

# Decoding Dyslexia with Rhianna Lewis Podcast

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**Amanda:** Hey Mark. I have a question.

**Dr. Mark:** Okay.

**Amanda:** How many times do you think I've asked you that question?

**Dr. Mark:** The numbers go that high.

**Amanda:** I doubt it. And from that concept the idea of Marked Medicine was born with Doctor Mark Brulte.

**Dr. Mark:** And with Amanda Brulte, my favorite nurse practitioner.

**Amanda:** And you're now listening to Marked Medicine.

**Dr. Mark:** Hello everybody and thank you for joining us today on this episode of Marked Medicine Podcast. I'm doctor Mark Brulte, and I'm here today with my wife, Amanda Brulte, my favorite nurse practitioner. And we are lucky to have two guests today, and we'll be talking about a fascinating topic dyslexia. And I would like to introduce our guests first is Mrs. Julee Brooke Lewis, and more importantly, her daughter, Rhianna. So, guys, let's just jump right into it.

Tell us what today is about and what's been going on, and how did we get here?

**Rhianna:** Hello, everyone. My name is Rhianna Lewis. I'm in the eleventh grade, and I have dyslexia. I was diagnosed with dyslexia in the first grade. And ever since then, I've been trying to advocate for those with dyslexia.

**Dr. Mark:** And and Julee Brooke, tell us a little bit bit more of the background.

**Julee Brooke:** Sure. Thank you all so much for having us. When Rihanna was in pre k, we noticed that she wasn't reading or or writing her name as well as as we anticipated she would. And and we really weren't sure if it was something she would outgrow or if it was something that would just correct itself, but but it was something that we we kept watching and and she was a really high achieving child. And so she kinda struggled through kindergarten, but still, you know, managed to accumulate accelerated reader points and make good grades and and do okay. But when she got to the first grade, I think that maybe the kids

were actually having to read the questions on tests and writing down answers and and we realized that there was some type of problem with disconnect between what she was able to say and what she was able to put onto the paper if that makes sense.

**Amanda:** Right. Yeah. It wasn't matching up with the ability that you knew that she had.

**Dr. Mark:** And so when this happened as a parent, you're obviously a little confused and lost and don't know where to turn to and everything to, where did y'all's journey begin with unraveling this mystery?

**Julee Brooke:** Well, I think probably like every other mother on the planet. At first, I went to the internet, and I just thought I could Google was happening and we would fix it. So the first thing I did was I found like a ninety nine dollar computer program that was gonna, you know, teach reading, cure Rhianna, and we were gonna just I'll be happy readers. And do you remember that, Rhianna?

**Rhianna:** It was awful.

**Amanda:** That wasn't a quick fix?

**Rhianna:** We would sit at that computer for hours and just cry because I can remember I've been so saying frustrated because I still didn't know how to read and hours had gone by and we'd be on this computer program.

**Amanda:** What was the program like?

**Rhianna:** I don't really remember. I just remember it. You had, like, flash up words, and then you had say it and take the microphone, and it was just very frustrating and constantly getting it wrong.

**Julee Brooke:** It was definitely very frustrating. And I I I think finally after a few weeks of that, we realized that that wasn't the the right course. So I've read a book *Overcoming Dyslexia* by Dr. Sally Shaywitz and was really intrigued by the the research that she had done and the neural pathways in the brain that needed to be opened and I assumed this was something we were gonna have to find somebody that could help us do that in order to get her treatment. And so We found a specialist in Atlanta with Children's Dyslexia Center of Georgia. And she was able to work with Rhianna and to just kind of bridge the gap so that she would be able to read, I mean, all on an above grade level from from the first time we went to Jill Ham. That that was she's the lady. From the first time we went there, we could just see a remarkable difference.

**Amanda:** If I may, if I might take us back just a few steps or whatever, how did you finally come to the realization that we may be dealing with dyslexia or how did y'all come to that?

