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Clinical Referral Guidelines: Hearing Loss & CI Evaluation

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Today we're going to focus on clinical referral guidelines for hearing loss and cochlear implant evaluation. And the goal is to help ensure that patients are guided to the right next step when hearing aids may no longer be meeting their needs. Here are the learning objectives for today and some limitations and risks for attending the webinar and I have the pleasure of introducing our presenters. Dr. Kevin Zahn is an assistant professor of otolaryngology and the director of the cochlear Implant Program at Northwestern Medicine. He specializes in the medical and surgical management of hearing loss, cochlear implantation, and disorders of the ear.

He served on the American Academy of Otolaryngology guideline development group for the 2024 Clinical Practice Guideline on age Related hearing loss, which you'll hear more about today. Dr. Terry Zwolan is the Senior Director of Medical affairs at Cochlear North America. Prior to joining Cochlear, she served as a professor and audiologist at the University of Michigan and is widely recognized for her contributions to cochlear implant research and clinical practice. I'll turn it over to Dr. Zahn.

Great. Thank you guys so much. It's an honor to be here. We wanted to start off with just talking about quality care and how we think about screening. There's a lot of in healthcare, there's a lot of ways in which we screen a lot of different conditions.

And hearing care certainly deserves the same level of attention. And so we hope that today we'll give you some tools to talk about screening and some guidelines that we'll share that you can then also talk to your referring providers because a lot of our primary care physicians do screen for a whole sort of different types of medical conditions, but screening is for hearing is still quite vague. It still takes a lot of convincing people to understand why it's important. And so hopefully we'll give you some tools for that.

Okay, so I don't think, you know, we need to convince anybody in this audience that hearing loss is extremely common, but these are some helpful statistics to cite. You know, one in three adults age 65 to 74 has hearing loss. In the US about 15% of all adults or 37.5 million have difficulty hearing. Despite

being the most common sensory deficit amongst older adults, hearing loss is still often under recognized and under treated. I think it's very easy to recognize when someone has a hearing loss, but they're not using any form of amplification.

That's a very obvious example of undertreatment. But you can certainly have appropriately fit hearing aids and still be in a situation of. Under treatment. Treatment as well. And we'll talk a little bit about that throughout the seminar.

All right, so this is probably one of the most important slides, I think, because, you know, it's not too hard to convince people that hearing loss is important for communication. But there are so many aspects of how we think about hearing loss and what it can do for the individual in other ways. And, and that sort of requires a significant amount of education of referring providers and getting them to see the connections. It's not too hard to intuit how if you have difficulty communicating, you can feel more socially isolated. That can lead to mental health changes, loneliness, depression, anxiety.

That's something that I think a lot of people can intuit and understand. Similarly, I think if you have communication difficulties, that can affect your job performance, your academic productivity, your, and create financial burdens for you. But, but here, you know, when we think about cognition changes and falls, that's, you know, that's such a large and long term scale, it can be kind of hard to understand those things. You know, I think we're all very privileged to sort of sit in the space of taking care of hearing loss patients all the time. And so you have a lot of narratives to work with and you meet a lot of patients with hearing loss, you hear their stories.

And I think one story that really stuck with me quite a bit was I had a patient of mine who was extraordinarily reliable, always came for her follow ups and she had a complete hearing loss in one of her ears and she missed one of her follow ups and she missed a follow up after that as well. And turns out that she had this horrendous fall, had a hip fracture, had to have emergency surgery. And when I

finally got to see her and ask her about what happened, she said, well, you know, I was playing with my new granddaughter and I didn't hear her crawl underneath my legs and I tripped and I fell. Cause trying to avoid injuring that child, she fell and broke her hip, had to have surgery and a prolonged hospitalization. So that story has stuck with me quite a bit.

But that, you know, and I'll never forget that, but that can be kind of hard to understand when you just read on a page how hearing loss can increase the risk of falls. Right. And balance issues and so on and so forth. So I think by sharing these kind of things, it can be quite helpful for talking to other providers and referring providers, you know, about these, about the importance of hearing loss and how it affects so many other aspects of that individual.

