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Unpacking Your Philips Toolbox

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Hello and welcome to our course unpacking your Philips toolbox. Throughout this course, we will spend some time discussing not only the products and software that Philips has available to support your members, but also the various pieces that Philips has available to you, the HCP, to support your work with the member.

So before we get started with our course material today, let's go ahead and review our three main learner objectives. So first, you will be able to discuss the Philips product and technology available to members and how to differentiate each. You'll be able to list three software features that are designed to assist with follow up and fine tuning of the Philips HearLink devices, and you'll be able to demonstrate navigation of the SBO Philips portal.

Before we begin unpacking these various pieces, it is important to keep in mind that our discussions today are going to center around various aspects of the members hearing healthcare journey. And at Philips, our goal is to not only provide support via premium technology, but also to provide support throughout the entire member hearing healthcare journey. This includes the initial needs assessment continues through the first fitting, then to follow up and to member counseling and beyond. As we progress through this course, keep these stages in mind and consider how each of the various Philips tools might be used.

We are going to first begin with the Philips products and how they can support you and your members.

So the first product that we are going to discuss today is of course the Philips HearLink 9040.

The HearLink 9040 is offered in the four BTE styles and it is powered by sound map two with AI sound technology featuring sound Protect. The HearLink 9040 is available in the six color combinations to include the new beige beige color and that is available for all four BTE styles. It has various programming options such as notify me for voice alerts when the hearing instruments battery is low,

and enhanced, data logging with environments and connection count to gain insights to the members conversation activity and hearing progress. And of course, the HearLink 9040 is fully compatible with the HearLink two app, which is also compatible with the Apple Watch.

So first, let's take a deeper look at the HearLink 9040 mini T and Tr. This product has features such as an IP 68 rating, the led light indicator. It does have the dual push button features, a 312 lithium ion for the rechargeable style, and the 312 zinc air battery for the battery operated styles and it is compatible with our open base dome and our micro shell molds.

Now pictured here you see the fitting ranges for the various speakers that are available for the HearLink 9040 mini ride instruments. It is important to understand that the fitting range of each of the speakers is affected by various factors and these can include the member's audiogram, ear canal, acoustics, and even the acoustic option that you choose to fit the member with. So therefore, while there is no steadfast rule of how and when to fit each speaker, we do go by the general rule that the 60 speaker fits up to a 60 decibels loss, the 85 up to an 85 decibels loss, 100 up to a 100 decibels loss, and then of course the 105 up to a 105 decibels loss. Then for more in depth information on fitting ranges and speaker output, we do have the specification guides that are posted on the Costco Philips Intranet portal, which I would encourage you to look at as these do provide greater details about the full scope of technical data for these products.

Here you see picture of the HearLink 9040 mini Bte and mini Bte tr. The mini BTE style also does have that IP 68 rating, the led indicator. This has the single push button. It either has a size 13 encapsulated lithium ion battery or the size 312 zinc air battery. And then it uses either the fin tube or the ear hook option depending on how you want to fit the member.

And here are the fitting ranges of the 9040 mini BTE instruments for both earhook and thin tube options. The mini BTE and mini BTE R styles do fit up to moderately severe hearing losses if the

member is fit with a traditional tube and mold. And for those with mild to moderate hearing loss, a thin tube option with the customized earpiece is also available. And of course you can also use the mini fit domes with the thin tube as well. And once again, I'll emphasize that for more in depth information on fitting ranges, I do encourage you to view those spec guides that are posted on the portal.

Those do provide you those greater details about all the technical data for these products.

So in addition to the HearLink 9040 BTE style products, Philips does also offer your members a full line of HearLink 9030 custom products.

Pictured here is our full lineup of custom hearing instruments. You have the invisible in the canal or the IIC which is the least visible, and then you move to the completely in the canal which is slightly larger, the in the canal or the ITC. And then we do offer two in the ear variations, the half shell and full shell. As noted, 2.4 GHz for Bluetooth connectivity is available in the ITC and ITE custom sizes, and Philips does offer five color options as well. And each of these color options are available in any of the sizes, which allows you to better meet the needs and requests of your members.

So in addition to size and color, Philips does have numerous other configuration options available to match your members individual hearing loss and also their preferences for what additional features and options they might want on their device. As shown in this chart, there are various styles, speaker levels, battery sizes and connectivity options to choose from, so we will go into detail about each of the styles. But again, this chart is a nice overview just to quickly show you with reference to each each of the individual sizes, what the battery options are, fitting levels, availability of certain features and functionality.

So to begin with our kind of deeper dive into each of the individual styles. Let's first begin with the invisible in canal or IIC. And this is the most discreet custom solution. And since there is only one

automatic program, the member does not need to operate their hearing aids in any way and this makes it a very user friendly or member friendly option. The IIC does use a size ten battery, has the two speaker options 75 and 90 and therefore covers a wide range of hearing losses including up to a severe hearing loss.

The completely in-canal or CIC is still a discrete solution where perhaps an IIC might not be a good fit for the member for the ear canal. Maybe the member wants more functionality for the hearing instruments to suit their lifestyle or perhaps dexterity wise or size wise. It just is not a good fit for them. So the CIC brings an added bonus of NFMI providing binaural noise management which reduces amplification on the side with the highest level of noise in a binaural fitting and also binaural synchronization which now allows simultaneous adjustments for volume and program change between the ear. So now between the ears.

So now you can see we can add a push button to the CIC so you can put in multiple programs and that volume control and mute capability. Again, sticking with the size ten battery and staying with one microphone. And with the CIC and IIC, of course they do fit deeply into the ear canal. So the one microphone you are taking advantage of the natural pinna effect with reference to directionality. For these members, the in the canal or ITC is the most discreet style.

With all of our feature options available, it can be tailored to individual needs and preferences when it comes to functionality, features and connectivity. The ITC is also available with all three speaker sizes so 7591 hundred speaker levels. Therefore it fits a wider range of hearing losses. It has dual microphones allowing for sophisticated directional features which enhance performance and noise NFMI which enables that binaural communication between devices and then of course that 2.4 GHz Bluetooth technology which provides connectivity to external devices such as the tv adapter, RCA Philips audio clip and the HearLink two app for ease of use and the ability to perform remote fittings. So

you can see that the ITC is truly our first full featured device sticking with that 312 battery size, all three fitting levels and then you can see listed there all of the options available.

A couple things to note here with reference to placement of the the Bluetooth antenna that is done on the faceplate. So while sizing sometimes people think if they have a really big ear canal or if you get a deeper impression that might help with fitting that Bluetooth technology into an ITC device. It really does depend upon how much space is available on the faceplate. So keep that in mind when looking at the anatomy of your members ear to see if it is a potentially, you know, a possibility for that Bluetooth antenna or if they have a real pinched bottom area like antitragus area down at the bottom that tragal notch. Sometimes that Bluetooth antenna doesn't fit regardless of how big the ear canal is.

Another thing to keep in mind here that you can see is the 2.4 GHz connectivity and telecoil is not available in the same device. It is an either or option, so you must choose one or the other.

Next we have the in the ear half shell and full shell styles. These both have a size 312 battery as the only battery size option. Staying true to our focus on member comfort and feature packed custom devices, the use of a 312 battery is absolutely ideal when it comes to device modeling. Therefore, a size 13 battery is not an option for either the ITE half shell or full shell devices. So please keep that in mind.

The Ite also features the same options as the HearLink 9030 ITC. The ITE style is just optimal for users, perhaps with some more dexterity needs who do prioritize a hearing instrumenthouse that is a bit easier to handle given the larger size.

So now that we have reviewed all of our custom options and the availability of each, I want to stop and take a moment to review a few scenarios and the combinations available or not available within custom devices just to reinforce what we have learned. It is important to have a strong understanding of these

available combinations, not only when you order the devices, but also when you do counsel your members so that you can set realistic expectations from the very beginning regarding what is and isn't available for them. So I'm going to pose some combinations and then we're going to discuss together if they are or aren't possible.

So our first option is a custom HearLink 9030 ITC device. We're going to look at putting a 75 speaker with 2.4 GHz in NFMI directionality push button and a telecoil in this device. So one by one we'll go through and we'll note if these are or aren't possible. So the 75 speaker, yes, that is a possibility. Remember that ITC does have the 75 91 hundred speaker options available.

