



SoundBites Podcast Transcript

Episode: Ray Woodworth

Dave Fabry: Welcome to Starkey Sound Bites. I'm Dave Fabry, your host and Starkey's Chief Innovation Officer and an audiologist by training. And it gives me great pleasure to introduce my good friend and colleague, Ray Woodworth, who's been with Starkey for...

Ray Woodworth: Over 20 years.

Dave Fabry: 20 years, and in the discipline for over 20 years. And I don't think it's hyperbole to say that you are known as a master of custom hearing aids. And I can tell you that you have many fans who are likely listening to Starkey Sound Bites perhaps for the first time because of the way that you've helped them achieve the best solutions for their patients by ensuring customized, personalized technology. And that includes not only the programming that goes into compensate for their hearing loss, but importantly that custom solution that enables the cosmetic benefits, all day, comfort, freedom from feedback, a nice tight fit in the ear. And there's no one better than I can think to talk about this topic than you, Ray, and I'm really pleased to have you join us today.

Ray Woodworth: Well thank you for having me. I have to give a lot of credit to Bill Austin.

Dave Fabry: Of course.

Ray Woodworth: I've been at the headquarters for over 20 years. And quite honestly, when I first came here I didn't know what I was getting into. So working with Bill all these years, he's showing me something, a different light. I used to work in a private practice and when I was in private practice back in 2000, I was doing custom products at the time. I would shoot impressions and look at the orders and make sure I get the best result for the patients. And that's what we want. We want to make sure our patients are happy and we give them the best results. And quite honestly, I would just shoot the impression, put it in the box right after the order and send it out. I wouldn't pay attention to the little details that I've learned through Bill.

Dave Fabry: And Bill is fond of saying the ear is the boss.

Ray Woodworth: Yes.

Dave Fabry: And I know you've taken that mantle too in your day-to-day activities.

Ray Woodworth: Yes.

Dave Fabry: Why is it that the ear is the boss?



Ray Woodworth: So that's a very good question. So in my classes I always make that phrase and I got it from Bill. So one time I was shooting an impression and I take it out and I show it to Bill. And Bill looked at me and goes, "Remember I'm not the boss." I love it. I said, "Okay." He goes, "You're not the boss." He said, "The ear is the boss." And I was like... And it didn't really dawn on me until he really said it. And he looked at me in the eyes,

Dave Fabry: The magnitude of that statement initially-

Ray Woodworth: It resonates.

Dave Fabry: It totally resonates for anyone that has made custom devices that fitted properly and didn't fit properly.

Ray Woodworth: So what we do is we hear a lot of patients tell us what they want, but we don't hear a lot about what they need and the ear dictates that. So we want to make sure our patients are happy, we want to give them what they want, but at the end of the day, we can't change the ear for what it is.

Dave Fabry: Nope.

Ray Woodworth: The ear is so unique and so different. So Bill always tells me, when you work with these patients, you want to do what's best for the patient. But you have to see the ear. The ear tells us a story, it tells us what we can and cannot do. And being here at the factory, as long as I've been here, I know the parts, the receivers, the vents, the chip, and help with the size of them and how they fit. So I don't know if we're going to get into discussion about over-the-counters, but of course you know, the ears are not standard.

Dave Fabry: Well, people have talked about the uniqueness of the external ear, the ear canal. It's almost like an earprint as unique as your fingerprint is.

Ray Woodworth: And when you look at the different styles of hearing aids with our 2.4 CICs, with our rechargeables, the AP modes.

Dave Fabry: AP, what's that mean?

Ray Woodworth: AP means absolute power.

Dave Fabry: So I would beg to differ in saying traditionally, historically AP means absolute power.

Ray Woodworth: Yes.

Dave Fabry: But I think now all purpose.



Ray Woodworth: Yes, absolutely.

Dave Fabry: I see more and more customization, when we're talking ear mold impressions and custom products, it's not just an in the ear custom product, but also a custom driver, a custom solution that goes in the ear coupled to a RIC, a receiver in the canal device or even a BTE in the form of an ear mold.

Ray Woodworth: Yes. So yes. Correct. So one of the things that people need to understand is... Remembered the zone product that we had?

Dave Fabry: Sure.

Ray Woodworth: It was a RIC with a bud and we were trying to reach a certain loss that wasn't a candidate for a bud. They needed more power. So back in 2009, 2010, we got a hollow shell and Bill put a receiver in it and then we solidified it. We made it hard. And people ask me, "Why is it a solid shell?" So when you talk about absolute power, the receiver vibrates. And then when you put it in a solid shell, it makes it more stable and it separates the receiver from the microphone. So when you do these things, you can drive it harder, give more clarity without feedback. So the AP was born because we wanted to fit losses that needed the power and the clarity.