And then when it comes to cochlear implants, these are, these are unfortunately kind of sobering statistics really. I mean, by the time oftentimes they make it to our clinic for a cochlear implant evaluation, it's been many, many years, average of 10 years in hearing aids before considering a cochlear implant. The vast majority of patients do not ever get to an evaluation. 90%. And the majority of my patients for sure wish that they had been implanted earlier, knew about it earlier on.

So these are when we think about undertreatment as well. Even with an appropriately fit hearing aid, these can signs of maybe, perhaps somebody needs to be evaluated for a cochlear implant.

I was hinting at this earlier, but I hope this is a useful tool. The American Academy of Otolaryngology Head Neck Surgery does have some really helpful clinical practice guidelines, specifically on age related hearing loss in adults. We'll hope to share that with you today. And so there's a QR code here for the plain language summary. But this was a, I was, you know, this was a multidisciplinary, multi year effort to create these clinical practice guidelines.

I was very lucky to be a part of it and to help with some of the writing. But we had, you know, all sorts of different stakeholders in this. Patients, you know, providers and societies that take care of older adults and take care of hearing loss. And so there are a couple of really important key action statements. And I think this, this is one of those things where you can certainly share with your referring providers and giving them tools and empowering them to use these guidelines in the plain language summary for when to start screening.

So one of the first key action statements is simply just to start screening hearing at the age of 50. So asymptomatic individuals, as part of your sort of annual exam, just to simply screen a patient for hearing loss. Now it is intentionally vague on how to do it, right, but there are, you know, when I did grand rounds for our primary care physicians, you know, simply just, I told them I gave them a couple of different ways and, you know, simply asking about it and any asking about communication difficulties or hearing loss is certainly a great way to screen. But you know, in today's day and age where, you know, I've got AirPods in right now, you know, and they can test hearing and screen hearing, there's so many different ways we can approach this. And, and so by simply just asking a question that is part of that first Checkbox.

And certainly in your conversations with referring providers, feel free to educate them on great ways of screening hearing as well. So once you first asked a question, the second key action statement is simply just to look in the ears, do an otoscopic evaluation, which certainly the majority of providers certainly do. And if they screen positive for any form of communication difficulty or hearing loss, then to refer for diagnostic evaluation and audiometry. And this is where all of us as hearing care professionals, this is where we play that role, is if they screen positive, please refer for diagnostic evaluation and appropriate amplification. Then in the individuals that are still struggling despite appropriately fit hearing aids and are still struggling with their hearing aids, then referring for cochlear implant evaluation is recommended.

So these are, are, this is a great tool, I think, for talking to your referring providers, but also reading through as far as how to refer for cochlear anti evaluation and so on and so forth.

And then next slide. Yes, so and this is of course this is a clinical consensus, right? There are multiple societies that have similar recommendations and guidelines specific to cochlear implant evaluation.

We won't get into specifically every single one, but this is certainly part one of many clinical practice guidelines released by these societies as far as when to refer the criteria and so on and so forth.

Okay, so let's talk about moving patients forward in the right direction so they make it to your office recognizing the hearing loss. And so there are a couple of key components here as far as figuring out what is under treatment and when it's appropriate to reevaluate the patient and when to potentially consider for cochlear implant evaluation. And so noticing perhaps we'll talk about a couple of things that patients might express to you when they are still struggling to hear despite being best fit with their hearing aids. And we'll go through some of those statements here. So I'll just read off of this.

The patient will certainly claim that their hearing aid is not powerful enough or returns often for adjustments. I'm sure all of us in the audience have probably spoken to patients like this. Background noise dramatically affects their understanding of speech. And that is a major component that they'll talk to you about. You know, they, this is, this is what I see the most often they rely on their family members.

So by the time they get to my office, usually they are already a co clinical candidate. And you know, the entire time they're just looking over at their family member about, you know, what did he say? What was discussed. They feel like they're not really participating in the conversation about their own care because they're constantly looking at their family members, and they need to see your face or mouth to understand you. So when I am meeting with a cochlear implant candidate, usually it's a quiet room.

And being a male talker, it's usually the easiest listening environment for them. But sometimes I'll just cover my mouth a little bit and just speak at a regular conversational volume instead of speaking so loudly in clinic, and you can immediately see how much they struggle with that. So those are certainly some clues that. That I. That I see, you know.