2.4 and NFMI. Absolutely, ITC is the smallest device that has those both available within it.

Directionality? Absolutely. ITC does have the two microphones on it.

Push button. Yes, the ITC device does provide the availability of a push button. And how about a telecoil? So there is one little caveat to this. We did already put the 2.4 GHz in NFMI in the ITC device.

Now if we would take those out then absolutely we could have the telecoil. But remember it is one or the the other.

Next is a custom HearLink 9030 ITE 100 speaker, size 13 battery, 2.4 GHz in NFMI with directionality, a push button and a volume control wheel. So first option 100 speaker, is it a possibility? Absolutely. ITE can do the 7591 hundred speaker speakers. Size 13 battery not an option.

Remember in our previous discussion, size 312 is the only battery option. 2.4 and NFMI. Yes, both of those are available. Directionality, absolutely. Two mics available on the ITE and push button and volume control wheel.

Absolutely both are available. Or either or. And again, just to reiterate, no size 13 battery option for custom devices. 312 is ideal when it comes to modeling and being able to fit as many features into a size device that is, you know, cosmetically appealing for your member.

Next is a custom yEarLink 9030 CICDA, 90 speaker, size ten battery, push button 2.4 NFMI and we have a member who has a very very big ear canal. So 90 speaker, is it a possibility? Absolutely, CIC has that 75 and 90 speaker available. Size ten battery. Yep, that is the size ten battery in that CIC.

Push button.

Yes we do have a push button available. CIC is the smallest device that we have the availability of a push button giving us the multiple programs VC and Mute 2.4 and NFMI. But the member has a big ear canal. No. Remember in our discussion we mentioned that the 2.4 GHz is available on the face plate, so the size of the ear canal makes no difference with reference to fitting that 2.4 GHz connectivity.

So the member would have to go up to an ITC style with the 312 battery.

All right, so now that we have reviewed the overall Philips product portfolio and the styles offered for your members, let's go ahead and break these down even further and discuss the various acoustic options that are available for each of them.

First, we look at the HearLink 9040 mini write T and mini Tr. This is compatible with a variety of acoustic options including the micro shell, open base dome, base dome, double vent power dome, and our full line of custom mold options. The mini instruments do use the mini spot speaker units and they're available in four fitting levels, 60, 85, 100 and 105. The last, of course available only with that custom power mold.

The HearLink 9040 mini BTE supports all existing mini fit thin tube options and therefore it is compatible with both the 0.9 and 1.3 millimeter thin tube acoustic options. And of course the same ear hook that was introduced with the HearLink 9030 that has that damper at the tip of the hook. And again same ear hook that was introduced for the HearLink 9030.

So as we saw in the previous slides, the HearLink 9040 is compatible with both non custom dome and custom mold options. And in some previous courses we have discussed the use of these various options and when each might be recommended. So I think it is very important to kind of often revisit this information, especially since these same acoustic options are available for the HearLink 95 and therefore some of the same or all of the same recommendations do hold true when choosing these acoustic coupling options. So this chart that you see here does look at the non custom dome options and some of the factors that are going to help to guide you when choosing the acoustic coupling options for your member in addition to the audiogram. So first we have the open base dome.

The open base dome is recommended for members who are looking for comfort if the member experiences occlusion with perhaps some other domes or if they have a small ear canal. Then we go to the base dome double and the base dome double is recommended if the member is perhaps experiencing some feedback or if the member has a dynamic ear. And what I mean by that is if they have an ear canal that moves excessively with chewing, yawning or opening and closing of the mouth. And then third, we have our power dome and the power dome is also a wonderful option to help with feedback or for that member who desires a very kind of full fit in the ear canal but doesn't want to move directly to a custom mold option.

Just as with non custom domes, the custom options are designed to meet a variety of not only maybe obvious member needs such as ensuring retention, adequate gain, but also some other kind of subtle needs and concerns that your members may have. And here we see some of these considerations for

the various custom mold options that we do have. So first we look at the micro mold. This is a shorter length mold. It has improved vent effectiveness and it is wonderful for members with small or short ear canals or maybe that very, very sharp bend in the ear canal.

Maybe they're sensitive when you go to take an impression and you can't get a very long ear canal on your impression. That is where the micro mold might come in. A light tip is that flexible suspension mold and it is really just there for maybe some added comfort and retention for your member. Canal does give increased retention, but it does require a bit of a longer canal. So it is definitely not recommended for those members with a small, narrow or short ear canal.

Skeleton mold is great for those dynamic ears or members we may be with those manual dexterity issues. So it is, it does tend to be one of the easier molds to get in and out of the ear and to grip onto. Full shell is ideal for more severe losses because it gives you that enhanced seal. And then of course, we have our two embedded mold options, which is the micro shell, that is the embedded mold for the 60 and 85, and then the power mold which is for use with the 105 speaker. That's our embedded mold where you can change out the receiver wire.

As you have seen, Philips offers a variety of mold options and choosing which mold is that is best suited for the member can often be daunting. Some members simply prefer non custom domes. However, there are many fittings where choosing a mold is necessary. So let's go ahead and just talk over a few scenarios that might help as you navigate choosing a custom mold for your member. So first we have a member who is fit with a HearLink 9040 mini write tr with an 85 speaker.

They want a custom mold, but want the smallest custom fit possible. So there are many, many options that we could look at if you're looking for an 85 speaker speaker custom mold, smallest custom fit possible, but the best option here for the smallest custom fit is going to be the micro shell mold. This mold is available for members wearing the HearLink 90 00 49,030 devices it is, you know, available for

and 60, as we said, the 60 and 85 speaker, they're going to be embedded. And as we discussed, it's optimal for members who do have smaller ear canals. However, truly it's a wonderful option for any member who does want that custom fit but doesn't want to go to a larger, more bulky custom mold option.

Next, we have a member who, when taking an impression, is extremely sensitive and therefore it is very difficult for you to go very far into the canal. However, they desire a very discreet custom mold because they don't like the feel of those non custom domes in their ear. So you know that your impression is going to be short and they still want a small sized mold. So knowing those two things, based on what we had a conversation about earlier, what is the best mold for this member? So the best mold for this member is going to be that micro mold.

So as we discussed earlier, this is an option, again available for both the mini and mini BTE devices. It will fit the 60 and 85 speakers. For the mini mini BTE, it's available for the 0.9 and 1.3 thin tube. And we talk about the micro mold because again, this can be a great option not only if the member has a small ear canal, but also if due to a sharp bend or a small ear canal. Or maybe you just can't get that good impression because they're super sensitive.

It is going to be a very good option because the mold itself is short in length. Now, our final scenario, our final scenario is a member that has had a custom canal with a canal lock for about a month and has had issues with it working out when chewing. So given the mold options that we have talked about previously, we know that we've got a canal with a canal lock. So we've got some retention style there. What do we think would be kind of like the next best option as far as retention styling is concerned?

And that would be maybe the skeleton mold. So for this member, if we would move up and go to the skeleton mold, that would give us even greater retention. And this is a great versatile option. It's available for the mini and mini BTE styles and available for all receivers and fin tube sizes and even the

standard BTE tubing if you do fit the mini BTE with that standard ear hook. So the skeleton mold is ideal for members who need to increase retention due to excessive movement.

Again, those for dexterity concerns, it just fits snug, but it's easy to insert and remove. So also, I want to note that if you do want to request a new, new mold due to maybe some issues with fit, if you're requesting a new style, it is always a very, very good idea to give us a new impression and especially making sure that you give us a full view of not only the ear canal, but also the external components of the ear as well.

So now that we have talked about the acoustic options for our BTE styles, I want to take a deeper look at the acoustic options of the HearLink 9030 custom product line and specifically focusing on venting and speaker options. First, let's dive a bit into our venting options.

A very important component of custom hearing instruments is venting, and there is a lot that goes into creating an acoustically sound vent in a HearLink 9030 custom device. Now, it's been shown that vents should be of course as large as possible to optimize comfort and sound quality for the member, but of course small enough to minimize the risk of feedback and to, you know, provide enough gain and to be able to provide the prescribed gain for your member as well. Before looking at vent sizing, let's first look at the venting options. When selecting a vent option, a limiting factor could be of course, the size of the member's ear canal and often the type of the venting will depend on the size and the style of the custom hearing instrument chosen to regardless of the venting option, it is important that the vent in the hearing aid matches the vent selected in HearLink. And here you do see the listing of the different vent types and we are going to go ahead and cover those in the next slide with some pictures.