And in 2009 when we started fitting them, like you said, they were called absolute power because all we were using was the 70 receiver and the big 60 receiver. Nowadays we found that some buds don't stay in the ear, some buds irritate people. So we went into using APs for all different powers now to allow better sitting molds in the ear to help it retain, also some ears you can get really big vents and again, the ear is the boss because some ears you can't get a big vent. Because the ear doesn't allow it. So when we talk about AP molds, I find that you can pretty much fit anybody with an AP mold if you really look at it. But there's some cases where the ear is too small to where you can't get a too big open vent, but they may feel occluded.

Dave Fabry: It's that trade off between the power of the receiver and then the consequence size of that and the receiver and the openness of the vent. And if you want a high powered receiver with a big vent, which often might only be the case for those steeply sloping losses.

Ray Woodworth: And you have to be careful with that because if you make the vent too big, you're going to have feedback issues.

Dave Fabry: Exactly.

Ray Woodworth: But I've seen that. I've seen people come in with buds and we're not reaching the highs because it is too open. When you make a custom mode, it conceals a better, it makes it sound better.



- Dave Fabry: And you can likely get a more secure and deeper fitting in the canal. That receiver can sit deeper in the canal.
- Ray Woodworth: And better sound direction.
- Dave Fabry: With better sound direction.
- Ray Woodworth: Absolutely.
- Dave Fabry: So that it's not pointing it into a canal wall, it's getting further in the canal wall so that even if you're doing a more open device, there's a smaller residual canal beyond the tip of the receiver than what you likely can get with a dome placement. And that more absolutely standard location, a little shallower in the canal
- Ray Woodworth: And also you get less feedback because you got a good seal fit.
- Dave Fabry: And separating the microphone from the receiver.
- Ray Woodworth: So there's a lot of things that we configure for a reason. And I'll be honest with you, there's people that don't want behind the ear. There's people that want custom, they don't want something behind the ear. So I've seen people come in and they say they want an IIC, which is invisible in the canal, and they don't want the Bluetooth, they don't want to stream, they're just want cosmetic. We're known for cosmetic, we're known to make really small hearing aids. So if the ear dictates says, "Hey, we can do this." I get excited for the patient, "Hey, we can build this for you. Your ear tells us we can." So every time I go in, when we see patients nine out of 10 times, I shoot through ear impression because I can show them and say, look, this is what we have, this is what we have to work with. I can make this what you want, what you told me.
- Dave Fabry: Yeah, and one of the things that I've seen both you and Bill Austin do is really look in the ear with the otoscope and then encourage the patient to talk before you make the impression, before you ever make the impression you're looking in the ear. Because we're not talking about imaging the inside of a coffee cup or a bottle, a stable, that thing is moving.
- Ray Woodworth: Absolutely.
- Dave Fabry: And I've watched both you and Bill look in the ear and really analyze before an impression is ever made or an Oto-Block is even positioned to see what's going on and where that movement, how much movement does [inaudible 00:08:58]
- Ray Woodworth: Absolutely. I'm glad you brought that up. So people always ask me, "Hey Ray", I work with a lot of our customers over the phone and I troubleshoot a lot and I work with a lot of difficult cases. And I get people calling me saying, "Ray, why is



one staying in just fine? And the other one is walking out." Well, each ear is different. And I've seen where one ear moves a lot when they chew and then the other ear doesn't move at all.

Dave Fabry: Well, and I'll go a little further with that because I've done some work in the past in this area, you see, and I think whether or not people realize it, and this is going to drive some people crazy now when they think about this, but as humans, we're habitual chewers, and so when you go to chew on a steak or a jawbreaker or anything that is a hard resistive object, unconsciously most people favor one side or the other, whether they have dental work or a cap or a crown or sensitivity.

And they're bearing down when they go to chew on something really meaty, they go to the same side all the time. And that is what drive... Most of the time people will-

Ray Woodworth: That makes sense.

Dave Fabry: I have a patient who has IICs or completely in the canal devices that walk out of both sides. Usually it walks out of one side and then when you ask them to start thinking about where are they chewing more aggressively, it's almost always on the same side. And that's going to be the side that walks out and more than the other and you need to take care. How do you overcome that then? How do you compensate for that?

Ray Woodworth: That's a good question. So when it comes to TMJ jaw movements, people think that just because you make it longer or they think there's certain ways you can do to avoid that area, you have to keep in mind that when you have a profound loss, unless you have that jaw movement, you have to make sure you have a good seal. You can't just start modifying it and trying to take off in that area because-

Dave Fabry: Feedback will be the result.