**Julee Brooke:** We have a family history of dyslexia and really intelligent people in our families. My husband and my husband's family that have dyslexia so I wasn't surprised or or taken off guard. I I just I was maybe a little bit surprised with how verbal Rhianna was and then not understanding, like, you know, why like kindergarten wasn't working, basically. But I I think that probably because of the family history, I was not not unaware that that could happen if that makes sense.

**Amanda:** Well, I'm glad you brought up that she was super verbal because the doctor that you were talking about, Dr. Sally Shaywitz, you know, you brought her book today. Thank you. And I was looking

over it. And one thing that's striking to me is on the back of her book, you know, it says one in five American children have trouble with reading. That's a lot. And then also, you know, she says the first clue to dyslexia may be a delay in speaking, but she also says, then again, some dyslexic children may not demonstrate a speech delay at all. And so I think that's super important to point out because as healthcare providers, you know, the old teaching may be, oh, these kids, you know, you have a child that's super verbal so you don't start thinking about dyslexia as being a potential, you know, a potential reason for what they're struggling with, but we kinda wanna bring awareness to that. That's not always the case, basically.

**Julee Brooke:** Absolutely. I think there were stereotypes of of mostly boys having dyslexia. I mean, there there are so many probably stereotypes and stigmas. And I I think that's a lot of what Rhianna is trying to do and to overcome and just to I mean, if you're able to get help early, dyslexia is a gift. But and there there are so many things that so many famous people have dyslexia. But if if you're not able to get help early. Dyslexia is a horrible obstacle. I mean, it is not a not a gift if you're sitting in third or fourth grade and you're not able to read and understand what's going on.

**Amanda:** That's right. That's right. Rhianna, do you feel like sharing with us some of the obstacles that you had to overcome in order to get to where you are today?

**Rhianna:** Yes, ma'am. I can still remember being, like, pre k first grade. And it was the day, we all had to, like, write out our name and everybody else in my class knew how to write their name, and I was the second piece because I didn't even know, like, the letters that were in my name, the order. I even brought on an argument with my mom about how my name was spelled for a pretty long time because everyone else put it wrong because I thought I was spelling it right.

**Amanda:** So tell us about that so that people listen, you know, somebody may listen and be like my child does same thing. So can you explain that a little bit? So were did you actually think it was spelled differently than it actually is?

**Rhianna:** Yes, and I also remember kids in order guides being able to read and getting very upset and frustrated and whatever. My little sister, she could read before I could. And I remember coming home, and she would be reading books to my little brother, and I was a year older than her and I still didn't know how to read.

**Amanda:** Do you remember? Like, can you explain to us when you say, you know, I just couldn't read? I mean, when you looked at the paper, you know, a lot of people think of dyslexia as being oh, well the letters are reversed? Do you think that that is true? Do you think that's an accurate representation of what dyslexia is?

**Rhianna:** I don't think so. I think it's like you see the letter but the letter means nothing to you, like, in your brain, like, the letter has no meaning to you, you do not know the sound of the letter and putting the letters together like makes no sense in your brain. You just see a bunch of like symbols.

**Dr. Mark:** And I've I've listened to this and y'all made several important points. I always write some notes. Before these podcasts to make sure I get all the questions in. And and one thing you said about the family members. So I'd like to talk about the the causation of dyslexia and the other thing that the comment earlier on where you said about the reading program, you got her. And I'm certainly not a dyslexia expert

