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Introduction to Marvel CI Solutions

Presenter: Olivia Piper, AuD

Music

Music

Hi everyone. Thanks so much for joining us today. I'm excited to kick off our Virtual Introductory Workshop webinar series where you will learn about Advanced Bionics products and services. My name is Katie Vaden. I work in education and training at Advanced Bionics and we're pleased to be able to share this virtual introductory workshop series with you today.

So today's topic we'll get started is all about our current processor solutions and as a reminder, you can download resource documents that support today's training right from Audiology online. So there's a handout where you can take notes, there's slide content and clinical resources that can support your learning.

These are the risk and benefits associated with today's course.

The learning outcomes for today's webinar include the following after this course you should be able to identify the benefits of cochlear implant technology from Advanced Bionics. We would expect that you'll be able to describe three benefits of our current AB sound processor and that you'll be able to share one resource that can be used clinically in the management of patients with AB technology.

Here are the disclosures for the speakers today and we'll review the specific instructors in just a moment.

Now, as with every training opportunity at Advanced Bionics, your feedback is very important to us. We would love to have your feedback after today's session as well. If you're able to, please go ahead and use your phone to access the QR code or you can use the web link to access a short survey. It will take

under a minute to complete and after today's training session is open over, but you can go ahead and open that survey so that it's ready and available for you after today's webinar.

As I mentioned, we're really excited to bring you this information about our current products and solutions. This is a virtual introductory workshop series and so you will get information across six weeks of learning. So each week you'll learn more about AB technology and how this technology can benefit your patients. Here you can see the course topics for each week. Hopefully if you needed that information, some of you have already accessed the pre learning which includes an introduction to ab, Introduction to Cochlear Implants, and Cochlear Implant Candidacy.

And then for the next six weeks we'll continue diving into AV technology, starting with our Sound processor solutions and moving through our link two Ear Solutions, Connectivity, Front End Processing, Sound Processing, programming topics, objective measures like NRI and then Remote programming as well. So we have all of these weeks planned out for you and are really happy that you'll be joining us for this web series.

We chose to offer this training experience live so that you would have the opportunity to ask your questions real time in the Q and A, receive answers during the session, learn from other attendees questions, and also to participate in the training via chat and polls. So we hope that all of these participation and the opportunity to engage with the content will increase your learning experience.

Before we dive into today's topic, I want to take the opportunity to review some of the important information that was covered in the pre learning. So again, if you haven't had the opportunity to review those courses yet, they're available through audiology online through the course link that was previously shared. So you may know this information from the pre learning or you may be already familiar with cochlear implant candidacy. So feel free to participate in today's poll by selecting the best answer. And here's your poll.

What is the guideline that is a screening tool to determine if an adult patient should be referred for a cochlear implant? Is it the 5060 guideline, the 6060 guideline, the 6070 guideline, or the 7070 guideline? I'll give you just a moment to select the best answer.

All right, I see some answers coming in already and yes, it looks like you are correct. Most of you are selecting the 6060 guideline and you are right. And as a reminder, Terry Zwoland and her colleagues proposed that the 6060 guideline is used as a screening tool for adult patients in North America who are referred for a cochlear implant evaluation. This means that they're scoring less than or equal to 60% correct on an unaided monosyllabic word test and they're demonstrating a preoperative pure tone average in the better ear that is greater or equal to 60 decibels. So this is really used as an example of a referral criteria for adult patients with bilateral hearing loss, and it's been adopted by most centers throughout North America.

Remember that even if a patient is evaluated for a cochlear implant and is not a candidate, it's still a good opportunity to explore amplification options and hearing technology options to improve that patient's hearing performance. So it never hurts to use this as a referral criteria. There's lots of research that shows that's a good criteria to support adult cochlear implant candidacy.

And here's your next poll question. So this is a review of the pediatric CI referral guidelines. And here's your poll. A child should be referred to a cochlear implant evaluation if they're making limited progress in developing speech and language skills. A without hearing aids B with poorly fit hearing aids or with appropriately fit hearing aids.

Go ahead and select the best answer.

Yep, this one was easy. You're choosing C with appropriately fit hearing aids and that is definitely the right response. So with appropriately fit amplification and habilitation services, children should make month over month progress as they are developing their speech and language skills. So you should consider referring a child for a cochlear implant evaluation if they are not making that month over month progress and instead they're making limited progress with appropriately fit hearing aids.