Dr. Zolen, what do you, in your clinical experience, kind of, what are some other things that you commonly see when you think maybe this patient is potentially undertreated at that point? Yeah, I think asking them, you know, when was the last time you got your hearing tested? How new are your hearing aids? How much benefit do you feel you get from them? I think one of the challenges is how do you then approach them and say, you know, I noticed you're relying on your family members.

I noticed that you're telling me you're having difficulty in background noise. So I think even acknowledging that you're seeing them experience those things. And you know what? Maybe we need to look at something stronger for you, something the next step for you. Maybe we need to go beyond the hearing aids.

How do you address that with your patients? What do you say to them when you're seeing these things? And then how do you acknowledge it with them?

I see a lot of. I think one of the most common scenarios that I face in my office is simply just trying to tease out the denial that's going on. And so oftentimes a family member, fortunately, a family member is in the room with me and with the patient. And so I'll just start listing off scenarios to both of them. It's like, do you ever find yourself in this scenario?

Do you ever find this. At this. Do you ever find yourself having difficulty communicating with them? You know, oftentimes the family member is shaking their head while the. The patient himself, usually it's a male, says, I don't have any problems hearing whatsoever.

Right. And so. And so just illuminating some of these kind of these, you know, like, do you struggle to communicate with your grandchildren? Do you struggle to communicate with this? And you just ask again and again and again, they're like, well, yeah, I guess, you know, yes, yes, yes, yes.

And then suddenly the light bulbs sort of go off a little bit on. Maybe they are not doing as well as they like. For me, I feel like a lot of times it's addressing the denial because I think in my situation, by the time they truly are for sure a slam dunk candidate, usually the conversation is more about surgery rather than convincing them that this is what they need. So I think I enter this space in different ways, but in my practice, a lot of times it's just like telling them that they have hearing loss and it's really severe. So.

Yeah. And I think sometimes they just think that's normal. Well, I have hearing aids. I should have trouble. Well, you're probably experiencing more trouble than most, and I think there's something we can do about it rather than just dealing with it.

I think they need a professional to alert them when they need to consider something different. And I think sometimes they just don't really think about that. Think about that next step. Absolutely. So let's look at this patient scenario here.

This individual describes difficulty understanding conversations in noisy environments. My kids say the volume is too loud when I watch tv. I spoke with my doctor and they suggested trying another more advanced hearing aid, but I'm not convinced it will help. You know, we hinted at this a little bit, but how would you navigate this, for example? Yeah, I'd be like, you know what, let's check your hearing.

But I'm an audiologist, and that's right where I go. But there's so much information in that audiogram, especially if I've had a previous one, and I can then talk to them about, well, you know what, your

hearing has changed. When was the last time your hearing aid was updated? Should we look at that? If it was just updated and they just had their hearing tested, then we need to look at other things.

But it's kind of knowing as a professional, while you're experiencing more difficulty than you really should be, but you can't always get that in that conversation. That's why we need that audiogram typically, which I think takes us to that very next slide. Right. So we're going to want to re evaluate their hearing. We want to recognize those signs that we're seeing in the clinic.

And. And then we're going to look at that audiogram and say, does this give us the information we need to put them into that next step? And when you mentioned the AAO guideline, I was really thrilled that the 6060 guideline was called out in the AAO guideline and really honored that that happens. And so we have it listed here as act, where you would conduct a hearing test. And if the pure Tone average in their better ear meets 60 DB HL, a really strong sign of when to refer that 60 is kind of like a magic number, especially if it's combined with a word recognition score unaided in that same year of less than 60%.

So 60, 60 is pretty easy to remember, but it's a strong sign. So if we look at the sort of the other clinical scenario where if we go to that next slide where they don't mention any problems but you can see them struggling, that's a little bit different. Right. So then I think those are maybe those denial ones or those ones that aren't obvious. So I think we need to probe with those patients.

Right. So maybe those questions that you mentioned are where you have to ask them, where they're not going to actively report. Do you agree with that, Dr. Zahn? Yeah, for sure. I mean, it's sort of, you sort of have to name all these scenarios that aren't normal and convince them that that's actually not normal.

Like you shouldn't be, like you said earlier, like, you know, you have hearing aids, but you shouldn't be struggling this much. These are, let me just highlight a couple of different life situations that you might encounter. And oh, you are struggling in that. Well, you shouldn't be. Or at least not to the degree that, that you currently are.