or a psychologist or a that that deals in this, but I can't imagine a more imperfect way to teach a dyslexic to read than that program. No, there was no way for you to know that. But but it basically sounds like a flash card system where it flashes what Rhianna just described as a meaningless thing up into her eyes that her brain is then supposed to turn into a word and that visual input never gets to her language center is is basically from my reading how this works in her brain. And so it's it kinda ties into somebody who said dyslexia is a gift. I can't remember who said that. And it it is a gift, Rhianna, because the right side of your brain basically, dyslexics are right brain thinkers. And the right side of your brain is much more functional than the right side of my brain. Okay? And Amanda will confirm that if you if you need proof. But but you're you're able to use imagination and visual processing of large amounts of data and get the big picture in mind and then work down to the specifics and details of any situation as opposed to a purely verbal learner like myself that I have to start out with the details and build to the big picture and it takes me a long time to analyze the situation and get to the big picture, the overview, and the logic, you get that instantaneously, and you can handle large amounts of data simultaneously. You're you're you can multitask. I I can barely do one thing much less a bunch of things. And so and you had this incredible ability to rapidly process information because of the way your right brain works and its predominant and its predominance and your thinking. So it's It's actually it's it's actually a fascinating fascinating thing and it it is in many ways a gift. I mean, and And then you were talking about the famous people, and I'd like to talk about that later on. But let's go back to causation. And I've done a little bit of reading, and I know y'all probably know much more about it than me, but it's dyslexia is probably a genetic situation and it's a congenital, neurodevelopmental abnormality of the left side of the brain, particularly involving the language and speech centers. And often times people are described with just like his right brain thinkers like we just discussed. Until recently, there was no really specific set of genes or single gene that that was causative, and I don't know that they've really identified it, but they have identified several genes now. The they're called DYX 1-9, I guess that stands for dyslexia one through but I don't know that they've actually nailed it down as to the combinations that cause it. But so that's what we're talking about congenital or developmental dyslexia. There's also acquired dyslexia where somebody has a stroke or a brain injury, and they can develop dyslexia later in life. So there's just a lot to talk about here. And so I'd like to go back to the family. These these are her blood relatives. I'm I'm assuming what you're talking about. And so I think that that bears out the genetic situation

**Amanda:** Were they diagnosed wiith dyslexia or you just noticed some commonalities?

**Julee Brooke:** One is and one is it. And I mean, it it probably even goes as far as, like, you know, one of the signs is an unusual handwriting group. And it took me like, I have the weirdest handwriting group you've ever seen, and it took me I I never really established a dominant hand, and and that's like a a worn in time to look out for. But but at the same time, that's one of those things that is a double edged sword because I mean, I guess it's a problem if you don't know which hand or write with in school or if you don't know which one is right or left. But when you're playing a sport, it's wonderful if you can use either hand. So there there were several my brother and I both probably exhibited several signs, but were never officially diagnosed. And then my husband had a family member that was diagnosed. So Right.

**Dr. Mark:** And talking about your past, Rhianna, that was very early on. And now and I know y'all undertook investigations and corrective actions to try and help you learn to read it. Tell me about starting to learn to read. How did that kinda click with you one day? What happened? If if there was a something that happened?

**Rhianna:** I remember after the first time I went to go see Mrs. Jill in Atlanta, I had to write the alphabet. And I couldn't do that. I could only write down nine letters, not in order. So one of the first homework assignments, I guess, she had me to do was to make all the letters out of Play Doh. And I feel like that was something, I guess, just like, having a concept of, like, what the letters look like and, like, how they would be if they were three dimensional, like, me having to actually form the letters, like, I kind of understood, like, I would make the letter and I would feel it and then I would make the sound thin. I feel like that was one of the first times I really understood the meanings of the letters and the sounds associated with them?

**Dr. Mark:** And so it kind of went around the areas of your of your brain that did not connect just from visual input to your language centers Well, now all of a sudden, you have this three-dimensional input and the tactile input of feeling, the Play Doh and everything. And so aha, look, my brain works. Now this stuff is in my language center.

**Rhianna:** I think so definitely. So then definitely, like, that made something click in my brain to the point where now I can I could start to put the letters together and make sounds.

**Dr. Mark:** And so once you did that and you made the three-dimensional letters and you could fill them and everything. Next time you looked at the letters, did it make it to the language center, you go, oh, that's h or that's j or whatever.

**Rhianna:** I think the first time I did it, I wasn't, like, completely sure in all the letters, but I definitely started to get a better understanding of the letters

**Dr. Mark:** Well, that's pretty neat. That that somebody is that expert in this and is able to help kids like that. So what did you think is a mom watching this?