Now let's talk about how we'll spend the remaining time together today. Today we're honored to hear from the following presenters as we talk about Advanced Bionics and Marvel CI Solutions. We are honored to have our guest, Olivia Piper from Yale University School of Medicine. Olivia is here to share her clinical experience with this product. We also have Lori Hambrick, my colleague in education and training here at Advanced Bionics, joining us today as well.

Throughout today's webinar, you'll have the opportunity to engage with us in several ways. Sometimes you'll have the option to engage with us via live polling as you've just done. Other times you may want to answer a question. Feel free to type answers into the Q and A section here on Zoom. And again, if we have as we have time today, we'll do our best to answer any questions that you type in.

So feel free to type in questions and answers into the Q and A section.

And with those announcements we'll get started with today's training. I'll turn it over to Olivia.

You hi, I'm Olivia Piper. I'm an audiologist with Yale Hearing and Balance center in New Haven, Connecticut. I have been working with cochlear implants for five years in a primarily adult setting. I'm here today to provide a high level introduction of Marvel CI. I'd like to start with a question for the audiologist in the call.

If you were a recipient of an AB processor, what would you want to know on activation day? And I'll allow some time to answer.

Great. Okay, so great answers. We are going to cover a lot of these topics in today's webinar.

We'll start here with a poll. So think about cochlear implant candidates and their families and think about device counseling and selection. How important do you think the audiologist's opinion is when a patient selects a cochlear implant. Cochlear Implant Co. I'll give you a few seconds to answer.

Okay, thank you all for your answers. Let's talk about why I asked that question.

So, independent research from Vanderbilt University has shown that audiologist recommendations really do affect patient choices. And one of the primary factors in choosing a cochlear implant is technology. Not just how patient's processor might be compatible with a hearing aid, but also how Bluetooth and FM devices might be integrated into the processor as well. So it's important as audiologists to attend workshops like you are today so that you have enhanced education and can therefore counsel and educate your patients appropriately, which helps them then have confidence in their decision and ultimately will help with device retention down the line. During this workshop, we're going to discuss an overview of AB's technology, especially related to Marvel CI.

And we'll go over the different benefits and features of Marvel CI so that you can help your patients best decide what technology ultimately works for them.

By the end of this session, you will be able to describe the primary components of Marvel CI. You'll be able to explain at least two key features and two benefits of Marvel CI. And you'll be able to recommend accessories appropriately based on your patient's needs.

There are four main components to Marvel CI. We have the processor itself, which is number one. We have the detachable M battery, which is rechargeable. We have the T mic which is connected to the ear hook there, and of course the slim headpiece, which is all integrated into one piece. We're going to go over each of these components.

So there are two microphones on the processor itself. This allows for directionality as well as the T mic there. So those work together to provide enhanced listening environment detection. And you can see that those inlet microphones there on the processor help reduce both wind and hair noise. What's also nice about the inlet microphones on the processor is that no microphone covers are needed, so patients and providers do not need to change microphone covers.

The T Mic is actually exclusive to advanced bionics. It hangs off the ear hook sort of in front of the pinna here. And it takes advantage of the ear's natural shape to focus sound towards the microphone. This strategic placement utilizes the outer ear's natural sound gathering capabilities to improve hearing and noise. One thing to mention is the T Mic has an additional mic saver component which does keep it safe from things like dirt, dust and debris.

The T Mic is available in a number of sizes to best fit your patient's ears. Sometimes when I'm showing patients the different devices, they ask about the T mic and the way that I explain it to them is I say it's kind of like ear level hearing. What we're doing is putting a microphone where your ear naturally gathers sound and hopefully there we can attempt to mimic natural hearing a little bit better.

Marvel CI processor also has a multi function button. If you're at all familiar with Phonak hearing aids, this should look really familiar to you. It's able to be programmed to control multiple different commands. So you can use the manual control to do volume changes, program changes, you, you can adjust the streaming signal and move through progressive levels. One thing to note here is if you press the top or the bottom of the toggle, you will actually toggle the programs forward in a cycle.

So it doesn't matter. Patients are kind of confused about it, which happens sometimes. Doesn't matter which button they press, the programs will move forward in time. Another feature of Marvel CI hardware are the Slim HP or Slim headpieces, which are super thin and streamlined devices with an integrated cable that connect to the process. These are available with and without an integrated microphone, which we'll touch on a little bit later in the presentation.

They're also interchangeable with standard or 3D magnets which we will review. One thing to note is these are backwards compatible with multiple internal devices.

There are a couple of components to the Slim headpieces, so one is the magnet. Well, and just like it sounds, this is where the magnet will attach to the headpiece. On top of that goes the color cap and that actually holds everything in place. The Slim HP is available with and without integrated microphones and there are also varying lengths of the processor cable connector, which again we will review later on in this presentation. Marvel CI offers a number of battery options.

