environment is also updating every 10 milliseconds and creating in essence a noise floor. So we're taking a look again at two distinct sound fields at the same time and analyzing at the rate of speech, every 10 milliseconds, absolutely everything coming in and being able to balance the information because it's spatially aware, and it's not just spatially aware information. It's spatially aware noise reduction. We can balance the information according to where is it, what is it, how loud is it, and of course, take into account how much of that information can the patient handle cognitively.

In other words, how do we balance speech from non-speech information? Are we much more aggressive in separating the two, or can our patient handle those being pretty close to the natural environment? And before we even amplify and present that sound, we check for any residual noise, including speech babble, and at the one level of technology, so our technologies for Opn, and now Opn S, have three levels: one, two, three. So that top level, that top tier of one can attenuate noise as much as nine dB even at the rate of speech. So when we take all of this into account and how extraordinarily beneficial this has been, and we've been able to prove that clinically with a number of research projects, when we introduced the Velox S platform and the Opn S and Opn Play products, our biggest challenge was, how do we bring this benefit to even more of our patients? How do we give OpenSound Navigator, or what I like to call the magic that is Opn, to even more patients in a variety, more, if you will, of different types of hearing loss? And thanks to the Velox S platform, we have been able

to break the rules again, or, if you will, step outside of that box of conventional thinking. With more power, more memory on the Velox S platform, we were able to introduce a new detector system that enables yet another BrainHearing core technology entitled OpenSound Optimizer. On top of that new detector system, which we'll get into in a little more detail here in just a moment, we were also able to introduce the miniRITE R solution, which is a style. The R stands for rechargeable, so our miniRITE, or the RIC product that we've had for a number of years, now comes in a lithium ion rechargeable solution that we'll dig into a little more as well. But when we think about that bigger challenge of how do we bring OpenSound Navigator to more of our patients, that's where OpenSound Optimizer has been a critical component for this new family of products, and fortunately, we have Don Schum, our Vice President of Audiology, here with us, pseudo, to introduce us to that thinking and the methodology behind that.

- In the hearing aid world, acoustic feedback is just a fact of life, at least we used to think so. We developed OpenSound Optimizer to prove it doesn't have to be that way. If you run into feedback during a fitting, you have to make a compromise. Perhaps it means that the patient just has to deal with feedback from time to time, or perhaps it means that you can't provide the sort of gain you would like to in the mid-to-high frequencies, or perhaps it means you need to provide a more closed fitting than either you or the patient would prefer. If feedback becomes a persistent problem, the patient can become frustrated, and it could even lead to the point where the patient decides just simply not to use the hearing aids anymore at all. OpenSound Optimizer was built on the power of the Velox S platform, and we leverage the power and speed of that platform to be able to not be bound by conventional thinking. Traditional approaches to feedback cancellation may be too slow to stop feedback before it becomes audible. But with OpenSound Optimizer, we monitor the signal 56,000 times per second in 28 channels. If it detects that feedback is beginning to build up, it puts a small break in a narrow frequency window to stop feedback before it even has a chance to start. And

all of that happens in less than a tenth of a second. That break pattern will then be repeated as often as necessary until the threat of feedback has passed, and that break is so subtle that the brain may not notice. And what is the effect? Well, the effect is up to six dB more usable gain, and with six dB more gain to work with, that means you have to make less compromises. The patient can go throughout the course of the day confident that they're not going to have to deal with feedback. We developed OpenSound Optimizer to approach the feedback problem using a new way of thinking, to better protect the hard work that you put in to create a good fitting for your patients.

- [Amy] So let's take a closer look at what we're talking about in terms of the benefits to having a proactive prevention system for feedback that's working in conjunction with a feedback management system. So this image on the screen right now, certainly that was presented in the video just a second ago, but let's just remind ourselves what is happening in a conventional approach to feedback management. First of all, it's there in the title, right? We're managing something that's already happening. It's reactive rather than proactive, and we don't have feedback, or that tipping point of an audible feedback, unless that feedback loop is allowed to build up and gain momentum, and again, kind of reach that tipping point and become audible. So when we think about the strategies provided in a feedback management system to combat that, it's pretty much a three-pronged approach with most manufacturers. So you have fast-acting and a long-term approach to managing feedback. Those fast-acting components are frequency shifting and gain limiting on a temporary basis. So when we say frequency shifting, we mean moving that analog input just enough out of range that we're gonna avoid that potential feedback buildup. But of course, then that temporary gain limiting when feedback rears its ugly head, we're bringing that volume, but all volume, all of that gain down while we wait for that long-term solution of phase cancellation to basically kick in and take over and squash that effect long-term. So what we're talking about with OpenSound Optimizer that truly in milliseconds that system is proactively constantly monitoring and looking for any changes in the

acoustic feedback in 28 channels between one K and four K, and if it picks up on even a hint of that feedback loop trying to pop up and rear its ugly head, it's going to apply what we refer to as a breaker signal to stop that buildup in its tracks. So not only is it stopping the buildup in its tracks, it then creates an opportunity for us that while phase cancellation with feedback shield or feedback management continues to deal with the long-term solution, we don't have to depend on the temporary or fast-acting feature of temporary gain limiting as once upon a time, or frankly, as traditional or conventional technologies still use when we're looking at simply a management system rather than having prevention and management working hand in hand. So to give you a better idea as to what we're talking about here, a really good example would be the spectrogram on this particular slide.