**Julee Brooke:** It was amazing. I I think I just cried the whole way through, and I I don't think she's given herself enough credit. I mean, I honestly think from that first time of making the letters of the alphabet. I don't think she ever I think they did half the alphabet. Basically, it wasn't in order, but it was I don't know the theory behind which letters they were doing, but I don't think she ever got confused over those letters. And then we went back like a few weeks later, and she did the other letters. And after that, she just all of a sudden, knew the letters. And it was it was amazing.

**Amanda:** Would you know, one of my children had a speech impediment and could not say her r's for the longest time. And I remember I still remember to this day the very first time that I picked her up from speech therapy, and she said newspaper and it just like it just finally clicked with her, and we called and, you know, she said that word for everybody that we knew, but I remember that overwhelming feeling, I don't know what finally clicked I mean, similar, but different. But I do remember that feeling of triumph for the whole family, you know. And, you know, again, I'm going back to Dr. Shaywitz's book, you know, and she says, "the greatest stumbling block, preventing a dyslexic child from realizing his or her potential and following his or her dreams is the widespread ignorance about the true nature of dyslexia". And Can y'all speak on that? Have did y'all experience any of that at all? Do you you know, because I feel like dyslexia is not something that a lot of people know about. It's still it's although it's not new, it's kind of relatively new that I think society is beginning to talk about it and school systems are beginning to look for ways to screen children and implement strategies to help them learn to make the connections just like you're you were able to do. So do you feel like you, you know, experienced any situations where maybe ignorance, you know, played a part in slowing your success down?

**Rhianna:** I felt our school system really wasn't where Not not that people didn't know a dyslexia was, but that teachers don't really know how to help students who have dyslexia. Just because they haven't had the training to help dyslexic students. So it's kind of hard to blame someone if they aren't taught how to help the children.

**Amanda:** That's right. And so that and that's exactly why we wanted to have you all here today because it it I mean, it's like I said, although some new topic is relatively new, and that is kind of one of our goals is to help start educating people on, hey, you know, this is a real thing, and these are some of the symptoms. And let's just kinda start working towards being able to best help people who are in this?

**Dr. Mark:** Yes. And and talking about the school systems and and teachers and education in general and and dealing with children with dyslexia. Is very important because the brain can actually be rewired. Now, this is different thinking than even when I was first in school, we realized now the brain is much, much more plastic than people realized we if you watch stroke victims per se, over a period of years, they regained function that it was not thought in the past that they could ever regain. And it's a similar concept with dyslexia. These teachers that are going to deal with dyslexic children or basically engineers and mechanics of the brains of these children. So by using specific programs that are phonics based and spelling rules and such, they can actually change the interconnections of the brain, particularly in the white matter pathways, which is the connections from the the main nerve cells called the neuron. It's little connections. The little wires that run out of the neurons are called axons. And all of the axons in the brain that travel down and become the wiring of the spinal cord and the nervous system those axons are what we call the white matter and they're called the white matter because they're coated in little lipid layers that are fatty and they look white when you actually look at them. And so those little white matter and axonal connections can be rewired and you can make neurons interconnect that weren't connected before and can make other neurons assume the function that other areas of the brain should have. So it's very, very important. These educational interventions and programs to help these children because there is these things actually work I mean, your proof of that. I mean, so I'd love for you all to talk about the educational system and how we can help and and what the state can do and things like that?

**Julee Brooke:** Well, I think as a mother, probably, early early detection is the key because as the younger child is, I think the more chances there are for those neural pathways to be opened and for the connections to be formed. And I know that Bill 48 is provides phenemic instruction for children. We're all children, actually. And I think that that's something that they're working hard on doing is bringing phonics and phonemic awareness back to the classroom. And I I think right now, they've implemented ten to fifteen minutes a day in like, pre k through second grade. And and that's wonderful. And that may be all that a child needs if if they don't have very severe dyslexia. But I think just having the discussion about it and knowing that it's a thing and that it's Ron and I were very adamant that we were gonna tell Rhianna that she had dyslexia and tell everybody that she had dyslexia and try to kind of release some of the negative stigma that's associated with it because if this is something the one in five people are struggling with, If there's a way that that we can help by getting the word out, by letting Rhianna tell her story, then that's what we wanna do.