And oftentimes it can just be. There's certainly a gestalt thing too, just by looking at how they, how they're looking at your face so intensely when you're communicating with them and sort of also denying that nothing wrong is going on. But yeah, I think just pointing out being very direct about certain scenarios is certainly helpful. Absolutely. And I think it shows the importance of continued monitoring of their hearing because it isn't.

It's just so different. It could be very subtle, but it could be so impactful. Their family members recognize it, but they don't recognize it. So, and even with the audiogram, it doesn't jump out at professionals and say, refer for an implant. And that's why the 6060 was developed, because there really wasn't.

You can't look at an audiogram and say with 100% certainty that someone's a candidate unless they're, you know, if you see an audiogram that everything's profound, well, that's a pretty straightforward referral. But an audiogram like this, you might look at it and go, how do I know? And I think professionals are worried about referring and then not being a candidate and thinking, oh, well, what if that Happens. But this one, if we look at the pure tone average, they did have a drop. We've got their thresholds prior to this visit and then they've dropped down a little bit.

So we can talk to the patient and say, yeah, your hearing has dropped a little bit. Sometimes what we used to do in these situations is that patient. Sometimes patients would come in and say, you know what? I'm on the verge of getting a new hearing aid. But before I spend that money, I want to determine if I'm an implant candidate.

And I'd say, this is great. Or they'd have just bought a hearing aid and they're still in the trial period. And I'd always call their audiologist or their dispenser and say they're in the trial period. We're evaluating. This is what we're doing.

It was led to a great partnership because I might send them back to return the hearing aid because they're an implant candidate. But I wanted to let that professional know. But you can look at this and see they have a 60dB pure tone average. That's a really good referral. And what I say to do with patients is to say, you know what, I'm following a guideline.

And if it's. If you're not a candidate, blame the guideline. Say that that guideline gives us a really good estimate. But not everybody will be a candidate. But there's really good chances if you meet this guideline that you're going to be a candidate.

And we'll go into more about that. And so it's not really what you say, it's how. How you say it. And don't be fearful about sending someone who might not be a candidate. Do you agree with all that?

I completely agree. And often, oftentimes I. It's. First of all, it's a huge win if they don't need a cochlear implant. Right.

Let's just be very clear there. Right. Like, I. It's a. I mean, yes, I'm a surgeon, like to operate. But, you know, it's usually a huge sigh of relief when I have a patient who just went for an evaluation and you know what?

They're not a candidate. And so there are things that we can adjust or send that patient back to the referring, provide to perhaps adjust so that they don't need surgery. Because the last thing I, obviously, the last thing I want to do is to implant somebody that I don't think I have a good chance of helping. Right. I don't think anybody wants that.

Right. And so, so in many ways, you know, what's, you know, refer the patient for an evaluation, it is not a commitment to surgery. And if they're not a candidate, in some ways that's very good news. Right. And so, but there's only one way to find out.

Right. And so, and that's for, for going for the evaluation. Absolutely. And I think that, you know, the easiest way to do it is sort of look at that pure tone average, the 6060 said in the better ear. I know a lot of clinics are now looking at in just one ear because a lot of clinics are based basing their decision on that ear because there are approvals for single sided deafness and asymmetric hearing loss.

And so I really think that that 60 is a marker, but especially if it's combined with difficulty understanding speech, when you've maxed out their hearing aids and you know that you've done the best you can and they're still not happy, then I think that, you know, they'll want to know what their next option is. So looking at those things makes it almost easier to do it. But we'll see on the next ones that that number is important. But to me, the most important thing is how you tell them about the referral. Because these are patients that have probably been going to the hearing aid audiologist, the hearing aid dispenser for years have trusted them.

And if they say, I don't know, maybe, maybe you should go consider this, they'll go, maybe I should consider it. If they say, you should really consider this, you're meeting this guideline. I'm not sure I can do more for you with additional hearing aids. If you refer with confidence and you say you should investigate this, you'll learn so much more, mean you have to get surgery. But I want you to be aware of every situation that is out there for you to hear better.

I think that's the key. And I think if you can refer with confidence, the patient will want to explore their options. Doesn't mean they have to take it like you indicated, but they'll at least be aware.