First, a round vent. A round vent is the most traditional vent and is recommended any time sufficient space spaces available. Next, we have oval vents, and oval vents tend to be easier to fit when space is limited, so they're used mainly for IIC and CIC custom instruments. Free vents are used when

placement is maybe a little bit more difficult and venting sizes often as large as possible. It is important to note that free vents are not an option for iics collection.

Vents are ideal when space is limited and may reduce occlusion because of their conical shape. Note that these images are taken from the HearLink 9030 order form and they are designed to help guide you. If you would want to select the venting manually versus choosing factory select for venting.

Another factor to consider with venting is that size matters and of course this is size as it refers to the diameter or how large the vent is. Now keep in mind that this is often again limited by your members ear canal and the style chosen. However, for the purpose of this course, let's just go ahead and assume that there really isn't any type of limiting factor. So as you may know, larger vents do lead to decreased low frequency output. And this is because longer low frequency sound waves can more easily escape through the venting hole as shown in the bottom area of the image.

This is a well documented occurrence and according to an article in the hearing review, a vent diameter of 1 mm results at a decreased output at 200 hz by approximately seven to eight. There is a decrease of up to 28 decibels with a vent diameter of 3 mm. Now given those numbers, it can be very, very daunting to choose the optimal vent diameter because what we want to do is we want to be able to provide the optimal vent diameter, but of course not lethemmen too many of those low frequencies escape. So here you see a table which is a general guideline that you can follow to help in not only choosing venting diameter, but also understanding venting options.

Before we move on to speaker options and the fitting ranges of the available custom styles, I do want to pause and address a common issue that is encountered when fitting custom hearing instruments. This is the occlusion effect. Now this is seen with any style of hearing instrument. However, it is more common with custom styles and custom ear molds because there is often just more stuff found within the ear causing the member to perceive an increased hollow or booming sound from their own voice.

During this course, we will not discuss the various programming solutions that can be used to address occlusion effect.

Rather, we're just going to focus quickly on a variety of physical changes that can be performed to the custom hearing instruments that could potentially ease occlusion effect for increased member satisfaction and which then can lead to greater hearing aid acceptance. So first we see a trench vent. This is an option when space is perhaps limited and typical venting might not be possible. A step vent decreases venting length to potentially ease the occlusion effect. And of course, vent diameter also may ease the occlusion effect by allowing additional low frequencies to escape.

Increasing canal length and tapering the ear canal can also help with reducing occlusion. If you are to look at these last two, especially as an option, I want to just give you a helpful tip. And a helpful tip is to take an impression that is longer than the custom hearing instrument and compare the angle at which the sound is exiting into the ear to ensure it is not obstructed by the ear canal wall. And you can see what that would look like by these examples in the diagram.

Next we are going to look at speaker options starting first with the IIC and CIC custom styles. Focusing on size does not mean losing on power and the HearLink. IIC and CIC are both very powerful custom hearing instruments with the option of a 75 or 90 speaker. The speaker available in an IIC and CIC can fit up to 85 decibels HL while continuing to provide that excellent speech understanding through of course our advanced speech processing and feedback free listening via our patented soundmap feedback counselor system.

Now with three speaker levels, these three styles that you see here, or perhaps four styles if you count the half shell and full shell is two different styles. But these styles here cover a wide range of hearing losses up to 95 decibels HL and this makes the ITC and ITE custom hearing instruments truly a preferred choice for nearly any member who is looking to an in the ear option. And again, as we saw

earlier, these devices do offer numerous features and additional benefits due to their larger size and more availability of that kind of real estate on the faceplate to have those extra features added.

As many of you know, there are times when the hearing aid itself is just one piece of the puzzle when it comes to the members total hearing healthcare package, so to speak. And there are times when in order to adequately address their needs, accessories are very much needed. Philips has worked to pull a variety of tools together to address these member needs through useful and meaningful accessories.

All of the Philips accessories do work via soundtie two and through Bluetooth connectivity. Therefore, to use the devices within the connectivity portfolio, it is absolutely necessary for the Philips HearLink device to contain 2.4 GHz Bluetooth technology. Now I do emphasize this because while all of our BTE style devices do have this technology standard, it is optional in our HearLink 9030 ITE and ITC styles and it is not available in the CIC and IIC style devices if the device is equipped with this technology. So the 2.4 it will connect to accessories such as the tv adapter, the RCA, the audio clip and the HearLink two app. Now be advised that this also does include the ability of offering remote fitting via the HearLink two app.

However, remote fitting is not available for those who are fit with a CIC or IIC device. The CIC of course does have the NFMI optional, however, that does not include any type of connections even for remote control purposes. Only let's quickly look at the chargers. Philips accessories also include our charging units for the rechargeable BTE style devices. The Philips Standard desktop charging unit is compatible with all Philips rechargeable devices from the 9010 through the 9040.

There are slight differences between the desktop charging units for the mini write and those for the mini BTE devices, such as, obviously slightly larger charging ports. For the mini BTE, however, the basic function is the same.

The charger plus is compatible with the Philips HearLink 90 00 39,040 mini write and mini BTE styles. And you can see on the slide there are several differences between the charger plus designed to accommodate the mini write and that designed to accommodate the mini BTE. However, overall the look in the function is the same as well.

So now that we have gone through the tools that Philips offers regarding product offerings, I do want to move into our first case study or group activity. And the purpose of this activity is to demonstrate how we can gather these various tools and then begin using them as you do talk with your members and begin your decision making process.

So in our case study, we have a member. Our member is a 64 year old male who has worn hearing aids for about five years and is coming in for new technology. He currently wears an ITE style device, and he tells you that he's very satisfied with that style, but isn't against trying a BTE. He does want to be able to stream music, and he's not too sure about those new rechargeable batteries that he's heard about. There's no significant medical history, and the member has no dexterity or vision concerns.

Here we see our member audiogram, and from this we gather that our member does have overall good test reliability, a high frequency hearing loss, excellent word recognition scores and testing shows no concerns for overall loudness discomfort.

So with this case study, what I want to do is, I kind of want to talk you through. You know, we, we talked about the Philips products and what products are available. And now we have this member who we know a couple of things about. We know, number one, we know that they have a hearing loss, and we know that they want to be able to stream Bluetooth. The other things are kind of variable.

He wants to try new technology. He's not against trying a BTE, but he's had an ite for five years and he's very comfortable with that style. Not too sure about those rechargeable batteries, but maybe he

doesn't have all the information. So let's talk through maybe three scenarios of what style of devices that we might be able to recommend to this member. So our first scenario, we would go with what is 100% comfortable.

We go with the HearLink 9030 ITC ITE, because remember, we have to be able to stream Bluetooth, and we're just going to stay with what's comfortable. We know that he likes the ITE style. He's had it for five years. It's comfortable. We're going to get him upgraded technology from what he has, and he also has that same battery style.

Okay? So we're going to just stay with what's comfortable, what's familiar, take that kind of path of least resistance, and then we go with maybe scenario number two, he wasn't against trying a BTE. So we are going to get him the HearLink 9040 mini BTE, or maybe mini, right, depending on which, which road we go. So we're giving him an even newer technology, like kind of more upgraded technology, but we're going to stay with the zinc air battery. So we're going to get the new style, but we're going to keep the zinc air battery.

So we're kind of giving a 50 50 on this one with what's new and what's familiar. And then we've got scenario three where we're good. We're just going to jump all in. We're going to go everything new, new style, new rechargeable batteries. We talked to him about streaming.

We talked to him about, you know, well, if you're streaming, it's just like your smartphone. You kind of plug him in at night, they recharge. And he kind of liked that. After we talked to him about the pros and the cons of rechargeable versus non rechargeable, the different charger styles that he can get, the charger plus to take on him with trips, etcetera. So lots of different approaches.

One member, same hearing loss, same kind of basic needs that we looked at. Hearing loss, streaming, new technology. And then we use those member needs. And I'll start to kind of put in the back of our

mind maybe what style device we might be offering to this member.