As you can see, they have a wonderful portfolio here which helps us determine how we can best fit our patients needs in terms of balancing both comfort and wearability, but also with battery life.

Thanks for sharing that information. Dr. Piper, I wanted to ask, what do you normally ask your patients to help determine what battery size or what battery type would be best for them? Oh yeah, that's a great question. So the number one thing that I'm going to ask about is how long they plan to wear their processor at work or out when they're not at home. When they're at home, if a battery dies, it's really easy to replace it with another rechargeable battery.

But if they're out somewhere for long periods of time and don't have access access to their rechargeable batteries, it's important to know how long that time period is so that I can suggest going

with, let's say the large battery, which has about greater than or equal to 23 hours of battery life. Or maybe they're okay with a small battery, which has about nine, nine hours of battery life. Another thing that I like to consider is have they previously worn hearing aids? And if so, what was the comfort and fit like there? Some patients might say, oh, at first I had a bigger hearing aid.

It was super uncomfortable. It was very heavy on my and I didn't like it. I had to switch to something smaller. That's an indication that they might be a better fit for a small battery instead of a large one. So it's good to draw from their past experience as well.

Another thing to note in this battery portfolio is some are curved, which can be really great for fitting behind the ear, and some are straight, which patients might also prefer. Those are all really great things to consider. Thanks for sharing that, and please continue with the presentation. Absolutely.

So I find that the battery charger is really intuitive for patients and professionals alike. The batteries fit right onto the charger. Very easy grip, easy to use. And when they're charging, the LED lights in front of the batteries light up blue. When they're fully charged, they're green.

And then if there's any sort of error, it turns red.

I mentioned this briefly before, but Marvel CI is compatible with all internal devices. Since 2001, There's a number of color options for Marvel CI or Naida cim. And usually when I'm helping patients determine which color might be the best for them, I'm counseling them to try to match their hair color. Hair is multi, multi toned, sort of shiny. And so these colors really lend themselves to blending in with hair.

If that's something that the patient is concerned about, if they're not too concerned about being discreet and they're kind of unsure. I think black looks really nice. It kind of just has like that tech look to it that looks really good. But of course, these colors are also available for Sky Cim, which is AB's pediatric

cochlear implant. So the SCCIM was actually designed with kids in mind.

And what I mean when I say that is children are not just tiny adults. They have different listening needs, especially as they develop. And so with the Naida, or I'm sorry, with the sky cim. It was the world's first sound processor designed specifically for children. In mind, it offers exceptional hearing performance, which is built for children's evolving needs.

And of course, these come in very fun colors. So these color options were designed to help children get excited about picking out and wearing their processor. So you can see that the Sky CI M is available in five additional colors. This can get kids really excited. Let's say maybe they want to have red because they're really into fire trucks, or blue because they love the ocean.

They want to look like a mermaid. So it allows them to really jump in and take a picture. More active role in wearing their sound processor. Dr. Piper, at AB, we receive a lot of questions about the sound processors with the fun colors. One common question is, what do I do if an adult wants a bright color for their processor?

So what do you do? That's a really good question. And patients of mine have asked for fun colors multiple times. And I am very pleased to say that AB is able to provide adult patients with Sky CIM colors as well. So I've had.

I can think of one patient in particular who her primary processor is in Precious pink and her backup is in majesty purple. And she feels very serious about this. She loved the fun colors, which I think drew her to ab. And she also has the contralateral Naida Link M hearing aid in Majesty purple as well. And she describes it as feeling very royal when she wears it.

I love it. Thanks for sharing. Absolutely. So we AB also offers a number of retention options for flexibility as children are growing. The M Snuggie is a favorite of mine.

This is sort of like a soft silicone loop that connects, has connections around the processor and then around the ear as well, and really helps it to stay in place on the ear. So if kids are in gymnastics and tumbling around, you know, you're not going to lose their processor. A great option is also the M retention cuff, which is a plastic cuff that snaps onto the processor and then there's a piece that comes underneath that can actually be molded to go under the pinna. So it's kind of like a pipe cleaner. You can mold it in that shape and that really helps it stay on patient's ears as well.

And then of course, we have the M wearing clip, which allows the processor to be worn off ear. And actually I have a number of adult patients that use all of these retention accessories. So for example, I have a patient who is a yoga instructor and she likes to wear her retention cuff when she's teaching yoga because she often is in downward dog. She doesn't want her processor falling off her head. So that's a great option.