Ray Woodworth: And when they chew, it starts feeding back. But if an ear has good retention and if it's a mild hearing loss, you can be a little more aggressive, you can start taking off more. So it's not just the ear but also the hearing loss we have to look at.

Dave Fabry: Correct.

Ray Woodworth: So more profound losses, I found that you have to have a good seal fit and you can take off in certain areas, but don't be too aggressive on that area. Especially where the jaw movement is. A lot of people ask me where the jaw movement is typically on the anterior wall before the second bend, that's where it usually is. It's not on the back wall, it's not on top on-



- Dave Fabry: It can be, but it's far more common on the anterior.
- Ray Woodworth: Far more common in the front wall before the second bend. And you know mentioned earlier about why we always look in the ear.
- Dave Fabry: Yeah.
- Ray Woodworth: Another thing we look at is the texture.
- Dave Fabry: Yes.
- Ray Woodworth: The texture of the ears. I've seen patients where the skin folds, the skin's very loose and we work with a lot of elderly people. And when the skin folds and it's very loose, you got to be careful.
- Dave Fabry: Because you can get what's called prolapsing, that's where canal is [inaudible 00:11:55] and it closes down because that cartilaginous portion is loose and floppy.
- Ray Woodworth: And if you make the hearing aid too tight, what happens? The skin goes with it and then the skin pulls it out again. So you have this motion of why is it walking out? And sometimes it's because we're not tapering it enough or it's too tight. So when I see an ear that has a lot of folds in it, I typically try to not make it too tight. Especially if it's a mild hearing loss, I try not to make it too tight and take off on and taper it so it'll be easier to get in and it won't just push it out.
- If you have a profound loss and you're worried about it taking off too much, that's what a canal logs come in. That's where you do a half shell, a full shell. We can do any style, but the question is what's the best style, what's the best solution? So everybody has a solution. But my question is learning from Bill is, it's not the solution. What's the best solution? And the best solution comes down to how much do you understand the ear and understand the product. If you understand the product and the ear and hearing loss, you can marry them and interface it better.
- Dave Fabry: And so from the professional standpoint, for many of the people listening to this podcast are dispensers, audiologists, the most important thing is garbage in, garbage out. And so they've got to start with a good deep impression. And I would encourage professionals to make deep impressions on everyone, whether it's a mild gain or a more significant gain because it helps with how to direct that sound down the ear canal to know and anticipate any turns.
- Ray Woodworth: Knowing that, but also for retention. I've seen so many impressions come in where they're too short.
- Dave Fabry: Then you're just guessing. We're guessing at the factory line.

Ray Woodworth: And also I cringe, because they call us in, why is my hearing aid walking out? Why is it feeding back? It's because the impression was too short. So what happens is you lose the boldness areas of the ear. One of the things I learned working with Bill all these years is paying attention to the little things. The little things can make the biggest impact. So when you shoot an impression, pay attention. People tell me, "Wait, how do you put it down so far?" And I'll be quite honest with you, and there's people that would admit it, that some people just don't feel comfortable going down to [inaudible 00:14:15].

Dave Fabry: But part of that is if you get into the habit, if you routinely go instruct the patient what you're going to be doing, tell them they might feel a little discomfort as you're placing it, but assuring them that you're not doing any damage. If you get used to doing the same procedure at all of the time on every patient, even knowing that the architecture is different, it's going to lessen that anxiety. And I think because of those dome tips with the receiver in the canals becoming the most popular style, quite frankly as a discipline, we've gotten out of the habit of making good impressions, good first impressions.

Ray Woodworth: Yeah, you're absolutely right. And one of the things I bring up in my classes is when you get the technique and understand how to place the block and so forth, you have to remember if you use a big block on a small ear, it's not comfortable.

Dave Fabry: No.

Ray Woodworth: And they react.

Dave Fabry: Sizing it properly.

Ray Woodworth: So the size of the block is a huge factor. Bill always tells me, "Flatten the cotton, flatten the cotton." And I was like, "Why is he always telling me to flatten the cotton?" And it made me realize that when you flatten that cotton, you can go down further without putting pressure on the other side.

Dave Fabry: So you prefer cotton over foam?

Ray Woodworth: Absolutely.

Dave Fabry: Me too.

Ray Woodworth: I think you can use foam if it's for the right ear. If you have a surgical ear, absolutely fill up the cavity, get the cavity filled in. But when it comes to IICs or CICs, something that needs a lot of information about that ear, I would go with cotton because you can flatten it and make it more comfortable. Also it gives us more information. When the block is too big, we lose almost half of the ear canal because you use a foam that was huge.