What is a tool without the technology behind it? We all have those items in our toolbox or in our garages or wherever they are that we know that they work, and we know that they work well. But possibly we don't always understand exactly how or why they work as well as they do for the purpose of this course. Those are the Philips HearLink hearing aids and today we are going to explore a bit about the technology behind the Philips HearLink devices so you can begin to understand why and how they work the way that they do.

Before we begin looking at the various features of the Philips HearLink products, I want to first visit the basic architecture of Soundmap two now as we move through this section. While some features will be available in the HearLink 9030 custom products as well as the 9040 BTE styles, it is important to note that some of those features introduced with Sound Map 2.0 are exclusive to the HearLink 9040 technology, and I will be sure to emphasize that as we move through each of these features and the technology tools available here we see the architecture of Soundmap two available in the HearLink 9040. Soundmap two contains directionality, sound protect, AI, noise reduction, speech Clarifier, and an extremely high frequency resolution with the 24 frequency band architecture. Also within this system you can see our patented feedback system that is highly effective at controlling feedback while allowing for adequate gain and the ability to provide your member with an occlusion free open fitting whenever it is appropriate. Now, Sound Protect is a new block under sound map noise control, which is designed to preserve the target signal in the presence of wind noise and contact noise, and thus reduces that overall annoyance of these kind of everyday noise sources, sources such as putting glasses on, maybe hair noise and wind noise.

Now, by adding sound protect, AI noise reduction does now work with that cleaner signal and it ensures that all sounds are amplified appropriately and it further improves the sound quality in noise. Now, as I

promised to let you know, sound Protect is exclusive with the 9040.

Since sound Protect is such an important part of Soundmap two and the HearLink 9040 product technology, let's go ahead and break this down a bit further and look at it separately.

First, we have SoundProtect wind noise management. SoundProtect Wind Noise management is an updated feature that is designed for those members who are disturbed by wind noise and have especially some difficulties with understanding speech in these complexity environments. It is also helpful for those members who are disturbed by unwanted noise that are associated with the manual handling of hearing aids such as adjusting the hearing aid, tucking their hair behind their ear, any type of sound that would come from, you know, touching or moving or adjusting the device.

What you see listed here is a typical existing solution for wind noise management and actually what Philips previously used, but with SoundProtect wind noise management, the HearLink 9040 has an upgraded noise detector that works to detect again both wind and handling noise, as we previously discussed. Now, when detected, it only chooses the sound from the microphone that has the lowest noise level in each of the frequency bands, and then it adjusts the selection up to 500 times per second to continuously choose only the absolute cleanest signal. This new solution is effective in all frequencies, and it's not frequency dependent, and it is specifically, again, designed to allow for conversation in these windy or complex situations.

How exactly does the system work? So let's take a little bit of a detailed look at how the system works. So, wind and handling noise are detected by the front and rear microphones, and they're detected at different moments, which creates what we call an uncorrelated noise. This is caused by the turbulent air reaching the microphones at different times, then sound protect. Wind noise management counters this noise by a careful analysis of the noise level in each microphone.

And again, it does this up to 500 times per second, and then it selects the microphone with the lowest noise level for each band-aid, and it adjusts this selection over time, which ensures that the cleanest signal is allowed to reach. AI noise reduction, keeping the challenge of hearing in those complex noisy situations in mind and looking even deeper again at sound protect. We also have sound protect transient noise reduction, and this is yet another feature that is found exclusively within the HearLink 9040 and SoundProtect. Transient noise reduction does help to reduce sudden sounds for those members who are sensitive to them, and it utilizes an updated algorithm to help to balance these transient sounds through a faster detection and reduction of these sounds. Where speech understanding is very important.

Transient sounds themselves do present very real and true challenges to those who do wear hearing aids and also to hearing aids specifically. Some of those challenges are those that are listed here. So for the hearing aid user, we see challenges with issues such as reduced dynamic range, and this is due to hearing loss, and this does affect their loudness perception. We see challenges with poor speech intelligibility, especially in the presence of these loud, transient sounds in their sound environment. And then sometimes transient sounds are over amplified, which makes them very distinct and just generally unpleasant for those who do wear hearing aids.

Then we look to hearing aid technology, and we find that often hearing aids may not react quickly enough or precisely enough. And this does not provide the hearing aid user enough protection from these transient sounds, so they become uncomfortable. And it does especially affect not only listening comfort, but then also speech understanding. And on the kind of flip side of that, sometimes hearing aids can be a little bit too aggressive, and this can reduce the gain for those sounds and it reduces it too much so and too aggressively too fast that it leads to reduced overall sound quality as well.

So the Philips hear link devices have had transient noise reduction in the past. However, with SoundProtect transient noise reduction, the Philips HearLink 9040 does feature several key improvements to this specific noise management feature. These improvements are such as faster detection and gain adjustments of transient noises. So transient noises do get filtered out even before they do reach the gain path. We now have a frequency specific band reduction instead of a more broadband reduction for transient sounds.

And what happens is this leads to a better preservation of the signal and a clearer signal before the sound is then processed by AI noise reduction and with sound protect transient noise reduction, we do have a greater noise reduction possible of these transient sounds. And in the maximum setting we do offer up to 30 decibels reduction of transient sounds.

So now let's explore how this new and improved transient noise reduction feature does work. SoundProtect transient noise reduction does monitor the overall sound level of the environment, and it essentially just calculates the average sound level of the sound environment. And when a sound is considerably above the average sound level, the system then considers it a transient sounds and it quickly reduces it. With SoundProtect transient noise reduction, it employs again as we mentioned, a frequency specific band reduction instead of that broadband reduction for transient noises. And what happens is this leads to a better preservation of signal and ultimately it's a cleaner signal before being processed by AI noise reduction.

The next feature that we're going to briefly discuss is speech Clarifier. Speech Clarifier, while available in both the HearLink 90 00 39,040 is made stronger in the 90 40 due to the addition of sound protect.

So how exactly does speech Clarifier work? First, speech Clarifier does consist of two sub modules and these are placed after directionality and AI noise reduction and in the HearLink 9040, also after sound protect. The feature itself works by redistributing a fraction of the attenuation applied on the noise at the

output of directionality and AI noise direction, and places this attenuation towards enhancing speech frequencies instead. And in doing this, the perceptual contrast between speech and noise is increased. So in essence, this feature places more focus on clarifying speech.

As shown in the illustration on the left, you can see the effect of conventional directionality and noise reduction. And this is where noise is basically just attenuated across the entire bandwidth while in sound map noise control with speech Clarifier as shown on the right the net effect shows that while noise is attenuated, the level of the speech is increased. And what happens is this improves the contrast between speech and noise because the noise level below 1 above 5 khz are not amplified, and because the long term spectrum of speech is essentially concentrated between one and 5 khz. Overall, the benefit to the member is the ability to make speech stand out depending on their preferences in a noisy environment.

Next, we have our AI noise reduction feature, and this is available of course, in both the HearLink 9030 and HearLink 9040 products with AI noise reduction. This is labeled as essentially noise reduction mode in the fitting software. It is a highly sophisticated but at the same time very simple to use. Noise reduction mode uses artificial intelligence to essentially reduce background noise, such as traffic or potentially busy restaurant noise, and you can adjust the level as needed for the member. If the background noise doesn't bother them too much, you can choose off or low.

And if the background noise really bothers them or if they're having difficulty, you can always select medium or high. Now, as with noise reduction mode, we are talking about the different levels and how to make those adjustments, and we'll do so in the next slides as we talk about the technology. But again, I always do want to encourage you to keep the settings at default for the member on first fit, as those are typically where the member is going to get the most benefit and have the most support provided to them, unless it is necessary to make those adjustments based on member needs and

complaints.

Another feature within the Philips hearing technology, which is again available for both the 90 30 and 90 40 levels, is a highly sophisticated directionality system. Philips does offer you and your members a variety of options for directionality and numerous advanced feature adjustments to address sound quality concerns. So again, let's look at directionality, and there is quite a bit to unpack when it comes to directionality and Philips technology. So we're just going to take it one step at a time. And first, let's begin with Pina mode.

There are a lot of current polar plots designed to recreate essentially the natural pinna effect, but there really is a big variability in how each individual ear does achieve the ability to focus on the front. And with the Philips EarLink 90 00 39,040 devices, the directionality mode does use a more realistic pin, a model that does take into consideration the variability in your members ears.