**Dr. Mark:** Yes. Very important. There's very good point. And I I do think it's important to make the point that everything I just talked about, the interconnections, all that, and what we're talking about. It's not just theory anymore. They do diffusion brain MRI imaging that actually proves this. I mean, this is actually proven. They do the diffusion brain MRI imaging before and after the interventions and show the difference in in functional activity in those parts of the brain. In other words, it actually proves that these

interventions work. So this is money will spend and time will spend and effort will spend because we know it works now. And so that's pretty amazing from a science standpoint. I love these kind of podcasts where I get to learn all this cool stuff.

**Amanda:** So and we'll talk about some of the, you know, text early signs of dyslexia, but it just kind of you know, some of those up for anybody that's listening. What would y'all say or some what are some of the early signs that you noticed in her? And then maybe I'll ask you how early do you remember kind of recognizing things seem to be different for me versus my siblings, classmates, friends?

**Julee Brooke:** The early the early signs, I think, were when they were doing, like, the nonsense words in pre k, like, they have them read, like, cot, bot, but and it's just rhyme and words that may not make any sense, but it's just to make sure and she couldn't understand the concept that, like, all these words are gonna rhyme. They're all gonna rhyme, and look, it's just the same thing. Like, just she didn't know how to change that sound in the front and we didn't really know what we were dealing with, if that makes sense. And then it as far as there was just such a disconnect. And that's the part that I wanna stress to, like, probably, like, if if you have a child and and they're dealing with something like this, there was such a disconnect in what she could tell us, and what she could comprehend, versus what she could put onto a paper, or what she could read by herself. And it was apparent that there was a problem. And it wasn't just, like, she couldn't understand the passage or she couldn't understand this. It was, like, she could understand anything as long as you were reading it to her, but when she had to read it herself, she could understand nothing. I mean, it it was almost like hundred and ninety degrees difference if that makes sense.

**Dr. Mark:** So it was apparent to you as a mother that there was no IQ deficit. You have this very verbal child obviously, bright doing all these things with this one issue. And I guess this is an imperfect analogy, but it would be like me comparing myself to say Tiger Woods. You know, just because I can't swing a golf club like him, it doesn't mean I'm paralyzed. It means that I haven't trained my brain body interconnection to do that by practicing millions of times like he has, you know. And so it's the same thing. She just needed the interconnection training, which brings me back to the first time she had the the three d letters and the putty and it clicked with her and you watched this and you said you sat there and cried. I bet it was a little more than just crying. Elaborate on that for me. All of your concerns and fears and and watching this unfold.

**Julee Brooke:** Up until that point, it was kinda like throwing things to the wall and wondering if anything was gonna stick. And, I mean, I assumed she didn't have an IQ problem. I mean, you know, But then at the same time, it's your child and you're like, well, do I think she's smarter than she really is? Am I imagining this? I mean, I I thought I knew, but I'm I'm not an educator or a specialist. So, I mean, I didn't wanna I didn't wanna have unrealistic expectations for her. But the day that she started making those letters and forming the letters and and she was able to put sounds with the letters. It was probably the first time I had hope. And it was, like, I I wish that, like, every mother, every parent, I guess, that that's struggling with that. I I just hope they can all know that hope is out there and that it can be attained maybe because I didn't know what up until that day, I didn't know what to expect. I didn't know if I didn't know if the specialist was gonna be the same path as computer program. I had no idea. All I knew was we had to try. And I think that that was probably one of the just most reaffirming that we're on the right track experiences I've ever had.

**Amanda:** Did you have sort of an aha moment where you were like, I knew in my gut. I knew in my mama instinct this whole time. Did you ever have that thought?