So you can see that if we look at the spectrogram on the right-hand side of the slide, obviously our frequency is on the y-axis, our time is across the X, and what you're seeing there are some vertical dark stripes or lines or, hey, breaker signal, right? But here's what's interesting about that. In the original version of this particular spectrogram, there was a nice bright streak of yellow-orange energy, which of course is feedback. That represents that feedback, and it's important to note that the area in which we see these breaker signals on this slide are between two and four K, actually right around three K, smack-dab in the middle, and we know how important three K and this entire range is for understanding speech. So imagine if there's a bright streak of feedback energy, I have audible feedback, it's completely clouding what's happening, what I'm hearing, because all I'm hearing is that whistling. Or if all I'm working with is a feedback management system where now I'm dropping the gain now overall and I have just a big black hole or a black streak, I have no information. So with a management system, I either have nothing but loud squealing or a big black hole until phase cancellation kicks in. What you see with this breaker signal, or with OpenSound Optimizer as it's titled, it's almost like a picket-fence-type of approach. Now again, this is happening in milliseconds, and the likelihood of your patients even knowing this is

happening is slim to none. But if you think about what happens in a picket fence and think about overall in general, we know that the brain is unbelievable when it comes to decoding what it's taking in, whether it's vision, hearing, tasting, touch, you name it. It's unbelievable how it makes sense of whatever it is receiving. So if you think about a picket fence, and right now, of course it's summer, I live in Michigan, it's hot and muggy, so you better believe sprinklers are out everywhere. So if you're going past a house that has a picket fence, you may not see the entire picture, but you sure know that you're seeing adorable little kids running through a sprinkler through that picket fence, and you know that because you have enough of the image that your brain can make sense of it. It's kind of the same concept, if you will, with these breaker signals. My brain is able to make sense of what's happening because I'm still receiving enough of that important information that I know what's happening. I don't have a bright streak of energy clouding the picture, nor do I have a black hole taking everything away. I am able to prevent the buildup of that feedback so I don't have an audible situation or a black hole situation. So you can see what we mean in terms of that breaker signal.

Technically speaking, it's spectrotemporal modulation. However, it is unbelievably, unbelievably fast and very accurate, 'cause again, your patients are very, it's very unlikely they're even gonna know that it's happening. They just know, holy cow, I'm hearing so much more, even in challenging environments. Things seem so much more clear, and that has everything to do, again, with this concept of being able to detect and stop that nasty little friend of feedback trying to pop up and wreak havoc, and all of this, again, is possible because not only do we like to think of OpenSound Optimizer as kind of a tag-team partner, if you will, with feedback shield or feedback manager, but you can see in this processing scheme that OpenSound Optimizer is always on. It's just on out of the box, so to speak. There's nothing you need to turn it on. It is there working constantly for you and your patient to make sure they're getting the optimal gain they need, not just in a static situation, but when they're out in the rest of the world, right? Novel idea. It turns out they don't always just sit in your quiet office. They

have a life. Of course, right now, jokingly here, I make fun of myself that pretty much I just live in my office, so there you go, but things are a-changing and life is always dynamic, so it's important to know that that's always working to our benefit, and when we need to have that phase cancellation kick in, no problem. Our feedback shield is the tag-team partner for that proactive system, constantly on the move. And if we think about another reason as to why this is so successful, there are two important parts: first of all, speed and resolution. So this is only going to be affecting frequencies that are potentially at risk. So you saw in that spectrogram that specific area, it was that three-K range, and in fact, you may have noticed that as those, as time went by, those vertical lines became shorter and shorter, and that's because phase cancellation was starting to be applied, so there's less and less risk. So you can see it's a great example, if you will, of how precise it is.