All right, so if we look at our next one, there's so much referral. Like, these patients really need some support. It's important to remind them that it doesn't mean you're going to go to surgery. And I think one of the hardest things that I've encountered with referral sources is sometimes they'll say, you know what, they start asking me about implants and I get really nervous because I haven't worked with them or I don't know what to say. And I get especially nervous if they start asking me medical questions.

What would you say to that? What should a referring audiologist. What do they need to know on the medical aspect of cochlear implants? Yeah, and you know, that's it's. It's inevitable, right, that a referring provider will be asked about surgery when they are the.

They're not the ones that do the surgery. I think, you know, I tried to whenever I'd have this conversation with, you know, whether it's audiology students or hearing dispensers or practicing audiologists first, just demystifying some of the misinformation that's out there about surgery. And I hope that they can at least speak confidently about that. It's 20, 26. The surgery is very standardized at this point.

There's no. 10, 15 years ago, there was still question about where exactly in the cochlea needs to go. Believe it or not now there is certainly no debate whatsoever on exactly the approach. What are the atraumatic techniques? The surgery is very standardized, and I think.

So that's one thing.

The recovery is fairly well tolerated. It is an outpatient procedure. Most of these are done under general anesthesia. I would say the vast majority are only in very, very selective circumstances do we do it under a local or Mac. But the recovery is fairly mild.

It's a small incision behind the earth. And there's really no real age limit to this. Right. I think. And that's one really key critical part.

I think a lot of patients and referring providers, medical providers, hearing care professionals, you name it, that think, oh, there's this sort of this bias. It's like, oh, well, you're probably too old for this. That's not. Oftentimes that's not true. And I think, you know, my Moldus implantation is 96, and he's just as ornery as he was when I implanted him at 94.

And he's ticking away really well, and he's doing really well with his implant. And so let that patient be the, you know, let us determine, you know, whether that's the case or not. So hopefully, you know, even though you're not the one doing surgery, you can at least say surgery is very, very standardized. It's an outpatient procedure. The recovery is actually fairly mild, and there is no age limit.

So if you're curious, just go for an evaluation just to get some more information testing. Great. And even as an implant audiologist, it would make me nervous when I didn't know the answer. But I learned pretty young that I'd say, you know, I don't know that answer. But the best person to answer that is the surgeon.

And when you meet with the surgeon, ask that question, write it down, remember it. So I think it's really okay for us as professionals to remember we can't possibly know everything and our patients know that and appreciate when we honestly say, I don't know. But I'm going to get you to the person who can answer your questions because that's really what we need to do, is we need to take our, take care of our patients and get them to the spot where they can get those answers. Yeah. So we do know that there's so many patient benefits that patients who receive a cochlear implant based on patient report, they're five times more likely to understand what's set on TV, 11 times more likely to hear what's spoken on the phone, and 10 times more likely to report better hearing satisfaction.

If we look at our next slide, which is data points, and I love looking at data and I really love this study because I think it's important to show what our outcomes are like. And I like this study because it was over 100 patients. It was multi center, wasn't just, you know, one expert center collecting all this data. It was several different centers. And what we see is scores with bilateral hearing aids prior to implantation.

So their CNC score, their worst score was about 29%. But when they added that implant in with the hearing aid in the other ear, which are what most of our patients are today, most of our patients wear a hearing aid in the opposite ear. That score improved by 40%, which is really tremendous. And we look at sentences in noise and we see a really nice improvement as well. And I think back to one of those slides that you showed at the very beginning where you showed how hearing loss impacts quality of life, cognition and overall health.

Well, I think these last two slides show us how that can be flipped. And once we treat the hearing loss with the optimized treatment, we can improve quality of health, we can improve cognition, we can improve overall health. So we should be looking at it from a more positive light that look at all of these benefits that this technology can provide. So I think our keys here as we wind down is we need to encourage our patients, we need to have that effective referral conversation. We know as professionals that hearing loss can progress over time, and that's why it's important for us to keep doing those audiograms and keep looking at their audiogram.

And when they reach 60, then that's kind of our key. And we go, that's when we should start talking about it. We should start referring at 60. Based on your recent hearing test. This gives us some ways to discuss it and the ongoing difficulty I notice that you're having in understanding speech and remind them there's no obligation.