The Pina mode settings will be an available option within HiroSuite. Truly whenever the microphone has a pattern that defaults at some point back to an omnidirectional pattern. So from within here suite, you can choose to have this default pattern set to pinnae, which essentially recreates the natural pinna effect. Or you can have it default back to omnidirectional. And omnidirectional allows the microphone to essentially just amplify sounds from all directions.

Now on this slide you can see the difference in the microphone pattern and the attenuation that is applied based on the sensitivity of the microphones.

Before we get into the actual directionality settings, I do want to first talk to maximum effect.

Maximum effect sets the strength of the directional pattern via seamless null steering in each of the 24 frequency bands. And there are three settings available. Low, which the system adjusts to a wider

directional pattern medium the system adjusts to a narrow directional pattern, and high, the system adjusts to a or to the narrowest directional pattern available or the narrowest directional pattern possible.

Here once again you can see the visual of the directional pattern to see how the attenuation is applied by the maximum effect setting with low, medium and high each pictured.

Now that we have discussed the components within the Philips directionality module such as pina mode and maximum effect, let's go ahead and look at the various directionality settings.

The first directionality setting, and perhaps the most common, is of course dynamic directionality. This is a setting that is absolutely 100% unique to the Philips HearLink product and features a microphone pattern that can freely adapt from the pattern selected by the pina mode control to a more directional setting in any frequency band as indicated by the option chosen in maximum effect. This setting is also influenced by additional settings within sound map noise control such as noise control transition, noise direction mode. Therefore, this makes it a highly dynamic setting that truly does work its best to adjust fluidly to the members needs based on the setting that they are in. Let's go ahead and look at that what at what that means in more detail.

So we have again dynamic directionality and it automatically adapts between the choice in pina mode and what you choose for maximum effect. And this depends on the environment. So in a speech and quiet environment, the microphone patterns are fixed based on the selection made under pinna mode at a speech and noise environment, null steering in 24 frequency bands and strength of this null steering is set via maximum effect.

Next is adaptive directionality. The effect of this mode is not coordinated with noise direction mode and or sound map noise control transition. And I know we haven't spoken about that yet, but we will in just a

few moments. Maximum effect and pin mode are also not available under this mode. However, it is still an adaptive directional setting that can prove useful to your member who is in noisy and complex environments.

So essentially, with adaptive directionality, the microphones do automatically fade between traditional directional polar patterns depending on the amount of noise present, and it adapts to any non omnidirectional pattern. So that's why you don't see pinna mode as an option, because, you know, it is omnidirectional is one of those options. So it wouldn't be able to adapt to that type of a directional setting. So again, it can freely adapt to any non omnidirectional pattern, and it fades to a more hypercardioid in a high noise type situation.

Next, we do have two fixed directional patterns, and the first of these is pinna. And in this setting, the microphone patterns are fixed based on what is selected under pina mode. So whatever you select under pina mode, that is the fixed directional pattern that the hearing aid is going to default to when pinna is selected.

And again, we have the omnidirectional, which is sensitive to all directions. And you can see the schematic there, slight emphasis to the front. Then pinna, which is a focus to the front with an optimized signal to noise. The second fixed directional pattern is, just as the name implies, fixed directional. In this directionality setting, the pattern is fixed in a hypercardioid response pattern, regardless of what the member's environment is.

And this does provide the member with a strong focus on sounds to the front, with a strong attenuation of sounds from the back.

Now, bringing these features together, we do have sound map noise control transition, which I briefly mentioned it earlier, and I promised that we would kind of circle back to it again. So mentioned it a few

times, but let's now look at what it does and how it really can benefit your members.

Così noise control transition works to determine when both directionality and noise reduction are activated within the hearing aid. Therefore, the two systems, they essentially, they know what they need to do. So noise control, or, I'm sorry, directionality knows what it needs to do. Noise direction knows what it needs to do. However, the transition control is going to help to determine when they kick in to do their respective duties.

This feature does take the following information regarding the signal input into account. So it looks at modulation, it looks like level, it looks at level, it looks at presence of speech. And finally, the signal to noise ratio.

The transition level essentially then determines at what signal to noise ratio level, or like at what point, do directionality and noise reduction kick in to support your member if they need less support, it's at a low settings, and this means that they want to hear pretty much all the sounds around them and they need a low level of support and noisy environments. If they move it towards high or very high. This just means that they need a little bit more support in these complex listening environments, and they prefer for noise to be kept at a minimum.

The last technology tool, so to speak, I would like to take a moment to discuss is the program available in the Philips hear link products known as hi fi music? Philips absolutely prides itself on the ability to provide your members with superior sound quality when they are listening to speech and other environmental sounds. But we are also extremely proud of our ability to provide exceptional sound quality when your member listens to music.

Hi fi music is a program that is specifically designed for when your member listens to music. And this is whether they're in a live music environment or listening to maybe recorded or streamed music. And this

is because the rationale for this program is based on the music signal versus a speech signal, like the other fitting rationales such as nal or fit for speech.

Diving a bit deeper into hi fi music, we can see that the amplification strategy is based on targets that do try to balance the hearing loss and then also matches the sound of music. This program does have a broader bandwidth and higher gain compared to the dynamic program, especially in the bass and treble regions. So if you kind of do a comparison side by side, you are going to see that they do look very different. The Hifi music program also has optimized compression ratios that are designed for music dynamics. The HiFi music program can be customized through the advanced features, some of which we did just discuss in detail, and also through the streaming equalizer, which is of course available via the HearLink two app.

Now we're going to move into our second part of the case study or second activity. And during this last section, we did spend a great deal of time learning about how our Philips tools work and essentially the technology behind them. We no longer have these wonderful tools in our toolbox to simply work without us knowing the hows and the whys. I now as we move into this activity, we're going to implement this knowledge and use it as we continue moving forward with our member from our initial case study.

Just as a reminder, here is the member and the information that we did gather. They were 64 year old male, wore hearing aids for about five years, coming in for new technology. They wore an ITE style. They were very satisfied with that style. But isn't against trying the BTE style.

Does want to be able to stream music and wasn't sure about those rechargeable batteries. You did your counseling, you talked about the different options, and we did decide to pursue that HearLink 9040 mini write tr now that we know kind of where we're at, what direction we're heading with the member, let's look at the member's cozy goals. So we have three cozy goals here. Hear better when playing golf with his men's group who meets two to three times per week. Second goal is to stream music to the

hearing aids via the smartphone while out walking the dogs.

The third cozy goal is to understand dinner conversation better when out on weekly date nights with his wife at crowded restaurants. So looking at these goals, we know the goals, we know the product. And I'm going to challenge you as we go through this activity to really think back to the Philips technology and consider the tools that might prove useful for kind of looking at these goals. And when you take into consideration the product that you're going to recommend or look to for this member, what are some of the technology tools and the technology features, again, that the Philips product has that may address these Cosi goals initially or you will have access to to make advanced feature adjustments down the road should these cozy goals not be addressed after first fit?

Here we see our first Cosi goal. This is hear better when playing golf with his men's group, who meets two to three times per week. Right away we can see this is a pretty important goal. He's meeting two to three times per week. So obviously playing golf and meeting with his group on a very, very regular basis, and right away my mind goes to sound protect.

Sound protect is an excellent, excellent feature for this type of an environment. Not only do we have the wind noise, but we have the loud noises in the environment that might be caused by perhaps the sound of hitting the golf balls and different sounds within the golf course, etcetera. So sound protect is the wind noise management does default to being, of course, on, and then we've got the transient noise reduction there defaulting to medium, which perfect settings. I would leave them at settings like this for first fit for this member. But again, right away we're thinking here, link 9040 is so wonderful for this member because of the addition of sound protect.

Other features of note with this member that I would say stand out with this type of a cosi goal is speech Clarifier he wants to hear better in this complex, difficult listening situation, when there's noise surrounding him, there's other things going on. So this is going to enable that speech Clarifier to give

him that boost in speech clarity, even in the presence of noise. So not only does he have the advantage of the AI noise reduction, but he has the added advantage of speech Clarifier. Again, medium setting is giving him already that 20% boost of speech understanding. But if he should come back and maybe needs some extra, we can always boost him up to high, which gives him an even greater boost with reference to that speech clarity.