Another example of an adult using one of these retention options is I actually have a patient who's a nun, and she wears a habit, so her microphones can't be under her habit or else she's not going to hear super well. So she actually uses the M wearing clip on the outside of her clothes with the long cable. So that way she's hearing speech from the processor microphones, and that's being sent up the cable to her headpiece. You can get really creative to improve wearability with these options.

Okay, so we've reviewed the hardware of Marvel CI, but I think it's really important that we get into some of the features and benefits of Marvel CI beyond just the hardware. So one huge benefit that's new actually was introduced with Marvel CI is Autosense OS. So Autosense OS uses artificial intelligence to analyze and classify acoustic environments. And this way, patients aren't constantly making manual adjustments to their hearing or to their cochlear implant processor. Instead, Autosense

is accurately identifying listening environments to try to provide a more natural listening experience.

Whenever I'm trying to talk to patients about what autosense really means, I have to use examples. I'm just an example person. I find that it actually works really well for patients. So what I'll say to them is, let's imagine that you're on a quiet street. When you are on the street, you want to know if people are walking up behind you, if cars are coming in any direction.

And you want to be generally aware of your surroundings for safety reasons. So your processor is acting in that way. But if you then turn and you go into a really crowded restaurant, you don't want your processor processing sound that Music way. Instead, your desired signal is no longer cars coming or people walking. It's speech and hearing people talk.

You want your processor then to analyze and classify that acoustic scene as something else. That way you have adequate access to speech understanding, but you're not listening to dishes clinking and chefs talking and things cooking in the background. So Auto OS basically makes a streamlined approach where you don't need to adjust your processor constantly. We have faith and knowledge that it's doing it on its own. For those of you who are on the call with us today, you actually might be familiar with AutoSense from fitting Phonak hearing aids.

So if you are familiar with Autosense, go ahead and type yes in the chat.

Thank You. Yeah, it looks like many of you are familiar with fitting auto or using AutoSense from fitting Phonak hearing aids. So you're already familiar that this is a powerful scene classifier that helps our patients hear better in all the different sound environments that they will encounter. AutoSense actually uses multiple features and has created over 200 distinct settings to help better match the recipient sound environment.

Similarly, we have AutoSense Sky 3.0, which is an operating system that is uniquely designed for children's typical listening situations. So it adjusts and optimizes the child's sound processor automatically wherever they go. One thing I want to point out here is this takes a lot of burden off of a parent or a caregiver. They don't need to worry about getting into the app and making adjustments. They know that their child's sound processor is already optimized for all the different environments that children find themselves in.

The Marvel CI portfolio has a lot to offer in terms of sound processors for both pediatric and adult population, but also in terms of wireless connectivity as well. And we owe a lot of that to the partnership between Advanced Bionics and Phonak. Patients with Advanced Bionic sound processors are able to use compatible Phonak devices like the Roger on the Roger Clip on mic. They're also able to use wireless Phonak accessories like the Phonak remote control or Phonak TV connector. So you have a lot of options because of the partnership between these two companies.

We're going to talk more about some of the features that are included with Marvel CI. We just discussed AutoSense OS or automatic program management. And we also reviewed the dedicated pediatric solution, the sky cim. Now we're going to review things like the world's first waterproof battery option, wireless connectivity with Roger Direct, and integrated Bluetooth Classic. One feature I do want to mention while we're on this slide is the comfortable and discreet shape of the processor.

That curved design allows the processor to sit comfortably behind the pinna, which can improve retention over time with the device. We'll talk now about this waterproof solution. So AB provides the M waterproof battery, which is an off the ear battery pack that actually has its own battery life to it. And as we can see in this example here, this kiddo has it wrapped around his arm and that wearable arm cuff with a long cable that goes up to his headpiece. So the two waterproof solutions that we're discussing here are the waterproof battery and the slim HP Aquamic.

And this allows patients to hear even in dirty or wet environments. The benefit of having a waterproof headpiece is patients can splash around in the pool or in the ocean with their friends and family. And they don't need to sacrifice hearing well or participating in fun because their device could get broken. Instead, they're actually able to protect it and then participate in all the outdoor fun that they want. So the waterproof battery is available for recipients of the Naida CIM and Sky CIM sound processors.

It provides an off the ear wearing option that's both waterproof and again has that built in rechargeable battery. One thing to note is when you're programming a patient, you know that they're going to use this, this feature here. You do have to program an off ear compatible program and that's because the microphones are actually on the headpiece instead of using the processor microphones. Another great option for the waterproof battery is actually it doesn't conflict with other on ear medical devices like glasses, masks, or oxygen. So this is waterproof with an IP rating of 68, which means that it can be submerged up beyond 1 meter for over 30 minutes.