Moreover, again, this cancellation technique in terms of that spectrotemporal modulation where it's so fast and, again, a breaker signal where it's not just blanking things out, its main purpose is to stop, stop, stop that risk of buildup, is an amazing approach to being able to be proactive. So if we think about a lot of the core BrainHearing technologies in the world of Oticon, when we refer to them as being core BrainHearing technologies, it's not just something that's been researched, developed and unique to Oticon. They're unique to the entire industry. So another example, of course, is OpenSound Optimizer. We actually have five patents that are in the process of being confirmed and finalized, and of course, three scientific papers on that. And in the world of Oticon, if you've ever worked with us, my goodness, you're very aware of the fact that we are stringent when it comes to research and development and truly making sure that what we're doing, again, is supporting the patient's brain in the best way possible to combat that distortion that their hearing loss is causing. If we take a look at who's really benefiting from the OpenSound Optimizer system, it's much more than just about preventing feedback. It's about, again, that optimal gain. In fact, what patients and providers alike are finding is that you actually have six dB more stable

gain for your fittings. What exactly does that mean? So whether that means, and Don alluded to this in the video as well, that may mean being able to do more open dome fittings for patients that maybe it's their first time wearing hearing instruments and they're not quite ready for closed dome. That's just too much. Well, the nice thing now, you have six dB more headroom, and even with that open dome fitting, your patients will notice a tremendous difference with the prevention system working hand in hand with feedback manager versus not having that advantage at all. In fact, here's a little anecdote for you. When we first launched Opn S, it was about two weeks after the products hit the marketplace, I had the opportunity to be in an office with a patient who was being fit. They were demoing Opn S. Well, come to find out they had tried Opn, and this was a first-time hearing instrument wearer who wanted the open domes and he just, especially in challenging environments, wasn't really getting the benefit he was hoping for in terms of understanding speech in noise, and that particular audiologist said, "Hey, you know? "Oticon has a new technology coming out, Opn S, "and it has this new prevention system for feedback "and it's supposed to give you more access to sound. "I wonder if you would notice a difference."

He stayed in the office on purpose to talk to me and tell me, "Oh my goodness, "I noticed such a huge difference immediately. "I got exactly what I was looking for "in terms of understanding speech "in those noisier environments so much more easily "with this one compared to the original Opn. "This is fantastic." Now granted, that's an anecdote that comes from a patient, but it was a wonderful opportunity to be able to hear that in firsthand experience and how people are noticing what a difference from one version to the other, and I'm sure all of you out there have patients that report, "My goodness, "I feel like I'm doing so much better." It's always exciting to hear that. But the other thing that's great about this is knowing that some of those limitations that Don also talked about that sometimes we aren't able to fit to verification targets because either it's too much for the patient based on their report, or perhaps, and this is something that has happened in the past occasionally where everything looks

beautiful with your speech mapping in office, but as soon as they get out in that dynamic world, now they're losing out on that optimal gain because it's bridging into that feedback ceiling or that feedback danger zone, as I like to call it, and so they really aren't getting as much information as what first meets the eye in the office, and sometimes we're limited on the devices they may have. Perhaps, again, whether it's patient preference with, I don't wanna wear those closed domes, Amy. Please don't make me wear those closed domes. Or my favorite was always a patient who really needed to have a custom mold, but, ugh, I just am not feeling it yet, so you're limited. What's great, again, with this extra six dB more stable gain is you have greater confidence in not only avoiding feedback, but more importantly that benefit of optimal gain, which of course equates to better speech understanding, especially in those complex environments.

So to give you a better look as to what I'm talking about, I'm just gonna give you a quick view of Opn versus Opn S, in other words, having feedback shield by itself and having OpenSound Optimizer at the forefront preventing that feedback and giving that six dB more stable gain, while feedback shield applies phase cancellation when needed. So you can see that this is just a static situation. This was actually done in real time, took some screenshots on some real time, and you can see that this is just in the office, it's quiet, the patient's sitting quietly, peacefully, not causing a ruckus as I'm sure all patients do, right? All patients are full of ruckus. No, I'm just teasing, but you can see what a significant difference there is in that extra headroom. We're pretty close to tipping the scale over here when we take a look at, I'm gonna grab my little pointer for just a moment here. You can see we're pretty darn close to that danger zone, as I like to call it. If we take a look at our Opn S, we have quite a bit more headroom. But what happens when that patient actually goes out and lives life and starts to do something? So in this particular situation, again, at that same appointment, in real time, we had the patient bite into an apple. So just biting into an apple, think of everything that's happening, not just physically, but acoustically when that happens. I'm gonna

bring my arrow back over here to the Opn. Look at that. We've bridged into that feedback danger zone and you can see that we've brought the gain down. In fact, the gain has been brought down temporarily by about three to five dB, and it's gonna happen for that two, three, four seconds depending on how long it takes for phase cancellation to kick in. Remember, this is just working with a management system. By having the help from OpenSound Optimizer in Opn S, we still have that headroom. We're not even getting into that danger zone. So this is a really good example of what we're talking about when we think about how important that prevention system is to that overarching goal of providing the best speech understanding in noise whenever possible. Something else that we introduced with Opn S and Opn Play on the Velox S platform was a new user empowerment tool that you will find in the Oticon ON app, and that particular feature is called OpenSound Booster, and it really helps to give patients power in the palm of their hand to get a little more help when they need it, making OpenSound Navigator even more aggressive depending on the situation they're in. So again, here to give us a little introduction to the thought behind OpenSound Booster is our good friend Don Schum.