Another thing that you might think of with this member is the dynamic directionality. This is a very, very dynamic environment, so you definitely would not want to put him in any type of a device, that kind of pigeonholes this type of an environment and says, okay, this is happening. So these are where the settings need to be. So dynamic directionality is going to be a wonderful setting for this member and a wonderful feature for this member, because it is going to consistently shift and change depending upon what's happening in the environment. Is it noise, is it speech, is it laughter?

Is it wind, etcetera? And it's going to be highly flexible for this member.

So here we see the second cozy goal, which is stream music to hearing aids via smartphone while out walking dogs. And during the initial case history, your member did tell you that streaming music was very important, and now we know that he is going to be perhaps streaming on a daily basis while out walking the dogs. So in addition to the HearLink adjustments, we can also speak to the HearLink to app adjustments for this member as well, in reference to streaming equalizer, so he can make those changes in the app if sound quality might become a concern. Focusing though, on HearLink, we have the phone level, or the streaming level, which I like to refer to it, which can increase the overall volume of said level, the mic phone level. For this member, I would honestly probably turn it to zero decibels just because of the environment that he's going to be streaming in the, if he's out walking the dogs, he might be out on a sidewalk, he might be near traffic.

So he wants to maintain that environmental awareness. So I would be a little bit less apt to turn down that microphone level for him. And then, of course, we have sound perception and low frequency enhancement. I am a little bit less prone to changing these two settings within HiroSuite unless there is an overall necessary adjustment in streaming sound quality, just because they do have access to the streaming equalizer, and that is dependent on what streaming source. So if phone calls are a little bit off, or maybe Spotify is a little bit off, the member does have that control via the streaming equalizer versus making overall changes within the HiroSuite software.

And here we see our third cozy goal, which is understand dinner conversation better when out on weekly date nights with his wife at crowded restaurants. Some of this is going to relate back maybe to that first cozy goal of hearing better when playing golf. Of course, a little bit of a different environment, but both are very complex, noisy environments where speech understanding is an important part of the environment for your member. So I'll go back to dynamic directionality. Very, very important in this type of a situation to start the member off in, because it is an ever changing environment.

People are moving around the member. We don't know what type of a restaurant where the member might be sitting, sitting where the conversation is going to be. So I would tend to stick to the general program for your member. Even for this type of a situation. Maybe we can look to maximum effect.

Remember maximum effect. What that does is it kind of narrows that attenuation, giving a bit more of focus with the directional pattern. So that could be an adjustment that you could make to help focus in on conversation and increase understanding and increase, not only increase understanding, but help with reducing or attenuating some of that noise in the background. Speaking of increasing understanding, we've got speech Clarifier. So definitely my mind goes straight to speech Clarifier for this one as well.

Medium default, 20% boost in speech understanding. Leave it there at the beginning. We can always increase it as needed as we follow up with your member. Also, comfort control is playing in effect along with noise reduction to provide some comfort in this type of a situation, maybe in between conversation or along with conversation. So so many aspects of the HearLink 9040 coming into play.

We also have sound protect, transient noise reduction. We know restaurants can be very noisy, very loud, a lot of sudden sounds. You can also potentially consider adding a second program for this member if in the future they do really struggle in this specific environment. It is only a weekly type, date night, very specific situation. So adding a speech and noise program wouldn't be unheard of if your member is amenable to potentially switching into a program when out at a restaurant with his wife.

So lots of different options with reference to what to change, where to look, and what features are going to be very key in your members success in this complex environment.

So far we have discussed Philips products or tools and what we have available to meet each of your members needs. We have also then discussed the technology within those products, truly diving into not only what is available, but then taking it a step further and looking at how those tools work and essentially how you can make them work for your member and their hearing healthcare needs. Now let's look at the next step and how you can begin making hear suite work for you, not only at the first fitting, but also beyond to help you achieve the absolute best fit for your members.

The first tool that I want to explore within the HearLink software is of course the adaptation manager. And this is an often used tool that can be activated within the software to help your member as they do gradually become used to amplification.

Just a brief overview of the adaptation manager. This is a feature again that helps your member to gradually become accustomed to amplification. Once you do complete your real ear measurements at

100% to set it to 100% target gain, then you can always set it back to 80 or 90% to provide a milder response as compared to the full prescribed setting. And then again, adaptation just lets you make that easy adjustment of the overall gain. And if you do set it to 80 or 90%, you just want to remember to set it to automatic with the end gain being 100%, just as an assurance that your member does eventually make it to 100% within that prescribed timeframe.

So how does it work? First fit default is 80% manual. So you always want to come in here, just stop here in the software prior to performing real ear measurements and set it to 100% to target gain.

And then after real air measurements, if the member is unable to tolerate that 100% to target gain, this is when the automatic gain adaptation is enabled. Once you turn it on, you can choose the three options. This includes your start gain, your end gain, and of course, your step duration. Step duration is how long is it going to take for my member to reach their goal. Now note that step duration does assume about 10 hours of use per day, and it's a gradual increase over time.

So it's not like one day they're going to wake up and boop, they're going to go from 80% to 90%. So it is a gradual increase and also each 10% increases one step. So therefore, if you do have your member going from say 80% to 100%, that is two steps.

Yet another tool that Philips ear suite offers is the fitting assistant. Whether using this tool to actually make adjustments or just using it for suggestions the fitting assistant itself is a wealth of knowledge when it comes to fine tuning the devices for a large variety of needs.

So the fitting assistant is a three step process and it does rely on communication with your member. They need to be able to and you need to help facilitate them being able to narrow down their specific experience so that you can then effectively fine tune the HearLink settings. It all begins with a very broad topic and then just begins to narrow that down further and further, eventually landing on one

potential or multiple potential solutions to that topic or complaint.

As you can see from the list below, there are topics that, you know, you kind of start with and these are very broad and general and these are essentially just the most common problems encountered. And you begin the process essentially just by choosing with your member the topic that best fits what they are experiencing with the hearing aids.

From there, the topics are further divided into categories that just begin to narrow the complaint down so the software can begin to determine the best adjustments that are needed once a category is chosen, most times there's just some further questions that you can ask or statements to choose from that are going to become more specific as the choices progress. Help the member choose exactly what is happening and then finally you do come to your solution. Often, maybe just one or often more than one solution is provided and you can either choose to apply the solutions or just view them and then you can decide how to proceed.

The last tool that I would like to discuss from within HearLink is data logging.

Data logging uses statistics on various aspects and various kind of different looks at hearing aid use and it monitors this progress by comparing data collected over time and it is a wonderful tool for counseling, troubleshooting and I fine tuning.

There are several screens available within data logging and each does provide various different statistics that do prove very useful during counseling and follow up. These screens include statistics, usage duration, accessory use, vc adjusted environments, and connection count. So our first screen statistics does give a general overview of things such as program use, average wearing time, accessory wearing time, and vc adjustments. This screen can also give some just general overview insights of what might be happening, such as the member not turning the hearing aid off, or whether

certain programs are even being used, or perhaps, you know, never or always being used. This is a good starting point for you to begin painting the overall picture with your patient, especially if there are specific issues or complaints that need to be addressed.

Next, we have usage duration and this does advise regarding the number of hours that the member is using the hearing aids each day during the fitting period. So from the last time they hooked up the hearing aids to this time that you're hooking up the hearing aids. That's one fitting period, and this is displayed within a graph. This can tell you a lot regarding not only overall use by the member, but also perhaps consistency, especially with reference to adaptation to amplification. For those members who might be having some difficulty adjusting, accessory use does advise on the members overall use of accessories.

How long are they using it? How long are they connected, etcetera. vc will display the members volume control adjustments in low, medium and high settings, and this gives insight to possible gain adjustments that might be necessary or even counseling to lessen the number of adjustments that the member is making.

Next, we have environments. This indicates the time that the member has spent in quiet, noisy and very noisy environments. The screen provides information regarding the types of environments the member has been using the hearing aids in, and if they are progressively using the hearing aids in maybe more challenging environments. Or perhaps the member is avoiding noisy situations. Or again, maybe they're seeking out or spending more time in challenging situations.

So these graphs can really be used just to show and discuss with the member the different environments and how the hearing instruments have affected their behavior.

Here we can see an example of connection count. And first let's look at per environment. This screen provides information about the conversation activity of the member during each fitting period, and this breaks it out in quiet, noisy and very noisy environments. When discussing this data with your member, you can focus on two key questions. Does the member progressively talk more in more challenging situations, or are they talking less?