**Julee Brooke:** I think when when she came back to school, it was first, like, first grade. And the first time she went to the specialist was right before Christmas break, and then she went one time during Christmas break. And when she came back in January, the teacher was like, this is like a new kid. Like, everything was just clicked. And and at that point, I kinda thought, We may be okay. Like, we may be okay. This really may be okay. And from there, I mean, it was just it it was almost like she was picking it up so quickly that she was like, looking at us like we were dumb for thinking she didn't already know it. Does that make sense? Like Look, Rhianna. Shut. Shut. She's like, yeah, mom. I mean, like and then after that, it was like, it just I mean, there were, like, definite struggles and whatever. But at that point, I knew we were on the right track, if that makes sense.

**Amanda:** Yeah. So it sounds like, you know, when I'm hearing you know, that, hey, if you're a mama and you're listening, you feel like, you know, teachers, doctors, whomever may be kind of saying one thing, but I'm seeing something different I've kinda got a a feeling maybe something else is going on. Trust your instinct, there is hope out there.

**Julee Brooke:** Absolutely. I mean, I think you've got I think you've got trust you're getting. And I think you've got to keep asking questions. And I think a lot of times you're gonna be the biggest advocate for your child because nobody else has the personal interest that you have because, I mean, teachers, I know they love your children, but they're also dealing with twenty children. So

**Amanda:** kind of like, you know, us in the office I have I may see your child for ten or fifteen minutes. You know, I I there's no way I can possibly know your child the way that you know your child. So us as providers, we need to lean on, you know, the parents and the caretakers that are giving us information. I think Mark said, he had an instructor once that said, if you'll just listen to the patient, they'll tell you what's wrong with them. You know? So listen to the guardians the parents of these children and listen to what they're telling you.

**Dr. Mark:** And it's an interesting point you make. They've actually recent pediatric studies about, you know, I work in the predominantly and they bring a child in for fever. Well, invariably by the time the kid gets they are they don't have fever. So they've done studies to see did the child really have fever. And a parent report of a fever at home is actually just as accurate as a measured fever in the they really did have and, you know, that we had talked in the break about some of your fears and concerns when you realized Rhianna couldn't read and some specific things you were worried about you said you were worried that she would not be able to go to the store and

**Julee Brooke:** Sure. I think it's like a a crime will fear. I mean, you want your children to be okay and dependent. And I just worried. What if you know, what what if she couldn't finish high school? What if she couldn't go to college? I mean, your brain just kinda spirals. But, I mean, you think, like, what if she has kids one day and she can't figure out what medicine to give them because she can't read it. And that that first day, honestly, that she worked with the specialist. The the first day with the with the play note letters and things, I feel like my anxiety went down like twenty notches and I was like, okay, I think we can we're gonna be okay. I don't know how we're gonna get there. And I I think it's made Rhianna such a resilient human being. I I think anytime she's gonna do something, she's just in it for the long haul. She's like, okay. If this doesn't work, we'll try this. Okay. And I I think probably I'm sure she wouldn't wanna I'm



sure she would choose a different experience if she could just pick one. But I think it's probably made her such a tough person if that makes sense.

**Amanda:** Oh, absolutely. Because I can totally see a scenario where, you know, Rhianna is in college trying to I don't know, become a neurosurgeon and whereas other people may be like, oh, I didn't do well at this, I'm gonna choose an easier path. And she totally has the background to be like, no, just because there's a speed bump in the way. It doesn't mean that you quit. You just figure out another way around it to get to where you're trying to go.

**Dr. Mark:** So talking about that, Rhianna, you're doing things. You're trying to promote knowledge and education about dyslexia and actually taking steps to help people tell us about some of that.

**Rhianna:** So the first thing that I ever did was I spoke in front of a senate sub committee to help in the passing of Senate Bill 48, which is an Senevu, that provides dyslexia resources to our public schools in the state of Georgia. And then I've also done a lot of dyslexia projects within high school and middle school. And then, currently, I'm doing a dyslexia fundraiser. For the it's through FCCLA, but all the money donated is gonna go to the Coffee County Board of Education and the literacy programs.