- Even with the very best hearing aid technology, all patients run into situations from time to time where they feel that they need just a little extra help, and for those situations, we created OpenSound Booster. OpenSound Booster is a new functionality as part of OpenSound Navigator that takes the help provided by OpenSound Navigator to a new level in those everyday situations where the patient needs some extra help to make speech stand out from background noise. The prescribed settings of OpenSound Navigator are based on a variety of different patient characteristics, including their listening preferences. Some patients feel that they want OpenSound Navigator to be reserved for only the most difficult listening situations, but all patients are gonna run into situations from time to time where that's not gonna be quite enough. For those situations, the patient can activate OpenSound Booster with a simple push of a button on the Oticon ON app. Once activated, the OpenSound

Booster will be more aggressive about reducing sounds coming from the backs and sides, and allow the noise removal function to operate in a more aggressive manner. You may wonder why we don't leave OpenSound Booster on all the time. The simple answer is it's simply not needed. Over the last several years, OpenSound Navigator has been proven to be the most effective solution to handle complex listening environments that has ever been released into the hearing aid marketplace. OpenSound Booster takes the benefits of OpenSound Navigator to a new level.

- [Amy] So taking a closer look at what Don is talking about in terms of why do we not just leave OpenSound Booster on all the time, one of the components of OpenSound Booster that when activated in the app automatically adjusts with OpenSound Navigator is if you've ever been fitting an Opn or an Opn S product, you know that with Opn S in the OpenSound Navigator screen of Genie 2 fitting software, you have that transition or balance section of low, medium, high, and then very high that was introduced, again, on the Velox S platform. So why don't we leave it there? Don alluded to this. In fact, it's not unusual for patients to, again, prefer that really aggressive approach in those far more challenging environments. When we think of very high with that transition, not only are we making sure that we are turning down or reducing access, if you will, for the sounds to the sides and back of our patient, we're also turning down or lessening access to speech signals coming from the sides and back with very high. So that's not something that most people are accustomed to. That's just too quiet, and that's not something that we imagine doing all day, every day. We always, again, I'm gonna revert back to this conversation of BrainHearing, we always wanna support the brain in the best way possible, but again, making sure we're taking into account that patient's specific situation. How much can they handle in a given environment in terms of various sound sources? So by incorporating OpenSound Booster into the app, we are now giving them an option to be able to access this themselves in real time when it's needed. Another fun fact is once upon a time, when we first introduced Opn, it was interesting, again, based off of patient anecdotes and

so forth, to hear from them this perception that when things were adjusted too aggressively with OpenSound Navigator, in other words, too much noise reduction was applied and were too aggressive on that low, medium, high, that it seemed unnatural or that they've lost connection with the space around them. So believe it or not, less really is more in a lot of these situations. But when it does become challenging, know that your patients have access to that patient empowerment tool through the Oticon ON app, and we strongly, strongly encourage patients to use that to their advantage. Certainly at the one level of technology when this is activated, with the one level, you could build a manual program if needed for your patient.

However, using the booster in the app not only makes it seamless for your patient and they don't have to worry about additional programs, but patients who might be in an Opn S 2 or an Opn S 3 will have an advantage with those technology levels using the OpenSound Booster as well. When we say boost, boy oh boy, they are gonna get a huge boost in the help that they need in those very complex environments. So what I'm referring to there is when we think of that very high setting as well as the noise removal function, it's optimized in the app versus what you can potentially do in the Genie software. The app not only adjusts what's happening with the balance or transition parts, so the low, medium, high, very high that you can see in our screen here, but also noise reduction for simple and complex environments. So you can see what I'm referring to with that very high, it's automatically taking the devices for OpenSound Navigator to that very high. The other thing it's also doing is taking the noise reduction for simple environments to three dB of noise reduction, and for complex environments, to seven dB of noise reduction. So you can see that by encouraging patients to really utilize that to their advantage as needed, I truly believe this is the unsung hero of the app. I really do, so if you take anything away from this, don't forget about that booster. It's a great tool for patients to have in their back pocket, literally and figuratively. Ha-ha-ha, right? No. So when we think about the Opn S family and the various options, you have quite a few frankly. So you do have the various RITE styles. You can see we