So I'd like you to put in the chat box here what are some environments that would be appropriate for the M waterproof battery. And so for those of you who are on the call, please type your responses into the chat.

Excellent seeing some good answers come through here. Yeah. Okay, so there's a number of options when the waterproof battery could be used. One is for all day use in small pediatric patients. They can actually use the processor off the ear.

Another option is for patients that are active with swimming, snorkeling, skiing, or other outdoor adventures. They know that their processor is safe, it's tucked away, and that it's also protected from things like dust and debris. I also think that this works really well for patients who may work on a farm or a construction site, or even pediatric patients who are playing on the playground. This is a way to

ensure that debris and moisture aren't going to harm the processor or going to reduce hearing ability. When I'm working with patients for device selection, I like to ask about their hobbies.

And sometimes I'll specifically say, any outdoor hobbies, because if we're in winter, maybe they're thinking of all the indoor things they like to do. But I want to know in the summer, are you in the pool, the ocean, Are you taking your kids to the playground? Are you in any environments where there might be airborne dust or debris? And this is a great way to determine if the M waterproof battery is something that your patients may need.

Another great thing about using this battery is it allows patients to actually stream audio directly into Marvel CI so they can stream audio from a Bluetooth enabled device, Roger microphones, Roger Partner or Phonak Partner mic, or even a Phonak TV connector. And you might be wondering if patients are doing things. They're biking, they're swimming, they're in dust, why might they want to stream directly to their processor? There's a number of reasons. You know, maybe they're working and they want to listen to their favorite song.

But a really great application, I think of a kid in like a swimming lesson, they need to be able to hear their instructor well, but if they have a hearing loss, they might need some assistance. And so if a kiddo is taking swimming lessons, the instructor can talk directly into a Roger microphone, which will then send their voice directly to that child's processor. So we can kind of overcome a poor signal to noise ratio and they can hear better during their swimming lesson.

There are a number of wireless connectivity options. So Advanced Bionics has a great remote app which allows for easy and discreet control of the sound processor. Patients can also use this app to participate in programming appointments from the comfort of their own home. So remote programming is an option. And then it does track hearing progress over time so patients can more actively participate in their journey that way.

There's also built in connectivity for all types of wireless devices. One great benefit there is hands free calling, which kind of everybody is doing now with wireless AirPods and earphones and that sort of thing. And, and patients with hearing loss can participate as well. Because we have hands free calling, we can also enable direct streaming without the need for an intermediate device, which is great because these patients are pretty much tired of devices at this point. So how many of your patients do you think would benefit from a simple streaming solution?

I'll allow some time for a response in the chat.

Yeah, probably a lot, if not most. We are all interacting with technology in the world around us in ways that we don't even think about anymore. It's just so integrated into our lives. When I'm counseling patients on which device to go with, I'm always talking about technology. I want to know, how do you listen to media that you enjoy?

Are you listening to music on Spotify? Are you listening to audiobooks on Audible? You talking on the phone a lot? We also often interact with applications like Zoom. Are you taking virtual work meetings?

Do you go to church virtually? How do you hear when sound is coming from the laptop. Are you hearing well? Would you prefer for it to go right into your hearing device? And so it's great that we have with the Marvel CI access to classic Bluetooth so that patients can connect to a variety of devices.

So just like I mentioned before, Marvel CI is able to connect to a number of wireless devices. Wireless programming via the NOAA link wireless has been wonderful. We also have compatibility with Phonak accessories with Roger technology. And again, that classic Bluetooth allows patients to connect with phones, tablets, laptops, and more.

So recipients with Marvel CI have access to fully integrated streaming technology for music media, phone calls, and television so that they can hear much better. For example, if they take a zoom meeting, they can hear a lot better than they did before they were implanted presented. We're going to play a little matching game here. So we're going to go through some of the features and benefits of Marvel CI and describe how we might use them to counsel our patients. So here we have a number of patients and we're going to go through each name and I want you to type in the chat.

Which feature best matches this hypothetical patient's needs? So down here at the bottom, we have a number of features. On the left, we have in battery, and then we have AutoSense OS, Bluetooth streaming, the M waterproof battery, and the Sky M wearing option. We'll start with our first patient here. So Debbie is a business manager who's responsible for a team of four at work.

She has regular meetings on the phone and frequent conference calls. She struggles to hear well in this environment. Which Marvel CI feature would you highlight to help Debbie in this situation? And I'll allow some time to answer. Good.

Seeing some good answers come through.