**Amanda:** And I saw your mom had an announcement on Facebook, something that's coming up, the mayor. Tell us about that. I don't wanna give it away. You tell us

**Rhianna:** I had the mayor declare October sixth as National Dyslexia Day. Dyslexia Day is actually not October sixth because it fell on a Sunday. It's being recognized on Friday.

**Amanda:** And that's awesome. I'll so you just reached out to the mayor, basically, or how did that come about?

**Rhianna:** I was thinking about doing this project, and I thought probably the best way to make the most people aware of what dyslexia was and spread awareness was to make their make the city of Douglas recognize Dyslexia Day. So I me and my mom, we drafted a proclamation, and we got it signed by the mayor.

**Amanda:** I mean, sad note, but this is the second person now that's, you know, worked with our mayor to bring awareness to our community about a topic that's important to them. So I think we have a pretty awesome mayor. It sounds like Oh, honestly.

**Dr. Mark:** I was sitting here thinking about that that this is the second high school student that we've had on our podcast interviews that's done something phenomenal and is trying to help so many people. I mean, just a level of maturity and intelligence and work ethic that will never really existed inside of me at your age. And and so, I mean, there's certainly having dyslexia does not at all reflect on somebody's intelligence or ability to achieve I too had to testify before It was a house sub committee, not a senate sub committee, but I was fifty years old, had been working for twenty years and had two doctors degrees, and it took him that for them to listen to me, and it just took you being you for them to listen to you. So I think that reflects highly upon you. So So very impressive, very impressive kids here in our community, and I'm extremely proud to be able to talk to them and Wow.

**Amanda:** Well, and I wanna take this back again another time once more. If we can kinda go back and talk about do you remember when you kind of first recognized, you know, hey, I may be different or I may have some struggles that the folks around me don't have?

**Rhianna:** It was so long ago. I can't remember, like, exact times, but I do remember, like, feeling like, I can't remember feeling not necessarily embarrassed, but like aware of there's other people that know what this means and I have no clue. There's people that know how to write their name and I don't know how to write their name. For instance, I remember one time at lunch in like pre k or first grader, they were all the teachers were really proud of this kid who was, like, a few grades below me, he could already read, and I was thinking that would be so cool if I knew how to read. I just kept trying and it just wasn't working for me. It's getting very frustrating.

**Amanda:** How old do you think you were? Do you remember at all? How old you were when you kind of first realized that, what you just said?

**Rhianna:** Probably around the age of five or six.

**Amanda:** Five or six. Yeah. So five or six year old kind of being self aware enough to recognize, you know, the, hey, something seems you know, one of the one of these things is not like the other, you know.

**Julee Brooke:** But you know when you're that age, you don't wanna be embarrassed, and you don't wanna be different, you don't wanna be like, called out or in in any kind of ways. I I just think about these kids self esteem that don't have it detected early in their struggling along like, you know, in upper elementary grades and middle school, and that would just have to be such a devastating struggle, I would think.

**Amanda:** Absolutely. One thing that some of our listeners have asked, you know, what are some of the early signs of dyslexia? And I know that you talked about the signs that you recognize, you know. And Rhianna's talking about the things that she first remembers, but, you know, just to you know, fall back on Dr. Shaywitz again since am I saying that Yeah. Properly, you know, since she seems to be such an excellent resource. And I told you when we were on the break that I wanna or this book myself, but, you know, it says "the earliest and perhaps the most important clues to a potential reading problem can be recognized by listening to your child speak. So listen for subtle signs that your child's phonologic skills are not developing as they should. And being able to do that, you know, the book says that sounds a lot easier than it really is." Do you have any pointers for parents? You know, like, how can you actually listen and determine if your child's phonologic skills are developing?