have a miniRITE on the far left, the miniRITE T. The T is indicative of a T-coil. That miniRITE R, again, R is for rechargeable, and a BTE Plus Power. So you have a full gamut of options when it comes to hearing loss. Whether it's mild to severe to profound, you have a lot of opportunity here in the Opn S family RITE and BTE styles. Here's a little side note, little tip and trick that I use to help remind people whenever you, depending on where you are, T-coils and loop systems may be more prevalent than in other areas. When in doubt, if you're wondering, does this style have a T-coil, if you have a double push button or a rocker button, let me show you what I mean here, so this bad boy right there. So you see that double rocker button. We have it on three of these styles on this screen. When you see that rocker button, that means you have a T-coil. So the only kid on this screen that doesn't is our little miniRITE way over here. So double rocker button, you have a T-coil. When we think about our lithium ion solution, truly this has become a huge hit, not just with providers, but also with patients. It's very easy, very quick, intuitive, and truly has leading recharge time within the marketplace, and there's a little secret up our sleeve when it comes to our particular version of lithium ion.

So again, if we take a look at this, it's very fast, very easy. I apologize, I skipped ahead a little too quickly there. When your patients receive their charger, they will have a, not only the power cord, but it's a USB power cord and a plug that will plug into the wall. It's pretty sleek and basic, but what's nice about that is, again, less is more. This is exactly what patients and providers have been looking for in a lithium ion solution from Oticon. So it's, again, very simple, intuitive, and if we take a closer look at what I mean by a secret, little secret or surprise up our sleeve, you can actually change the lithium ion battery in-office. That's right. So when you receive a miniRITE R, whether it's for an Opn S or an Opn Play device, you'll see that the battery door is open, and it does come with a 30% charge already in that cell. Your patient cannot open the hearing instrument. That's you. You're the one who has a secret trick up your sleeve that you can actually open that up in-office, and I'll show you a little video here in just a couple

minutes as to what we're talking about, but you'll also see what's important with these is that with the lithium ion cell, although you can change it in-office, there is an expiration date or a best-used-by date. So this isn't something that you would wanna stock a lot of extra lithium ion batteries on-shelf, because they do have a best-used-by date. However, how wonderful is it that you can actually do this type of troubleshooting in-office? If, let's say, it's been a few years and your patients aren't quite ready to upgrade their devices yet and they need a new lithium ion cell, you can change that in-office for them. The lithium ion battery itself costs only $25 if your patient happens to be out of warranty. But guess what? The batteries and the charger base have the same warranty as the hearing instruments. In other words, you have three years of warranty on the batteries and the charger.

So again, if they're out of warranty, the nice thing is it doesn't break the bank, you can do it in-office, and you don't have to worry about sending it off to the manufacturer to be repaired and perhaps incur not only more repair fees, but, again, your patient doesn't have to be without their device. It's pretty seamless, very intuitive, and extremely helpful to every party involved. When we think about the fact that it comes with that 30% charge in that lithium ion cell, it is important. We highly advise you, we'd recommend to you that you give it a full charge prior to the fitting appointment, so then that way you can do your fitting with your patient and they can still go about the day with having that full charge and experience their new hearing instruments. The other thing too to keep mind is that it only takes three hours to get a full charge, and when we say full charge, what we're talking about is 18 hours of battery life, including four to five hours of streaming. So technically speaking, if you have a patient who isn't much of a streamer, they may get more life out of it than expected. However, you can count on it having a solid 18 hours, including that four to five hours of streaming. The other thing that's great about this charge time and how fast and secure it is, keep in mind that we also do this via induction. It's inductive charging, so no contacts to worry about. And if your patients are like yours truly, and frankly, are notorious, that's right, I

am notorious for forgetting to put all of my devices on their chargers at night. If I get up in the morning and I think, "Oh, holy cow. "Ah, I have a meeting coming up in an hour "and I forgot to charge my hearing instruments," if I can even get 30 minutes in my charger before my meetings start, I have six more hours of battery life. So again, when we think about that market-leading charging time, it is truly very solid and you have some flexibility built in there. So we're gonna take a look at just real quickly a video about the charging process overall. While we look at it, I'm gonna describe and add a couple more things on top of that. So you'll see that truly this is a very easy, intuitive approach to rechargeability. Now in this video, this is one of our original, if you will, charger bases. There's been a little bit of a facelift already. You do have, when you receive your miniRITE R devices, on the charger base itself, it will have a blue dot and a red dot to help your patient know which side to put the hearing instruments in for the charger. Here's a little secret. It actually doesn't matter if right is in right or if left is in left, but what does matter, and you can kinda see it in the picture right now, is that those receivers need to be hanging over that back edge.