Excellent. Yeah. So Debbie would probably benefit a lot from that direct Bluetooth streaming. Beautiful. Now we have Angie.

Angie is a parent of a child with a profound hearing loss, and her child is a candidate for a cochlear implant. Angie wants to choose a device that is pediatric friendly and will grow with her child. Child. So which feature would you highlight to help Angie feel confident with managing care of a cochlear implant from the baby phase all the way to early school years. I think you guys got it here.

Yep. So Sky M wearing options are great. We talked about that. Snuggie. The retention cuff and the off ear clip.

Those would all be great options for Angie and her child. Now we have Paul. Paul is a new cochlear implant candidate. He is a triathlete and wants a Device that can stand up to his athletic training routine, which sounds exhausting, but I commend you, Paul. What feature would you highlight to give Paul assurance?

Good. Yeah, that M waterproof battery. I'm seeing a lot of those responses. That would be great because he's going to be in water, he's going to be sweating, biking, running. That's going to provide him with the ability to wear his device, but keep it safe and hear everything that he needs to hear during his training and his races.

Next, we have Catherine. Catherine is a new cochlear implant candidate. She is a second grade teacher who is in many different environments throughout the day. Which feature would you highlight to give Catherine confidence that she will be able to hear well throughout her day?

Okay, good options. Yeah. So AutoSense OS would work really well for Catherine. Teachers are in such a variety of different sound environments. Classrooms can have poor acoustics.

Cafeterias never have great acoustics. In my experience, she might be out on the playground. She might be one on one with peers or colleagues. So it's important that she has something where she can kind of set it and forget it. It's going to adjust based on the environment around her and help her hear better.

And then this one here we have Patrick, who is a retired teacher who enjoys spending time with his family. He is a candidate for a cochlear implant, but he's concerned because Patrick is on a fixed

income and he express concerns about paying for cochlear implant supplies because his hearing aid batteries were costly. Which feature would you highlight to give Patrick peace of mind about the CI and this one. Obviously, our last choice here is M batteries. So as we reviewed earlier, there are a number of battery options, and four of those five battery options are rechargeable.

So Patrick won't have to worry about buying hearing aid or buying cochlear implant batteries because his batteries will be recharging. Excellent. Good job, everybody. Okay, so now that we've reviewed the hardware of Marvel CI and its internal capabilities, let's take a few minutes to discuss some fitting and adjustments of the physical device. We'll review programming in Target CI software at another module.

Okay, so your clinic will be equipped with magnet kits which have both standard and 3D compatible magnets. They are numbered to indicate their strength. Strength. I want to note it is a great idea to regularly check the magnet strength on your patient's head. If they're.

If they're endorsing any pain at the magnet site or you notice any redness, that's a great indication that it's time to reduce the strength. So the Slim HP is compatible with both the standard and 3D magnets. Standard magnets are black, 3D magnets are blue. And they're rated on a scale of one, which is the weakest magnet to seven, which is the strongest magnet magnet. So all of them are labeled so that you can accurately see.

Now 3D magnets are labeled on the top with an arrow indicating the direction for alignment. So it'll fit right into that magnet well and it will actually tell you which way to orient the magnet as well.

This the color cap then goes on top of the magnet. So we have the small or standard color cap, which is compatible with magnetic magnets, standard magnets 1 through 5, and 3D magnets 1 through 4. For standard magnet sizes 6 and 7, you'll actually use a large color cap just because the magnet is a little bit taller. And then for 3D magnet sizes 5 through 7, you'll also use that large color cap. I do want to

draw attention that the standard or small color cap is available in all of the color options, but the large color cap is only available in those adults adult color choices there.

The large color cap is not recommended for children ages 3 or younger because this color cap and the slim HP magnet could become displaced if they're dropped.

Removing the color cap is really easy. That arrow there tells you where to align the removal tool. So it kind of reminds me of shucking an oyster where you'll of kind kind of get that tool into that inlet there and then go all around the perimeter of the headpiece and the color cap just easily pops right off.

Advanced Bionics has a number of YouTube videos that describes how to remove the color cap. So you can use it to review for yourself to refresh, or you can send it to patients so that they can access it as needed.

And we are going to share a link to that video in the chat.

All right. So for that slim headpiece, there are three options available. The first is the slim headpiece and this is designed for on ear use with the Naida CI it does not have an integrated microphone. The second option is the slim headpiece mic. So this is designed for off ear use early.

Pardon me. Earlier I mentioned that I had a patient who is a nun and needed to wear her processor off her ear and outside. So she had the slim HP mic because it's actually 30 centimeters, so it's pretty long. Patients can wear the processor clip to their shirt and then this will actually travel up to the Magnet site. One thing to note is the slim HP mic does come with an integrated microphone.