I just want you to learn more. I want you to be fully educated. I want you to make the best possible decision for your hearing health care. And that during that evaluation, any questions I haven't been able to answer today will be answered by the audiologist or the surgeon. So we know, again, evaluation doesn't equal surgery.

They need to speak with you first. They need to get all the information about what that surgery is going to involve. We do know that the earlier they referred, the better their outcomes are. And that is so important for our patients to hear the best they possibly can.

So with that, I'm going to pass back over to you, Kristen, to wind us down. Thank you. That was such a great presentation. There's so much useful information. So thank you all for attending.

And whether you're already referring or you're working with cochlear implant patients, you know there's some takeaway or a few points that can help ensure that patients are receiving the right solution at the right time. And as I mentioned that Dr. Zahn mentioned, the AO guideline is really there to help all healthcare professionals who manage patients with hearing loss. And even not so, again, if you are working with some of your providers in the community, share this information with them because you learned about the importance of identifying and treating hearing loss. So you can scan the QR code on this slide, and that will actually help you find a local cochlear implant center near you that you can partner with. If you do have additional questions as well, you can contact cpn@cochlear implant cochlear.com for more information and resources.

I think we have a couple questions in the chat, and I think we have a minute to do one. So one of the questions is, is there a point where a cochlear implant is no longer a viable option for a patient with a profound loss who has always used hearing aids? I've had a patient who was told that they were no longer a candidate. Dr. Zwolland, do you want to answer that one? Yeah, I think it's really case by case, so I'm not certain why they were told they're no longer a candidate.

That would be surprising to me. So I think I'd probably need more information as to know why they were told that they were not. Sometimes there's medical reasons which Dr. Zahn could speak to, but that would surprise me. Those are fairly rare as well. Dr. Zahn, any thoughts on that one?

Yeah, I was thinking the same thing. That's an extraordinarily rare situation. Now, of course, if someone has a medical condition where they surgery would be extraordinarily dangerous for a brief general anesthesia, that could certainly be a reason. But I was just thinking what else that could be. Maybe in the setting of a trauma or something like that and the cochlea eventually scars off.

That could be a reason. But again, that would be an unusual situation in a case by case discussion. Yeah, and I'd encourage them to call the implant center and ask them because it's a mutual patient. And so if the professional's confused, the patient's probably confused and we should probably all communicate so that we all understand why. One more question for Dr. Zahn.

I recently referred a patient for CI who ended up getting a cochlear implant, but they needed to leave work due to chronic vertigo and complications post surgery. How likely is this to happen? Yeah, so great question. I always go to any of my patients considering cochlear implants that one of the risks to implant surgery is the risk of dizziness and vertigo. Typically I say 15 to 30% of temporary dizziness and vertigo after surgery usually lasts for a couple of days to maybe even a couple weeks at most, but then it eventually goes away.

Extreme dizziness and vertigo that lasts longer than that is on the less than 1% chance. And that would be extraordinarily unusual. But yeah, there's certainly a risk of some temporary dizziness after surgery. I think the risk goes up depending on your medical comorbidity and how much dizziness or imbalance you have at baseline. That certainly factors into our decision making as whether or not this is right for you.

Great. Then one last question for Dr. Zwolland. Is the criteria for word recognition scoring quieter noise. That's one interesting thing about word testing. We always test word testing in quiet.

No sentences. We do in quiet as well as levels of noise. But word testing typically is in quiet. And I did see the comment about regarding being told no longer able that they said the patient was told that at 28 and they told her she waited too long. That really varies from clinic to clinic in terms of if they'll implant someone who is prelingually deafened, so potentially born deaf at birth and waited till 28.

The outcome would definitely be different if they've never heard before versus if they lost their hearing at 25. So I would probably and honestly go for a second opinion and talk to another clinic. The outcomes would be different. I think the key there would be counseling about expectations, because we do know that someone who's been deaf their entire life and gets an implant as an adult has reduced benefits compared to someone who has had hearing and lost it. So that makes more sense now.

But I would still look at those expectations, get some appropriate counseling so that young woman could decide if she'd like to proceed or not knowing what the expectations are realistically. Great. Well, thank you both so much again, and thank you all for attending. Yes, thank you.