

L&L Brain Plasticity

christy: [00:00:00] You are listening to the Love and Language Podcast where we inspire hearing parents of deaf children and remind you that as long as you are giving your child love and language, you are doing a great job. Hello everybody. Welcome back to another week at Love and Language. Today, it's just gonna be me, Christy.

christy: I'm doing a solo episode from time to time. Me and Beth will do some of these only because like we mentioned before, we are both very busy and carrying a lot of things on our plate, but this is also something that we really value getting this information. Two other parents who are in our position.

christy: So today we're gonna talk about brain plasticity because before diving into the world of cochlear implants and before having the cochlear implant surgery. I think it's crucial to understand the significance of brain plasticity and its relationship to language development, because I think having this knowledge can help [00:01:00] set realistic expectations and prepare both you and your child for the journey ahead if you are just getting started and even if you already have a kiddo with cochlear implants.

christy: Some of these analogies just made it a little bit easier for me to understand.

christy: As you know, I'm a mom that had zero background in hearing loss before Charlotte's diagnosis, and I knew very basic concepts of brain and plasticity just from what I had learned in anatomy and physiology for nursing school. But really when I learned about how impactful it is in cochlear implants and success.

christy: I was really blown away. I had no idea that brain plasticity and language development could be different depending on how old the person is when they get the implant. So for instance, when I was researching everything I could about cochlear implants, there were a few movies or documentaries that I would watch, [00:02:00] and a lot of the perspectives were from

christy: people who were born deaf and didn't get cochlear implants until later on in life. So the way they described their cochlear implants sounding didn't sound as natural as I had heard firsthand from kids who got cochlear implants at an early age.

christy: I know I talked about the documentary moonlight Sonata on H B O. Highly recommend anybody who is listening to this podcast, give that a watch, because that really goes over the concept that we're gonna talk about today. Because her son was implanted early in life, I believe age two or three, and her deaf parents weren't implanted until later in life.

christy: They tell you about their experiences and how they are different, but you can also tell in their speech and how you were able to understand them, [00:03:00] and you can see really when they're getting frustrated. Versus how the little boy interprets sound. So I think that's a great place to watch and see the difference.

christy: Another movie that is a good example of this is Sound of Metal, which is about a drummer who has hearing his entire life. Obviously he is very into music. He's a professional drummer who ends up losing his hearing later and gets cochlear implants. And the way they portray him hearing sound is a lot different than children who are implanted early on because his brain has had 30 plus years of hearing and that's how it has been wired.

christy: So then to all a sudden have to interpret signals a different way. Just might be different. So those are just two examples if you want to [00:04:00] go beyond the podcast to put this idea and concept of brain plasticity and language development together. So what I found out

christy: when learning more about brain plasticity is that our kids' brains are super adaptable and flexible, which makes it easy for them to learn and pick up new skills, right? It is amazing when you see the changes any child hearing or not makes in those early first few years of life. So this is super important when it comes to language development.

christy: Young brains are just super flexible, super bendy, super able to adapt to changes around it and research says that when kids get cochlear implants early on, they have a better shot at developing language and speech skills that are close to their hearing buddies.

christy: So think of brain plasticity as a ball of clay. When the clay is fresh and soft, it's easily molded, [00:05:00] right? You can shape it into various forms. It is super adaptable. You're able to change it. It can take on these new forms very easily. That's similar to a child's brain. They're just readily able to adjust to new experiences and learn new skills.

christy: But for that ball of clay, over time it hardens and it becomes more challenging to shape it. Right? That's like an adult brain. It's not impossible, but that older, harder clay, you have to add more water to it maybe, or you have to work it more and really spend more time trying to get it softer, and

christy: it may never be as soft as it was right out of the box, right? So, but with consistent effort in the right techniques, even the hardest clay can be remolded, which reflects the potential for brain plasticity in our own lives. So when I think of brain plasticity [00:06:00] and a ball of clay, it just makes it so much easier for me to understand it and share that with other people as well.

christy: So that is why research says when kids get cochlear implants early on, they have a better shot at developing language and speech skills that are close to their hearing buddies because they have that soft clay plasticity. And on the flip side, when deaf adults get cochlear implants later in life, their brains might already have some well established habits and oral pathways.

christy: And this is not only for people who are deaf their whole life. This could be late deafened adults or adults who had hearing and loss there hearing later in life, like the examples that I told you earlier. So this can be a bit tough for them and a bit frustrating but the good news is just like the [00:07:00] example of clay with auditory training and speech therapy, even deaf adults, deaf children who get their implants later can still make amazing progress and improve their speech and language skills. In my experience, cochlear implants are just one piece of the puzzle when it comes to helping my kid improve their hearing and communication skills, right?

christy: The cochlear implant isn't the ball of clay. Their brain is. So early, intervention education, access to communication tools, sign language, all of those are super important for our family, for Charlotte's language and communication development. So we just wanna get as many tools in our toolbox as possible. when people ask me why we wanted to get Charlie implanted as early as possible, as early as it was approved, , that brain plasticity and the concept behind it is a huge reason why. For me, for me [00:08:00] to feel like I am giving Charlie all of the options that meant I needed to establish these neural pathways for speech early on because her brain is that multiple ball of clay, she is able to adapt, sign language and speech.

christy: All of the tools that we choose to give her cuz it's family dependent, what you choose. No judgment here, we can give her both of those options now as early as possible when her brain plasticity is adaptive to it, and then as the other parts of her brain, such as socializing and maturity evolve as well

christy: that's when she can make the choice of how she prefers to communicate. So, you know, there's a lot of choices we make [00:09:00] for our children before their brains are fully developed. I just think that there's different stages of life and maturity that are considered as the parent, the hearing parent of a deaf child all along the way. And hopefully this quick podcast about brain plasticity will help you understand that a little bit better or help you explain it to somebody who might not understand.

christy: As Beth and I get into our full series on the cochlear implant surgery, we wanna make sure that these fundamental concepts are a little bit more understandable to you guys because it all plays a role. Like we say, it is not simply your child is deaf.

christy: You get the surgery, now they can speak. There's a lot that goes into the entire process. [00:10:00] The cochlear implant is actually probably one of the smallest parts of it. There's so much, you know. neurally going on. There's so much socially going on. There's so much personally going on. The dynamics all are important in understanding the whole vision of cochlear implant surgery and being a hearing parent of a deaf child.

christy: So hopefully this quick podcast helped you understand that concept a bit more. As always, as long as you are giving your child love and language, you are doing a great job. Obviously there are many factors that play a role in when you were able to get surgery. And don't be discouraged if you can't get the earliest surgery possible.

christy: . You guys, children are so adaptable. Their brains are so adaptable, children and adults, right?

christy: Just do your best. [00:11:00] Give them all the tools from your toolbox that you have available. And when it comes together, that hard work will pay off. Hope you guys have a great week. Thank you so much for tuning in again to this week's Love and Language podcast.