And then our third option for headpieces is the Aqua mic. And this is designed to work with the M waterproof battery. It is a waterproof mic so that patients can hear here.

There are also a number of ear hook options for Marvel CI. So there's the standard regular old ear hook, which has no microphones on it, and that comes in two sizes and is available with and without an ear mold retention grip. And then we have the M or Marvel T mic, which is available in three sizes. And it has a feature called T mic detect, which we'll go over on the next slide. Slide.

And then we have the M acoustic ear hook, which is available for both right and left ears and comes in five sizes. Now, this is indicated for patients who have residual hearing and they can take advantage of electroacoustic stimulation. This ear hook uses Phonak's SDS 4.0 and P receivers, and it's adapted for use with the Marvel CI. Now, I mentioned before this T mic detect. This is a really cool feature.

So the T mic detect ensure that recipients are able to hear their best even if the T mic is damaged or dirty. So the active mic for the processor continually compares microphone inputs between the T mic and the processor mics. And if something is wrong with the T mic, it will actually switch to the processor mics automatically. So we can ensure a patient's hearing isn't being affected. If you take the T mic off and put in a standard or acoustic stick ear hook, then it will switch to the processor mics.

Additionally, if the T mic senses that the hearing is less than optimal or that it's broken, then it will actually turn off and switch to the microphones on the processor. This is very cool as well. When the T mic changes back to the processor mics, it will actually apply something called real ear sounds, which mimics the sound of the T mic so that patients aren't losing benefit of the T micro mic.

AB also offers a remote app and this is a great way to determine if everything is functioning well. So this allows parents, patients, caregivers to conduct a device check. So information provided in this device check provides peace of mind. Because we know the battery is working well, we can view the status of the T mic. We can also conduct a microphone check.

So if you look here on the side, these blue bars, those tell us how well the microphones are receiving sound. And then there's also the ability to check and make sure that you're checking the right side. So if we look, there's green LEDs which blink to identify the selected sound processor. So if you have someone who's binaural, you can ensure that you're checking the correct device if you don't have access to the app. Because really the remote app is the best way to check to make sure that all the devices are working well.

But if you don't have access to that, there's also the M Listening check. This allows a listener to easily check all of the system's input sources for each program within the processor. So it's portable, it's easy to use. You can listen to the mics to make sure that they're working, and it can be connected to a keychain or a lanyard, so you can just kind of keep it on you. The listening check can be used with all battery sizes and types.

Let's review the processor LEDs. So similar to Phonak hearing aids, that LED light is there to indicate the status of the processor. It's green for when it's typically functioning. It's blue when streaming from Bluetooth, the LED is purple for progressive levels. And if the processor is in flight mode or the battery is low, it will turn orange and then it's red when it's locked or if there's an error.

So I find that this is also especially the red versus green, very intuitive for patients to use.

So we are going to review a couple of studies that have been conducted using Marvel CI with real world recipients, and these research studies help provide us the ability to understand how patients are performing with new technology. Let's review this first study, which was conducted in India with primarily pediatric patients who had been using their Marvel devices for a period of 2012 months. Researchers were interested in comparing performance between Marvel CI and previous devices, but they also wanted to evaluate wireless connectivity, device comfort and data logging accuracy. And actually what they found is that recipients not only rated their experience using the Marvel processor

higher than they did compared to their previous device, but their speech perception scores were highly improved as well. Well, additionally, patients were able to successfully pair both Bluetooth and Roger devices.

They found the devices comfortable and easy to use, and the data logging was deemed accurate.

Patients were asked on a scale of 1 much worse to 5, much better, to compare their Marvel CI with their baseline processor. And far and away patients found Marvel CI to be a much more superior experience on a number of factors from overall sound quality to speed in noise, even to animal and bird sounds.

In another study, which is looking More specifically, at pediatric performance, researchers examined 12 recipients between the ages of 7 and 16 to look at their outcomes with their sky processor compared to their previous processor. And specifically they looked at audiological measures, speech and language outcomes and recipient outcomes in the one year period following their Marvel UP upgrade. And there were significant improvements in audiological outcomes seen with the sky processor compared to their previous processor. So if we look on the graph here, the SCCY CI M90 is in blue and the previous device is represented by the color green. So if we look at their word REC scores and noise, they perform significantly better with the CI, the Sky CI M90 compared to their previous devices device.