I like to call it the receiver shelf or that's where the receivers go to bed. I know, all these crazy phrases that I have, but what's nice is with the newer bases, you do have a sticker on that ledge on the backside of the charger base, also getting an image of those hearing, or the receivers in their little shelf, in their house, so that helps to make it even more intuitive as well. And you saw in that video that, yes, temperature does matter. So I think, again, it's summer, so though it has a USB cable and you're welcome to charge it in your car if you need to. Maybe you're on a long trip, or you can use an external battery pack and charge it up that way if maybe you live in the mountains, that's right, I cover the Mountain Region, and you are going camping. It's important to remind our patients that it's not a good idea to leave your hearing instruments charging in the car all closed up because, my goodness, it gets hot in there, doesn't it? Now it's not as if something fatal, no fatal error is gonna happen. That's good to know, but what will happen is if it gets too hot, it's just not gonna

charge anymore. It's basically gonna turn itself off. It says, "I'm melting." Not really, it's not really melting, but you get what I'm saying. That's right. Little shout-out to "The Wizard of Oz." When we take a look at the logistics for the miniRITE R, this is pretty self-explanatory and user-friendly as well. So again you have that nice rocker button. You have an LED light. Certainly you saw in that video for the charging that when they're in their charger base charging, the light is solid red. When they're fully charged, it'll be green. They pull 'em out. They automatically start up. The other thing that's great is, when you put 'em in, they automatically turn off. It's very, very easy to put them in and out of the charger base, and the other thing that's great is certainly you have not only the right and left markers outside on that battery door, but also the serial numbers to make it a little easier to keep track of who is who, right? I wish I had a little markers on everything to keep track of who is what and what is where.

And if we think about where we're looking in terms of Genie 2 about knowing more on the battery, what is the current battery level, overall battery health, what if it's time to replace it, when you're in the end fitting of Genie 2, you'll see that when you're using that miniRITE R style that you do have a section entitled Batteries. So you find that over here closer to, just under your buttons and indicators at the very top. Obviously that will read out the current charge or how much battery charge the devices have, but the battery health is the one that you're gonna look at more often than that. Just like any sort of lithium ion battery, when it hits about 85% of overall battery health, it's just not gonna get that 100% charge anymore. This is innate to lithium ion. So when the hearing instrument's lithium ion cell gets to that 85% or less mark, you can see that it'll go from this green with a little green check mark to a black kind of fading circle of, uh-oh, you might wanna consider changing this battery. It's not going to affect the overall performance of the hearing instrument. Again, we're talking about the overall battery health, so getting that 100% charge isn't gonna happen anymore. So they can go about their day, it's just fine. Nothing is being hurt in any way, shape or form. When they can, you can simply, again, replace that battery in the office, and now they can go

about and have a whole new battery health, and you can see that if you did need to do that, if and when you need to do that... I have a question. Sorry, I'm very... Just take a look here. Is there a way for the clinician to check this information without the battery, or about the battery remotely for the patient without having them come into the office? Well, that's a wonderful question. So me tell you, this is a little side note on what we have in this particular course. So Oticon this spring has recently launched Oticon Remote Care, which is our version of telehealth, if you will, through the Genie 2 fitting software. If you would like to know more about that, please don't hesitate to reach out to your account manager. They would be happy to walk you through a demonstration, or you can also go to our website, oticon.com, to see a video, but this is an essence a very secure and remote way of connecting with your patients for, again, a remote care or telehealth-type of appointment, and when you connect to those hearing instruments, you'll be able to go to this same screen in the software remotely and see what their overall battery health is, so that would be a way to do that through remote care.

You bet, no problem. You're very welcome. So when it's time to actually replace that battery, there is a replacement section down here that, in this latest version of Genie 2 2020.1, that's our current version of Genie 2 fitting software, there are a couple more boxes in there to be able to include more information on the serial numbers for those batteries. So when you go into this particular section of the software, you'll simply indicate whether you are replacing the right or the left or both batteries, including the serial numbers for those batteries in the database, and then clicking that reset button. It's a little tricky. You can't quite see it. It's grayed out here, but this Reset Battery, you wanna make sure you click on that. So then that way, right away the hearing instruments, the software, the batteries, everybody's on the same page at the same time. We've all gotten our update. So that's another great solution, if you will, to being able to have that flexibility with your patients that are selecting a lithium ion solution from Oticon, and we're gonna do one more little quick video. I just wanna show you how easy it is to actually go ahead and do that battery replacement. Again, I'll probably

talk over the video a little bit here to give you more details on this. So as I mentioned, same warranty for the batteries and the charger base as the hearing instruments, so for three years, and for those of you maybe who have been for Oticon for a while and you've been anxiously awaiting the time that you can order spare lithium ion batteries to have in-office for troubleshooting, that time is nearly here. That's right. Starting this coming Monday, June 8th, we will be able to start sending those out. Again though, do remember there is a shelf life, so it's not something you wanna stock a whole bunch of in the office, but maybe having a couple on hand as needed just in case for troubleshooting. You can now ask your provider, or your provider, I'm sorry, your account manager for that type of service. Sorry, I thought I just saw another question and it went away so quickly. I apologize. Couple of other important points when it comes to the lithium ion batteries: About how long is the shelf life? That's a wonderful question. So about... Don't quote me on this. I wanna look it up. Let me look that up for you. I don't wanna fib. I wanna say it's one year, but while we're doing this, I'm gonna send out a quick little note. There we go. I wanna say it's one year, but stand by one. I will let you know for sure in just one second.