And the second question, what could be the reason if the member begins talking less? So that's something that you would definitely need to explore a little bit further with your member. Next, we can look at connection count per usage period. Now, connection count per usage period looks at this a little bit differently and it indicates how much time in each fitting period the member has been talking irrelevant of the environment. So it just looks at talking overall, connection count overall.

If the number increases progressively, this is potentially an indication that the member is getting more confident, perhaps using the hearing instruments in conversational situations. There are additional factors that of course can affect this, such as the member may be giving a speech, so they're talking quite a bit. Maybe the member is reading aloud to practice fluency, or maybe they're talking to themselves, I don't know. So, but there are factors that can influence that and therefore it is always important to discuss the data logging information. So discuss with the member what you are looking at so that you and your member can talk about it and you can get the clear, complete picture before drawing conclusions.

However, we do know that with data logging and the information that data logging does contain, definitely the conversation does need to begin somewhere. And data logging gives us a wonderful starting point to be armed with information and be able to go to and talk to our members about what's happening.

So I would like to pause here for a moment and look at just a few scenarios that do incorporate using both the fitting assistant and perhaps data logging features to emphasize how the information that they do provide can be very, very helpful in guiding fine tuning adjustments and perhaps not fine tuning adjustments, not even making those adjustments, perhaps maybe just some counseling with your members. Our first scenario is member a, and this is a member who is coming in for a follow up alone. So no family members are coming in with him. And he advises you when you get into the appointment that everything is fine. Yep, he's been wearing the hearing aids when he needs them, and that's about all you're getting from him.

That's, that's as far as the conversation goes. No matter how much more detail or how much information that you try to get from him, everything is fine. And absolutely, he wears the hearing aids. He wears them when he needs them. So you hook up the hearing aids, maybe to look at what's happening or maybe to make just some follow up adjustments.

Maybe look at where he's at on his adaptation, and let's look at the data logging screen that gets pulled up. What is the first thing that we might notice right away?

Right away it shows 0 hour of use per day, which means it could mean a couple of things. I mean, we might jump right to he's not using them. He's not wearing them at all, but it means that he's averaging less than 30 minutes of use per day. Or he is very, very frequently turning the hearing aids off and on. Or maybe he's wearing them and he's forgetting to turn them on, or he's putting them on and then he's shutting them down because he doesn't like how he like how they sound.

So there's a lot of different scenarios that we can kind of start to go through. But right away, this just kind of spurs that further conversation, because now you know that, number one, everything isn't fine, and maybe it's fine tuning or maybe it's counseling. Whatever it needs to be, we need to figure out, number one, when does this member think that he needs to wear them or when he doesn't need to

wear them. What does he mean by fine? And then what can we do to maybe get him on a better path to better success with his hearing aids?

Then we see member b, and this is a member who is an experienced user. You have done the first fit and you get done with everything. You know, you go through the fitting, you talk about everything, you do the first fit. Everything sounds perfectly fine. You get them disconnected, go through all your counseling.

But when you just begin to gather all of their paperwork and maybe kind of like tap those papers on the counter to get them put all together, they kind of cringe and they let you know that the paper shuffling and the sound of the papers is quite uncomfortable. He advises that it sounds a bit harsh, so you hook him back up. Or maybe you just do some counseling at first and you talk to him about hearing sounds. But he is an experienced user, so he knows what it's like to get used to hearing aids. And possibly we don't know too much about how he was fit in the past, so maybe he was underfit in the past or maybe he wasn't getting appropriate gain.

So yes, we are giving him more game. But remember, the fit was comfortable. Overall, the fit was very comfortable. It's just this one kind of sound that is very uncomfortable, very harsh for him. And he becomes pretty adamant that he does not want to leave with this sound being as uncomfortable as it is.

So based on this feedback, members, an experienced user, what might be some adjustments or, you know, counseling techniques or really, where would you go in the software for some assistance? I kind of gave it away right there. Some assistance to really help you making some fine tuning or counseling adjustments with this member and we could go to fine tuning assistant. Now the one thing with fine tuning assistant to remember is that it's nothing always adjustments that are going to be recommended. Sometimes it is recommended to discuss something with your member.

So while it is the fitting assistant that we are going to, this is truly a fitting assistant. So it is sometimes those fine tuning adjustments, feature advance advanced feature adjustments, etcetera. But sometimes it is okay, hey, have this conversation with your member or talk to them about this, or have them consider X, Y or Z. So you can see that there are two solutions that are given to you as far as some potential sound quality adjustments, and one is to decrease gain for 65 and 80 decibels, SPL inputs for high frequencies by two decibels. And the other is of course to change sound, protect transient noise reduction.

It's one or the other as to what you might feel is best for the member based on their experience and your experience with them. But I would probably err on the caution of doing sound protect transient noise reduction just because high frequencies do also affect speech understanding and I would tend to not want to give away speech sounds if I didn't have to. So I'm going to go ahead and look to maybe adjusting that sound protect transient noise reduction, maybe tap those papers again, see how it sounds ideally before I disconnect and get everything programmed and then go on the way through the end of the fitting.

So now let's move into our last section. Our last section of tools that we are going to discuss today is the SBO Philips Costco portal.

Pictured here, you see is the landing page of the portal and as you can see, there are several options to choose from. From this page you can access information relating to the Philips products, the accessories fitting software, but you can also access our order forms and a variety of courses, many of which do offer CE credits. Today we're going to specifically be discussing the job aids that are available to you. Therefore, I would like to encourage you to just explore this page, and to do so you can click on any of the three first three icons which is hearing aids, accessories and the HearLink fitting software.

Once you find yourself at this page, I do also suggest clicking on clear filters and by choosing that you'll be able to see all available support materials. And I do recommend again doing this unless you can immediately find what you're looking for. Because again, the clear filters is just going to give you access to everything.

As you can see, there are many options that are available to you via the portal and each of these are designed just to assist you at various points as you do help your members on their journey to better hearing. Today we are going to focus on compatibility, consumer tools and dispenser tools first, let's look at compatibility tools.

Under the compatibility tools you will find PDF versions of the compatibility quick guides for both Apple and Android. These guides do provide you with printed versions of the compatibility lists that are found on the US English website. Note that on the global english website, the compatibility page now features a dropdown list from which your member can just choose their specific phone and then from there see what exactly is compatible regarding Philips products, accessories and apps and then also not listed or shown here. We also do now have the QR code which is our compatibility checker. You can just scan that code with your member's phone and it will let you know if that device is compatible or not.

It'll let you know if it's compatible for direct streaming, for streaming with an intermediary device, or if it perhaps has not been fully tested.

Next, let's look at consumer tools.

Consumer tools currently includes items such as the HearLink two app guide which just gives just a basic overview of the app screen navigation.

It has a product insert card that will vary based on where we are in our launch cycles and the yEarLink 9040 consumer brochure. So if you ever do run out, which we hope you don't, but if you do, you can always print one off.

And then the last item within this category is the HearLink 9040 Consumer Connectivity guide. Essentially, these items are designed with year member in mind and have been developed to really assist them as they navigate their new Philips hearing devices and explore Bluetooth connectivity within the Philips app.

And then finally, we do come to the dispenser tools. These are tools that are designed for you, the hearing care professional one of the features of this section is our wide variety of faqs, and these FAQ sheets are just chock full of common questions and answers, allowing you to visit these and really familiarize yourself with all of the current Philips products and technology. While these sheets don't really provide in depth knowledge per se, they do provide information that is designed to address really just the most important topics, serving as a beginning point for you to start asking more questions as you explore each product a bit more.

Under dispenser tools, Philips also offers various job aids related to member counseling. These pieces help you as you do work with your members in the decision making process and they include items such as the Apples to Apples Guide. So this is a great guide. Let's say if your member is coming in from a competitor, or if they've been elsewhere and they are demoing a device and or they bring in maybe literature from another device, this is a great piece that helps them to compare. Okay, what does this device have in comparison to the HearLink 90 40 device?

The 90 40 training sheet? This is kind of more of a value proposition, I would say. And this really lets you and your member know what makes the Philips HearLink unique. So what is it about Philips? What is it about the HearLink technology that makes it so premium and so unique among the brands?