And that was actually true of their own personal perception. So researchers use the SSQ or the Speech the Speech Spatial and Qualities of Hearing survey to determine if patients were happier with their sky processor compared to their previous. And they found that recipients rated their experience with the sky processor significantly higher compared to their previous devices. Ice, Thank you for reviewing the data about the pediatric experiences. Will you share some feedback that you have received from your adult patients about Marvel CI?

Oh, yeah. Yeah. So I've upgraded a number of patients to Marvel CI and I there's one word that comes to mind and it is crisp. Patients always say it sounds more crisp. The feedback I get is often that things

are clearer.

There's less background noise. Patients typically say, oh, there's less static with this one. So far and away, the. The subjective feedback has been extremely positive. Great.

And I feel like one of the big changes that I have heard patients talk about with Marvel CI is related to the integrated Bluetooth and how they can connect to any device. Are you hearing that kind of feedback from your patients as well? Yes, yes, for sure. I. I'm even thinking of a patient who has two iPads and a laptop and she's obsessed. She loves telling me about that.

I use this for this and then I switch over here and oh, I just love it. Yeah, patients absolutely love it. It's very easy and intuitive to use, especially since there's so many Bluetooth devices out there in the world. It's been awesome. Great.

Thanks for sharing. Yeah, absolutely. All right, so it's not just patients that benefit from new improvements to advanced Bionic CI. Provider experience with Target CI has been really positive as well. So 74 professionals were surveyed on their favorite features of Target CI and the top three were that they loved connecting to Noah Link Wireless.

And I can say this is my favorite feature as well. It makes it a lot easier to connect patients processors to the software through the NOAA link wireless rather than pulling out a bunch of cables. Probably getting tangled in those cables. I love that feature. Providers also really like using Target CI for bimodal fittings which yes, I can say that as well.

Being able to program both the hearing aid and the CI in the Music session is wonderful. You can mute one as you want, you can jump here, you can jump here. You don't need to get out of a, of a NOAA file and then back in. Just that seamless integration has been wonderful. And Music for the FITT workflow

that was another top three favorite of providers.

It's a really streamlined fitting workflow. Everything is super easy to find. So overall very positive experience with upgrade to Marvel CI.

Thank you Dr. Piper for covering such helpful information about Marvel CI. So we'd like to give you another opportunity to engage with us. So here is your poll. Which hearing solution features are important to offer CI candidates?

A CI solution that prioritize hearing from both ears. A CI solution that offers built in bluetooth and state of the art connectivity. A CI solution that allows patient to hear in water as well as out of the water or all of the above. I'll give you just a minute to get any responses.

Great. It looks like you're choosing all of the above and we would definitely agree. We want to offer CI solutions that give patients the best hearing that they can possibly achieve and their everyday environment regardless of what they're doing throughout the day day. So we do believe it's important to develop technology and services that help individuals with hearing loss achieve their full potential. You are our hearing partner and you're our partner in delivering this technology to the patients that's going to give them unmatched performance, exceptional sound clarity, adaptability and state of the art technology.

So here are just a handful of the solutions that Olivia covered with us today and that are important to advanced bionics. If you know anything about ab, you know how important two ear hearing solutions are to us. It's important that we offer solutions that can meet every individual's hearing needs. And with a B you can offer recipients bilateral CI solutions, bimodal CI solutions, even across solutions for individuals who can only have one implant. We want to give every candidate the opportunity to hear their best from both theaters.

Dr. Piper briefly mentioned the waterproof battery as a part of our CI solution and this is amazing resource for recipients. It allows them to maintain maintain the Music great hearing performance whether they're in the water or in a dirty or dusty environment. So that's also a good solution that's important to us as well. And last but not least, our patients probably favorite or the thing we hear most often from patients that they love about their CI solution is connectivity. So connectivity solutions and our accessories are important to us.

At Advanced Bionics we know that patients want to take advantage of streaming hands free phone calls and the marvels of Bluetooth technology that allows them to use their cochlear implant just as any of their typical hearing peers would use headphones or earbuds or any listening assistive technology. So AB sound processors offer all of those advantages of. Well, all right. In our future trainings you'll learn more about the full spectrum of hearing solutions from Advanced Bionics to address your patients needs.

And before we wrap up today, I just wanted to remind you that we love your feedback. If you didn't open it already, here's another opportunity to access the brief course evaluation that will take under a minute to complete. Complete just three simple questions. So if you would give us your feedback, we greatly appreciate it.

And I'd like to wrap up today by thanking Dr. Piper for her time and expertise. And to all of you, thank you for taking the time out of your clinic schedule to attend and learn more about advanced Biotics.

Thank you.