Dave Fabry: And people don't realize that as soon as they come to us, the first thing the technician is they take it off is they take that off. And if it's half filled the canal, there's a lot of guesswork. Yes. So that's where I think cotton is customizable. You flatten it, you put it in. And this is ultimately then really the ultimate in blocking, auto blocking and tackling the problem unique to the patient.

Ray Woodworth: And I ask people in the class, "Why do you guys continue to use foam?" And you know what they tell me?

Dave Fabry: What?

Ray Woodworth: They're worried about getting a blow by.

Dave Fabry: Okay. So they're... Okay.

Ray Woodworth: Fair enough.

Dave Fabry: Sure.

Ray Woodworth: Fair enough. That's fair to say. But if you get the right circumference, I've been shooting one time Dave, I shot over a hundred ear impressions in one day.

Dave Fabry: Wow.

Ray Woodworth: Because we had classes that come in for training and I had to get... Bill want those impressions perfect. Yeah.

Dave Fabry: A hundred perfect impressions in a day is no small feat.

Ray Woodworth: And Bill is a perfectionist and he wants to make sure everything is right where he wants it to make sure to get the best result. So I always... Till three in the morning, you've seen it.

Dave Fabry: I've seen it.

Ray Woodworth: And never had a blow by.

Dave Fabry: Yeah.

Ray Woodworth: Never got-

Dave Fabry: That's because it becomes ritual when you're doing it over and over the same process all the time.

Ray Woodworth: Yep, and I use a video to scope. I don't use a handgun.



Dave Fabry: Good light is extremely important. There's been a time for those of us who've been around a while where people did impressions with a closed jaw, an open jaw using a bite block.

Ray Woodworth: Yeah.

Dave Fabry: What's your position on that?

Ray Woodworth: That's a good question. I get that question often. So 23, 22 years ago when I started, I saw a lot of the mouth blocks. And back then, one of the reasons why we used mouth blocks is because we wanted to get a nice seal fit. Well our feedback handle is phenomenal.

Dave Fabry: [inaudible 00:17:51] improve.

Ray Woodworth: So our tight fits didn't have to be like it used to. So people use mouth block because they wanted to make sure they get a nice good fit, tight fit. Well I'd be quite honest with you, I never use a mouth block.

Dave Fabry: Yeah.

Ray Woodworth: I use relaxed jaw. I don't... And if they have-

Dave Fabry: And a stable jaw position though.

Ray Woodworth: Yes.

Dave Fabry: It is important. Not having them talk because the cure rate on these physical impressions, silicone or methyl methacrylate impressions require that cure rate is going to start sealing. And if you're having them talk, you don't control for the fit at any position.

Ray Woodworth: And that's one of the reasons why we look in the ear before we shoot it to see what that... Because there's some people that don't have TMJ issues and there's some that are aggressive. But yeah, again, we don't use mouth block. I used to, but not anymore.

Dave Fabry: Okay. So deep impression. Cotton Oto-Block.

Ray Woodworth: Yeah.

Dave Fabry: Fixed relaxed jaw position. But a stable jaw position.

Ray Woodworth: And also there's another thing that's very important while you're shooting the impression, keep the tip inside the ear. I think we pull out too soon, the tip. So when you-

Dave Fabry: To get a solid fill.

Ray Woodworth: Yeah. So what happens is when you put the block in and you got the material ready, the gun, whatever, the syringe, when you put the tip inside the opening of the aperture, I find that people, they move it out too quickly. And you start getting these voids in your pockets.

Dave Fabry: In layers.

Ray Woodworth: Yeah, layers and stuff. And it creates voids where we have to fill it in here and start guessing. And now you have a fit issue. So I think what you should do is, and I do this all the time, is I stick the chip in and I count 1002, 1003, 1000. I say it in my head and then when I start seeing the material, I start coming out with it. And keep in mind I've tried to perfect it because Bill wants it perfect and I got to make sure I give it to him perfect. So I've learned to perfect it to where now when I pull the tip out, I let it run out and then I go up and into the helix, I come back down and then I keep it there and I let the material do its own work. I don't try to do it for it. So what happens is people when they shoot the impression, when they take it out, they start moving it too much. And what happens is you start creating these air pockets. And so I let the impression do what it's supposed to do.

Dave Fabry: Don't be in a hurry,

Ray Woodworth: Don't be in a hurry. And when you put it... And when you go up and go back down into the bowl, leave it there and let the silicone do what it's supposed to do, which is it will spread out and it's all you have to do. And then when you take it off, you should have a nice spiral and round flat. To think about that. When people talk about, "Hey, why would you shoot a full ear impression or a long impression all the time?" Well you got to keep in mind that when you scan a new impression, let's say you decide to change the model. Let's say you decide to add a canal lock or helix lock or whatever, we'll have it on file. If you don't fill all that in, you're going to have to ask for a new impression. So if you give us everything at first, we can always add things to it.