HearLink 9030 Customs Counseling Guide this is a guide that is useful for those members who are looking to purchase custom style devices and perhaps aren't too sure exactly what style might be right for them. So what features are available? What size is the best for me so it gives them kind of a realistic expectation of what can I get with what?

We have a listing of the HearLink 90 40 accessories. So if you have a member perhaps who isn't too sure if maybe they want to purchase another accessory or what accessories are available, this is a great sheet to look at. It's also a great sheet for you because it does have the item numbers on here as well. So very, very good for quick reference.

And finally, the support found on the portal does not end once a Philips product is chosen for your member. Rather, we do want to ensure that we provide the tools necessary to support you through the fitting of a Philips product from beginning to end. Therefore, Philips offers a variety of tools that are designed to provide fitting support to you as well. And this starts with the Philips HearLink 9040 acoustic Guide. This is a printout of the acoustics, maybe some how to select how to change what is the appropriate dome, what are the appropriate speakers.

So it's a printout of the acoustic guide. And here we have the fine tuning guide. This is essentially the fitting assistant, but in a printed document. So if you want to have a visual of it without going into the software, this is an excellent piece to reference. HearLink First Fit guide the HearLink first fit guide goes through just a general first fit of the Philips HearLink device, explains the starting point and then how to navigate through to finish session with a Philips HearLink fitting.

So this is our kind of final activity and this is going to serve to bring all of our available tools together. We had our products and then our technology, both serving to assist with helping you fit the member with the absolute best product and technology available. However, now we want to go ahead and

ensure that we have the tools to not only assist in helping you as the hearing care professional in making that initial choice, but also providing support along the way to ensure both an accurate first Philips and long term acceptance of your members.

Looking at our first scenario which was fitting the device with the fitting the member with the device that they were familiar with, and maybe we would have changed our direction a bit as we had dug into the members COSI and began addressing needs via technology and software tools. However, this option did mean sticking to the HearLink 9030 ITC or ITE style which provided the member with Bluetooth connectivity and the zinc air battery that they desired and really not venturing into anything new or unfamiliar as far as style is concerned. So if we do follow the scenario, what documents potentially could we have looked to on the portal that might have been useful and what might have proven useful within the software for ensuring an accurate first fit and follow up sessions. So again, looking at this scenario where we fit the member with the custom device on the portal, we would have found things such as the customs counseling guide. Again, remember this is that piece or that document that is helpful in advising the member regarding size and available options.

And then we do see the accessories guide because they'll be able to pursue items such as the TVA or the remote control or audio clip, or really any of the accessories if desired. And again, there's so many options that you could look to on the portal, but these are really just picking out one or two that are items that would be helpful. And then you turn to the software and the fitting and follow up knowing that Philips is there to provide support through the software. We do have some other items within the software that can be used on the first or the follow up fitting. We have the personalization questionnaire, which I know isn't widely, widely used, but this can be used.

I do like it. I think it's a great benefit and can really be helpful in accurately setting those advanced feature settings personalized for the member. So this can be used on the first or follow up setting to

best adapt the advanced feature settings for the member based on, you know, what they're experiencing and what is going on in their environments. The adaptation manager to ensure a comfortable first fit, because again, we don't know what this member was fit with before. So were they fit appropriately?

So yes, they are an experienced user, but they've had the same devices for five years. So have they been back for a follow up? Have they been getting enough gain? Have they, you know, been under prescribed etcetera? So we may be starting them off at 80 or 90% of gain, and then we may have to utilize that adaptation manager and then data logging to provide information useful for fine tuning.

So this is really going to be for an accurate follow up, to be able to follow along with our member and be able to talk with them and know exactly what might be happening in their day to day lives with the hearing aids.

Looking at our second scenario, which was fitting the member with the BTE style device and zinc air battery, this meant going with the HearLink 9040 mini right tee or mini BTE T, but keeping that zinc air battery since the member, again, he wasn't too sure about the rechargeable batteries. So if we follow this scenario, what documents could you have found on the portal that might have been useful and think about what might prove useful within the software for ensuring an accurate first fit with either again the first fit or follow up sessions.

So here we see some different documents, again some different, some same.

So on the portal you could have found the HearLink 90 40 apples to Apples guide which is very helpful in advising the member regarding available options and the technology features. Because remember this member perhaps is wanting to ensure or this member was wanting to upgrade technology. So maybe what you are going to need to do with this member is ensure them that they are getting

upgraded technology. So show them a side by side of okay, this is what your current hearing aids have or what they don't have versus what the Philips hear link 9040 has in the way of features and options. So doing that side by side apples to apples with what they currently are fit with to what they are looking to upgrade to for a device.

And then of course again the accessories guide because once again they do want that streaming, they have the Bluetooth. So we know that streaming is something on their mind. So hey, maybe they are going to want to stream tv from the TVA or the audio clip might be something that they're interested in. We never know. So want to keep that handy for them as well.

And then we turn to the software with the fitting and the follow up, the acoustic guide. This is going to assist in laying out the options available and helping to choose what might be best for this member as far as acoustics is concerned. Again, we see that personalization questionnaire which can be used to set those advanced feature settings. The adaptation manager, same thing as before because we don't know where they've been. So they may be starting at 80 or 90 or perhaps they're starting at 100, we are not too sure at this point.

And then the use of data logging for that follow up and counseling.

Now looking at our third scenario which was fitting the member with a BTE style device, that is both the new device and it's rechargeable. This meant again going with the HearLink 9040 mini write TR or of course the mini BTE TR. So we have a new style, the member has the rechargeable battery. So same as we have done in the past too. Thinking back to the portal documents and then looking to the software, what are we going to look at?

So you see a lot of kind of repetition here. Apples to apples. Once again making sure that this member is getting value for what he's going for. He is updating his hearing aids. He wants to make sure that he's

getting these new features.

So what does the HearLink 9040 have in comparison to what he already has in his ears? And then I put in here the HearLink 9040 training sheet. So we did have to counsel this member not only on new technology, but also new technology where the batteries are concerned. So adding in that value proposition and really showing what is the value of the Philips technology, not only with reference to the technology within the device, but also the hardware and the software features as well. So this is going to include counseling on the rechargeability piece and then again accessories guide because they're going to be able to pursue those additional items if that is what they need to complete their total hearing healthcare package.

Then as we turn to the software, it's the same thing, you know, very much the same thing as the mini write t and the mini BTE with the acoustic guide ensuring a best fit from the beginning. Personalization questionnaire. If we would decide to use that adaptation manager, then the use of the data logging information for that very accurate fitting and follow up.

So let's look at, I want to, before we exit this activity, let's look at consumer tools. We do have consumer tools available as well for this member. And this would be true regardless of which style device that the member did choose because of course he is getting the new technology, he's getting the connectivity. So we want to be able to be sure that we have the consumer tools available for this member as well. So you know, the QR codes, this would enable him to or her or this member to download the app and have this available for them.

And then a printout of the app guide so that they have an app overview so they're aware of how to easily navigate the app and go through the screens. And then this hear link connectivity, the consumer connectivity guide, which is the connectivity and troubleshooting guide. This is a great piece for your members because, you know, while they may come to you or they may call us for troubleshooting help,

it is also beneficial for them to have something that they might be able to follow on their own. Because if they can reconnect quickly at home without having to sit on hold or without having to come into the center, without having to send an email, make a phone call, it's much easier and less stressful for them to be able to do so. So these three pieces are especially useful consumer tools for your members as well to be able to have on hand for them so that they can access the app and connectivity troubleshooting.

So throughout this course, we have learned a lot. We explored what Philips offers you, the hearing care professional, as you do take your member from beginning to end on their hearing healthcare journey. We began with premium products and superior technology to meet your members needs, and these needs can be made evident not only through their audiogram, but also through their case history that they bring to you and their cosi. Then we looked at the HearLink software, which offers advanced feature settings that make sound quality adjustments possible and numerous tools to help guide you as you do make these adjustments. Then finally, we looked at the Costco portal, the SBO Costco portal, which is a powerhouse filled with job aids that are developed with both you and your member in mind.

As we close our course today, I would like to welcome really any questions that you do have that we have possibly not yet addressed. You can always please send them in to us. Our contact information is listed here. If you do have any questions, any concerns, please do feel free to reach out via the contact information listed.