There we go, I just sent off a little questionnaire. Isn't it nice technology? My goodness. Who knew that one day we could connect around the world like this? I could send off a little something or other and, boom, we'll have an answer. I'm showing my age. Can you tell? So, important to remember that with lithium ion, if ever you're sending those devices to Oticon, maybe for a clean-and-check or repair or something of that nature, maybe you wanna switch out the color, who knows, it is very important to have that lithium ion battery enclosed in the device and to make sure that, and I'll show you in just a moment, you'll have a label that you put on the package so we can make sure that our carrier services are aware that there is lithium ion in that package. Whenever you do change a battery, it's important to check with your local recycling center to determine what is the best way to dispose of and/or recycle that particular cell. But again, this gives you an image or an idea as to those stickers I just talked about for

sending out any sort of lithium ion rechargeable hearing instrument to Oticon. It is important to put that on your package. If you don't have these, don't worry. Reach out to us, call customer service, whomever. Have no fear. We have stickers galore. We'll happily send you more. That rhymed. Who knew? In terms of fitting range, I talked about this earlier on as well that truly you can fit with each of these different styles. You have a plethora of options in not only speaker strengths, but with that Plus Power BTE, a huge fitting range where you can go anywhere from mild up to that, to severe-to-profound hearing loss. Remember that with our RITE products, you have the choice of either a 60, an 85, or a 105 speaker. Oh, I apologize, I apologize. 60, 85, 100, 105. I got ahead of myself. Got ahead of myself there. Certainly, all of our domes, our Grip Tips, molds, you name it, if you've worked with Opn, they're all the same with Opn S and with Opn Play. Nothing has changed there, and keep in mind you have a wide variety of options with these couplings as well. So you'd have an option in terms of not only going with the run-of-the-mill power receiver mold if you wanted to for a power receiver, but take a look at your order forms.

There are a lot of different variations depending on what type of retention you might be looking for and venting as well, so don't let this basic slide show you. There's a lot more than what meets the eye right here. And of course, the same thing is true with our Corda, a.k.a. slim-tube options. Believe it or not, yes, you can put a Corda on the Plus Power BTE. Not very many people would necessarily choose to do that. However, you can. There is that option. Come along, little fella. There we go. And here are our good friends, our seven neutral colors to choose from. The nice thing is if you happen to fit pediatrics, guess what? You have a lot of fun colors, but these are our colors for adult fittings, if you will, or Opn S. And then of course, know that you still have all those fantastic accessories and apps to work with all of the devices on Velox S. So whether your patient's looking for a TV streamer that transmits the audio from a television directly into their hearing instruments or they want a ConnectClip, that's not just a Bluetooth streaming device, but it's also a remote microphone all by itself and a regular

remote control. Maybe they want just a plain, regular remote control. We have that as well, so the options truly are vast when it comes to what type of connectivity needs does your patient have, what are their listening demands, and what can we do to help facilitate that. So thinking about how Opn S compares overall to Opn, we did an internal study with 24 participants. You can see we had a variety of different types of device users and power requirements. Our average age was 73 1/2, mind you, not 73, not 74, 73 1/2, and certainly these were all people that were experienced users with Opn trying out Opn S, and what was outstanding to see is that 96% of those patients preferred Opn S over Opn, and it had everything to do with sound quality and speech understanding. Again, we circle back to that OpenSound Optimizer, that benefit of six dB more stable gain, more opportunity for optimal gain regardless of the environment. No wonder that those were the top two categories. More speech understanding, better sound quality, and that's because we're able to give them even more than ever before. So if we think about all of the components involved in why there is this strong preference, remember that it's not just OpenSound Optimizer.