Dave Fabry: We do this same process all the time and make it happen. Don't be in a rush, make it happen. Good lighting like you said. And then focus on trying to make it as complete an impression and don't worry about wasting a little bit of material. It's better to get that entire ear.

Ray Woodworth: And Dave, so if they call back and say, "Hey, can you add a canal lock?" "Well you didn't fill in the bowl."

Dave Fabry: So we can't do an impression.

Ray Woodworth: We need to...



Dave Fabry: Takes time. Another impression, it's interesting because we live in a TikTok world these days and I know there have been hundreds of thousands of views of people getting wax removed from their ears. I think you should start a TikTok channel on making your mold impressions.

Ray Woodworth: Yeah.

Dave Fabry: Because it is putting my nerd hat on. It is an art and a science to get a quality impression, which is absolutely going to deliver that end result. Whether it's for an ear mold, a receiver in the canal, AP, or whether it's a custom device that fits deeply in the ear. And it all starts with the impression. And if you're not beginning from a good analysis, spend a little bit of time with a good light looking in that ear, getting a lay of the land before you ever put the block in, before you ever put any material in the ear, you're going to be so much better off than if you try to rush through it because you're scared.

Ray Woodworth: And quite honestly, Dave, I think like you said, you hit it on the head, slow down, slow down. Because if you take your time and get it right, you have less returns. You'll have less fit issues. Less remakes. If we just get it right on the first.

Dave Fabry: So I want to talk about two areas. One is let's do custom first and then let's go to... I want to get to the issue of the trade off between venting... Well let's cover this venting and receiver power. Many professionals think worst case scenario, what happens if the person's hearing changes? So I'm going to go with a bigger vent, I mean a bigger receiver, larger power receiver than I need right now. But I want to have a little bit in reserve. But then that means you're having to downsize the vent, particularly on smaller ears. We can make other receivers, other APs. What's your feeling on oversizing the power of the receiver and undersizing the vent versus the other way around, selecting the appropriate power and then going with the biggest vent?

Ray Woodworth: You brought up something that I went into a lot as far as people wanting to overpower or reserve gain, like you mentioned. And I'm glad you brought that up because I didn't think about that until you brought it up. I get a lot of calls about, "Why is the hearing aid bigger, why is the vent too small?" They email all these why's, and I found that you have to do the initial fit and make it the most successful fit. You can't think about the reserve, because...

Dave Fabry: Or what's going to happen in the future?

Ray Woodworth: And the reason why is because you want to make sure that patients happy when you first fit them. When you start thinking about reserve or the future of, "Well I need this for later on", you're going to change that fit, you're going to make the hearing aid bigger because the receiver sizes are not all the same.



Dave Fabry: No.

Ray Woodworth: They're all different.

Dave Fabry: No.

Ray Woodworth: So when you ask for more power, you may be asking for a bigger hearing aid. So if cosmetic is more important, I would fit what they need now and make sure they're happy.

Dave Fabry: We can remake with a larger receiver whether it's a custom or an AP,

Ray Woodworth: But Dave, let's say the hearing changes, then we got to go back to drawing board and make something that suits that change.

Dave Fabry: At that time.

Ray Woodworth: At that time. So I found that people, when they start asking for things that they don't need now, but they may need later on. But if they may not, but what happens is you start having occlusion issues, you start having vents being too small because you want a bigger receiver.

Dave Fabry: It's really a partnership between us, the manufacturer and the professional. And the professional knows the patient, they know their business.

Ray Woodworth: Absolutely.

Dave Fabry: But we also know that trade off because of our experience with millions of ears.

Ray Woodworth: And also the parts, familiar with the parts and how they fit.

Dave Fabry: And I think it's really truly, the best results are achieved when there is a meaningful and deep collaboration between the partner, the professional and the manufacturer. And the trust that goes along with that. And I know you are really a trusted advisor to a lot of professionals-

Ray Woodworth: Thank you.

Dave Fabry: In the field because they know that your thinking, as they are, in the best interest of the patient. And it's not just because we want to sell more products of this size or whatever.

Ray Woodworth: No, I want to do as best for patient like they do. We're in this to make sure the patients are happy. But I'm glad you brought that up, Dave, because I truly believe that if you get the initial fit right, you're going to have a long lasting relationship with your patient.



Dave Fabry: And whether it's custom or whether it's AP, I cannot stress the importance too of that custom solution to direct the path of the sound down the ear canal so that it's not bouncing and careening down the cartilaginous and bony portion of the canal but giving as direct a path to the eardrum as possible, makes a subtle but important difference on sound quality.

Ray Woodworth: And when you say that, you know what comes to my mind? Standard over the counter hearing aids.

Dave Fabry: Right. And think about that.

Ray Woodworth: I've seen people come in with buds and it's hitting right into the wall and they're like, "I can hear you, but it doesn't sound clear, it sounds muffled." It's a bud.

Dave Fabry: We say, "Well, oh, the programming is wrong for their hearing loss."

Ray Woodworth: The position of that bud,

Dave Fabry: The position of the bud, the way the sound is directed, all of that goes into the sound quality and probably is equally if not more important.

Ray Woodworth: And sometimes you have a really big ear and you put a bud in, all the sound bleeds out and they need more power in the highs and you can't get it because it's all bleeding out and it starts feeding back and you run into this situation where they need a custom. So this over the counter, I tell you, I see the commercials and I see social media and I see these over-the-counter stuff and it makes me cringe because I know how-

Dave Fabry: It may be an important part.

Ray Woodworth: It is.

Dave Fabry: We have to embrace the new reality.

Ray Woodworth: I know.

Dave Fabry: In providing accessibility and affordability.

Ray Woodworth: I agree.

Dave Fabry: However-

Ray Woodworth: I agree with you. I do agree. However, assessment affordable, I think that's great. But if people have seen as many ears as I've seen, our ears are not standard, they're uniquely different. And I tell you right now there's going to be a lot of hearing aids in this world. It's going to increase. And the reason why is



because people don't realize that, "Hey, I feel muffled." And not only because of the sound direction, because the ear is so small and you put a bud in, they feel plugged up, they feel occluded. So nobody's going to want to walk around feeling plugged up or occluded or when I take it out, I'm going to hear about it. So there's things that happen with the standard bud. Even if you change the tip, some ears just don't work with it no matter what size tip you use.

- Dave Fabry: Yeah. Beyond comfort [inaudible 00:28:10] Absolutely.
- Ray Woodworth: You have 90 degree turn [inaudible 00:28:12]
- Dave Fabry: You have acidosis. You have mastoid cavities.
- Ray Woodworth: Yes. And you have conducted components where they need a lot of power. There's going to be people going out there that have... And you know as well as I do that these are made for mild to moderate hearing losses. There's going to be people out there that have moderate to severe, they're going to try it.
- Dave Fabry: They're going to try it because they don't think, "Oh this is, now I can get hearing aids less expensively."
- Ray Woodworth: Yeah.
- Dave Fabry: You don't have to bother professional.
- Ray Woodworth: They don't know the difference of how much better it could be. And so yeah, I have mixed feelings about it, but I think you're right. It's more accessible and more affordable, but at the end of the day it's what's best for the patient.
- Dave Fabry: Absolutely. So I mentioned acidosis and mastoid cavities. What's the most difficult type of patient or canal or ears that you've worked with?
- Ray Woodworth: Well there's a guy that came in several years ago. He had Treacher Collins and he came up through me and he goes, "I need a new hearing aid." He's wearing a hearing aid. He took off both of his ears and he gave it to me. I was like-
- Dave Fabry: Yeah, first time that happens, that'll shock you a little bit.
- Ray Woodworth: First time. And he used 3M tape to tape them to his head.
- Dave Fabry: Yeah, to tape them on. Yeah. Now they have magnets. They have really sophisticated prosthetic ears.
- Ray Woodworth: The ears will look so real now, so real. And so the challenge we had was feedback because-



Dave Fabry: Narrow canals.

Ray Woodworth: Yeah, narrow canal. Also, when you tape an ear to the head, the ear to the head has to be completely sealed.

Dave Fabry: Yeah. It's not sealed, it's not tight.

Ray Woodworth: And the sound comes through the side of the ear. And so we told him that he needed stronger tape, more adhesive tape. And when he did that, the feedback went away. But it was a tricky one because you have to shoot the prosthetic ear on the head. You can't shoot the ear and then fit it. I've seen that happen with people, they'll send me orders with a picture of an ear and I said, "Well, you have to have the ear on the head." Because that's, that's how it's going to fit. And so that was a tricky one.

And I want to bring up something about challenging fits that I ran into. And I've seen fittings across all 50 states that come see us. Especially the ones where the customer said, "Hey, we tried everything and we're not getting any good results." I had a lady that came in and I'll never forget this. And it wasn't a physical fit issue, it was more about word recognition, being able to understand speech. And just seeing the audiologist did a test and we took the... Shot the impressions. And I told the lady, I said, "Listen, your hearing loss..." And she knew she had a bad hearing loss and she had zero word recognition, zero. And she wanted to be able to talk on the phone.