It's the entire feature set or all of the systems working together on this incredibly powerful and very fast platform of Velox S. OpenSound Optimizer has helped us to take this legacy of BrainHearing core technologies to a whole new level, and as you saw, the proof is in the pudding. 96% of our previous Opn wearers much prefer that Opn S. So programming in Genie 2, if you're interested in learning more about programming in Genie 2, please feel free to take a look at the schedule on Audiology Online, and we have a number of Navigating Genie Software sessions coming up soon. Also, If you're looking for new information in general, this spring, I mentioned the remote care. Well, we also launched Ruby. That's our new essential hearing instrument level. So feel free to peruse Audiology Online for more information, but just to sum up what we've covered today, remember that Velox S truly is one of the most powerful, the fastest platform, not only that Oticon has ever been able to present to all of you, but certainly it has been a leader in the marketplace in terms of innovation. That

OpenSound Optimizer with six dB more stable gain is all about thinking outside of that conventional box again and bringing the best speech understanding in any environment we possibly can to our patients with optimal gain. Certainly being able to provide patients with that new boost, if you will, of support with OpenSound Booster in the Oticon ON app has been a game-changer for patient empowerment, and when we think about, again, that next level of BrainHearing benefits, I'll drop another plug there, keep an eye out for new EEG clinical evidence in regards to OpenSound Navigator and its benefits in Opn S. This is just the tip of the iceberg, and by all means, we all know what a huge draw it is to have that miniRITE R, and it's a very solid, flexible solution for everybody involved. So that brings us to our Q&A portion. I appreciate that you guys have been able to just throw out a couple questions as we've gone along there. Frankly, I'm a ask-as-you-go kind of a gal anyway.

So any other questions out there while I take a quick peek and see if I can maybe rustle up the answer to the question on the shelf life for the lithium ion batteries? Ha-ha! By gum, I remembered, mark this day down, I didn't have a complete brain vacation. It is one year. Hallelujah, right? Oh, it turns out not having enough caffeine, I still can remember stuff. Mark this day down. Any other questions out there? And I'm not rushing anybody who's typing. This is just me not being able to be quiet. Question: Can the battery be marked if it is not charged long? I apologize, I'm not sure if I know what that means. Can the battery be marked if it is not charged long? I might need a little more context as to what you mean by marked. Kind of like a cellphone. Bear with me, everybody, 'cause I know just enough about lithium ion to get us in trouble. Isn't that exciting? So I think maybe what you're asking is, if it's not really had much of a charge and it's sitting on the shelf, can it last longer potentially? Is that what you're asking? Forgive me. Oh, where it no longer holds a full charge. Okay, so can the battery, got it. So will its overall health be depleted if it's not charged long enough, that kind of a thing. Gotcha, gotcha, gotcha, okay. Actually no, it's just fine. In fact, circling back to lithium ion just a little bit here, if it's not being charged on a regular basis, so

it's just sitting on a shelf, then that's when it, it has its best-used-by date. It's gonna deplete over time because it's not getting charged. However, if it's in a hearing instrument, certainly it's gonna be getting its charge. Whether it's a 30-minute or a three-hour, it's going to continue to receive life, if you will. So it's gonna be just fine. It'll be just fine. But something else to keep in mind is if you had a patient that maybe they had an ear infection or something and they're not gonna be wearing one or both devices for a while, they're more than welcome to keep the devices in that charger for more than three hours. That's absolutely fine. That's not gonna hurt anything. However, if it's gonna get to about 14 days, believe it or not, that 14-day mark is kind of a danger zone. If it's gonna be an extended period of time, it's best to advise them to take the hearing aids out of the charger, press and hold the bottom part of the rocker button to turn the hearing aids off, and store them in their regular case. Here's another fun fact: When you press and hold and turn them off after they've been fully charged, they will keep that full charge for six months.

So if you did have a set of hearing instruments on-shelf and they got a full charge, you power 'em off, they're gonna hold that charge for six months, so it has a solid life. It truly is a very solid solution. And as I'm mentioning that... Oh, no, no. Please don't apologize for my not understanding. Again, I know just enough to get us in trouble. But again, that bottom part of the rocker bottom is also your on/off switch, so you press and hold, light turns red, they're off, press and hold, the light turns green. Shocking, that means they're on, right? You'll have to forgive my silliness. It's a Friday afternoon. Any other questions out there? These are excellent questions, by the way, and thank you for teaching me some new lingo. Look at that. Now I know something new. I wonder if get a CEU for that for learning. No, I'm teasing. Any other questions out there? Well, I cannot thank you all enough for taking time to join me today. Thank you very much, Melissa, for all of your help and hosting skills today. My goodness, it was wonderful, and by all means, if you have any further questions after today's course, don't hesitate to reach out to your account manager or any of us on the inside with

regional audiology, customer service, inside sales. If you would like to get in touch with me, just to reiterate, my email address is A, B as in boy, O, H as in Henry, at oticon.com. Please don't hesitate to reach out to me with questions either. So again, thank you very, very much for your time. I hope you're all doing well, staying safe and healthy, and my goodness, it's Friday! Have a wonderful day and a fabulous weekend, everybody.

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