And so I was concerned because sometimes you have to set expectations. So you have to tell the patient, "Hey, this is the test, this is the result." And so we did the test and again, and when we fit her, she said she could hear better. Hearing wasn't the problem. It was understanding. So we fit her with new hearing aids and we got it up the way she liked it, verification, aid response. And she goes, "Do you mind if I go to the other room and talk to you?" I said, "Just letting you know you're a great lip reader." Because I'm a lip reader as well. Because I have hearing loss too. I said, "You're a great lip reader, you really tune in and you've had a hearing loss for a very long time and you've learned to look at people and read lips." And she was absolutely... But she goes, "Can I try to call you?" And I said, "Yeah, sure."

Dave Fabry: I'm wondering what she's going to hear.

Ray Woodworth: So she goes into another room and closes the door and I told her that we have a glass in our offices. I told her to turn around, not to look at me. I pick up the phone and I asked her five simple questions and she understood none of them. I wasn't surprised.

Dave Fabry: Sure.



Ray Woodworth: I gave the phone to her son. She got all the questions right. I believe, and we truly don't understand. We understand the ear and how the ear works, but the procession of how we hear. She's known her son for 25 years. He was 25 at the time. She knew that voice.

Dave Fabry: Okay. So her son was talking. It wasn't... Okay. Gotcha. So a familiar talker.

Ray Woodworth: The son was with me.

Dave Fabry: Got it, okay.

Ray Woodworth: I got the phone and gave it to the son.

Dave Fabry: Gotcha. Okay. I understand.

Ray Woodworth: And I couldn't believe-

Dave Fabry: The familiar talker.

Ray Woodworth: He asked the same-

Dave Fabry: And she was able to hone in on his voice.

Ray Woodworth: Yes.

Dave Fabry: Yeah. Oh, I've seen that many times. And absolutely.

Ray Woodworth: And [inaudible 00:32:50] 0% both ears.

Dave Fabry: Yes.

Ray Woodworth: And you know what? She was ecstatic and she said-

Dave Fabry: Because that's a voice she needs to hear every day.

Ray Woodworth: So I tell people, just because what you see, you got to try it. Because you don't know until you try it. So she came back to me and she was in tears. She goes, "I could hear my son, I could understand him." And she looked at-

Dave Fabry: Which for her is the most important voice.

Ray Woodworth: She didn't care about me, she was like, "Whatever..."

Dave Fabry: I need to hear you for this example.



Ray Woodworth: But it meant so much to her to hear her son. And so it made me realize, and Bill always tells me this, when you fit people and we talk about [inaudible 00:33:31] measurements and verifications and hearing a noise tests and all that, I think it's all important. Very important. But the truth is when the patient actually wears it and what they experience personally, because we don't know how the brain's really perceiving it. We know how to measure the resonance of the ear canal. We know how-

Dave Fabry: Matching target, all of that is important. An important part of the science.

Ray Woodworth: Absolutely.

Dave Fabry: But the art and the emotion of this is like you said, the ear is the boss. And the patient is the boss and the needs of the patient is always the only consideration that matters. And that relentless focus is what makes you not only a master ear technician, an ear magician in the sense of understanding the patients here.

Ray Woodworth: And I've been very fortunate because I've seen it for many years. And I think the truth is what the patient tells us. I have people that... I can go on and on Dave.

Dave Fabry: Well, and we're out of time, but-

Ray Woodworth: Oh we are.

Dave Fabry: I would love to...

Ray Woodworth: But just real quick, I see people that come in and like you said, we target the fit and everything looks great. We do all these measurements and they're like, "Hey, it's not loud enough. I can barely hear you." And everything looks good on the graphs and the computer and I keep turning it up. Well, the guy with analog hearing took 30 years.

Dave Fabry: Power junkies.

Ray Woodworth: He's a power junkie, but we don't see it on the audiogram.

Dave Fabry: And people listen in different points-

Ray Woodworth: And those are the best. We fit super thresholds. We don't fit thresholds.

Dave Fabry: We do not fit thresholds.

Ray Woodworth: We fit super thresholds.

Dave Fabry: And people like to listen at various points in that level. That's why comfortable loudness and upper limit of comfortable loudness, I know, factors in a lot to the



fittings. And I think it's all part of that personalization, customization and listening to the patient. And I'm really appreciative of you coming on the-

Ray Woodworth: I have more to say but-

Dave Fabry: Nerd out a little bit on the physical factors, the emotional factors, and most importantly the patient components. You had one more story to share, so go for it.

Ray Woodworth: So I don't know which one you want me to share, but I'll share it. Sorry. Yeah. So I've seen as many patients I've seen over the years. One of the things we do at here at the headquarters is we interface the fit before we build the hearing aid. What I mean by that is we actually make the shell and we put it in the patient's ears and you'd be surprised what you can learn about how the shell fits before we actually build the product.

Dave Fabry: So this goes back to the earlier part of the discussion where the movement in the ear canal and before you ever put the components in the product you're just taking the shell and this is the benefit of being here at the headquarters.

Ray Woodworth: Yeah, absolutely.

Dave Fabry: Because I've watched Bill do this and you do this where you put it in the ear before the components are there and see how that shell moves. And then it helps you with additional modification before you put the components in. And it's again, one of the things that makes that truly the center for excellence.

Ray Woodworth: And the Center for Excellence is a very special place because we have the factory behind us and we have Bill Austin.

Dave Fabry: I've been really spoiled for the 12 years I've been working here to have him right down the hall. And I know that the professionals out there in the market don't have that ability to be able to walk down the hall and get the benefit of this. But you as a resource, the Center for Excellence, Bill Austin, and that expertise is what I think enables Starkey to continue to have a reputation, the earned reputation of making the smallest, most comfortable, most cosmetically appealing devices, whether they're AP molds, whether they're custom in the ear canal devices of anyone in the industry. And that still the combination of our technology, the role of the professional will deliver optimal results for the patient.

Ray Woodworth: Can I bring up one more thing?

Dave Fabry: Sure.



Ray Woodworth: Yeah. You mentioned about the professional, when we talk about getting products over the counter and so forth. Do you know how many people I see that come in that don't know that they're completely plugged with wax, before they get a hearing test? We're going to have people out there testing themselves. They're going to be completely plugged with wax. I've had people come in with perforated ear drums, excessive fluid behind the ear drum, not even aware of it.

That part right there is so vital and so important that I think the health of the patient I think is the main thing here, that we're talking about here, what's best for the patient. And there was a [inaudible 00:38:18] with this guy came in and he had a growth in his ear, didn't know about it. And we told Bill about it and he ended up having a tumor and he went to a doctor, an ENT, and he had to have surgery that day. It was so bad, the tumor, and pretty much he told us it saved his life. When I see these things, it bothers me because I really care about what we do for our patients. When I see that and see what I've seen all these years and I see these commercials and I see these things on social media, are we truly doing what's best for the patient? And when it comes to [inaudible 00:38:59]

Dave Fabry: And it is part of a longer discussion, but raising awareness for the importance of hearing, raising awareness for the role of the professional is all a part of this process. And I think we'll see how this all goes, but I think if more people understand the benefits of amplification and the role of the professional and the importance of technology, the better off we'll all be.

Ray Woodworth: But don't you think that we should look in the ear before we do?

Dave Fabry: Absolutely. Absolutely.

Ray Woodworth: And do you think that people are going to get that service?

Dave Fabry: Not... They have various questions that are going to be given to them to sort that out. But I think that issue of OTC is going to continue to be an evolving one. And I think we just need to see how...

Ray Woodworth: I think if you get an OTC, at least go see a professional and let them decide what's best.

Dave Fabry: I'm with you.

Ray Woodworth: Because that's what they're there for. And I think that's so important, so vital.

Dave Fabry: Completely agree. So, okay, we've gone over but lots of great stuff here.

Ray Woodworth: Okay.



Dave Fabry: And I'll ask one more question. What's your favorite sound? You mentioned you have a hearing loss. What's the one sound that you would really miss if you could no longer hear the way you hear?

Ray Woodworth: When you said that, that touched my heart. And I'll tell you why. I have a 19 year old daughter, love to text, just to hear her voice.

Dave Fabry: Yeah, yeah. Texting is one thing but...

Ray Woodworth: She's a freshman in college and she's in school.

Dave Fabry: South Carolina.

Ray Woodworth: Yeah. She's having too much fun. But yeah, she's in a sorority and I said, "Honey, don't text me. Call me." So if I didn't hear my daughter's voice, that would bother me a lot.

Dave Fabry: Enough said.

Ray Woodworth: So that's personal to me.

Dave Fabry: We'll end there. So thank you Ray.

Ray Woodworth: You're welcome.

Dave Fabry: For being with us on this issue of Sound Bites. We talked about a wide array of topics.

Ray Woodworth: Yeah.

Dave Fabry: And I'd love to have you back to continue this discussion.

Ray Woodworth: Please do. I would love to come back.

Dave Fabry: If you like this session, please share it with your friends. Subscribe to the podcast so you're sure not to miss a single episode. Consult with Ray Woodworth who's in the Center for Excellence and the rest of the team that we have here. We're your partner, we want to help-

Ray Woodworth: Absolutely.

Dave Fabry: Ensure that those fittings deliver optimal results so that your patients are beyond satisfied to delighted. And thank you for listening and we'll look forward to hearing you on the next time.