**Julee Brooke:** I would say if you're a parent, give yourself some grace. That that would be my biggest probably tip because I I remember, like, when we felt something was wrong. I mean, I was playing back in my head, like, did we read thirty minutes a night? Did we do this? Should we have done some more flashcards? I mean, all the things that you probably get mom guilt about times a million. I mean, I think, like, make sure your kids can rhyme. I think rhyme is a big thing. I think reading just those little short words and making the sounds. Those are probably all good things. But, I mean, at the end of the day, it's a real problem and you didn't do anything to to calls it and there there's nothing you can probably do to fix it. I mean, you're gonna have to get help. So if if you notice a problem, try to find a resource and and give yourself a lot of grace and reach out to another mother. I mean, somebody could reach out to me, and I'd I'd be glad to share my experience in more detail and the people we work with.

**Amanda:** Yeah. So having walked this journey yourself, can you point parents in the right direction? Like, if they suspect there may be an issue, should they talk to the child's teacher or the child's doctor, what do you think? I know you've been able to look back hindsight's twenty twenty. You know, what do you think could have been something that could have been the most rapid way to get intervention?

**Julee Brooke:** I think that maybe we should have tried talking to her pediatrician. That never honestly even crossed my mind at that point. I mean, I I I don't know where the journey would have taken us if we had done that. I I think that teachers are becoming more and more educated in this, and I I think that that I mean, I think probably start with the child's teacher, but I I think that a pediatrician for a referral might be another great source. We're just don't give up.

**Amanda:** That's right. Or just, you know, maybe I try to put myself in the shoes of being a mom. I am working in a pediatric office. You know, I could see the reason for talking to your child's pediatrician could be because they could either reassure you that, like, hey, oh, you know, I see this all day every day. I understand that you're concerned, but I think it's okay. Let's just kinda keep watching. Or they may say, well, I do I do see some of the things you're pointing out. So let's refer out for a little deeper.

**Dr. Mark:** Right. And I think one of the things we're trying to do here at Marked Medicine is educate about the importance and the impact of the doctor patient or health care provider patient relationship. And perhaps, you know, I don't know. I mean hindsight is always twenty twenty, but had you approached the pediatrician and pediatrics as a specialty that's very geared towards developmental issues and they know the milestones and what how kids should be changing as they progress much more so than I do. And so they are a great resource and I want the practitioners that are listening to understand the importance of every patient interaction because imagine had you approached somebody and that has steered you in the right direction. I mean, look at the impact that this has on her, you, the entire family, the people listening, you know, every patient interaction is so so so important. It's it's it's indescribable. And diagnosis is difficult sometimes. If you read about it. There's there's mimics of dyslexia. There's eye convergence problems and things like that that have to be ruled out. So it does sometimes require a specialist and it can be difficult to tease out. So I do think it's important for all of the people listening, the patients and the health care providers like to understand that.

**Amanda:** Well, honestly, I'm learning today as well because you know, like the book said, one issue is ignorance. I mean, I feel kind of ignorant right now because I always associated dyslexia with I just assumed it would be most recognized in a child's handwriting, you know, by them flipping letters. That was just kind of the thought process. But, you know, from everything you read, it seems that no, it's actually, you know, earliest the earliest signs are actually in their speech. The way that they say words, pronounced words, the way that they develop speech and language abilities, And so and I asked you when we were on break, you know, do you remember looking at letters Is it true that the letters seem to be reversed? Will you kind of reanswer that for us again so everybody listening can be informed just like I have been today?

**Rhianna:** I don't think that it's necessary necessarily, like, the letters are reversed. Maybe whenever you're writing, you reverse the letters. But it is kind of like kinda like I said before the letters have no meaning to you. You could probably write like random scribbles, and I would tell you it's a letter back then, like, someone constantly telling you that this is a letter and it meant this noise. It doesn't really click in your brain. It's like you need something you need something deeper.

**Amanda:** More concrete than that. So did you ever did she actually write letters backwards?

**Julee Brooke:** She she did. I mean, I think, like, I think the thing is, like, if you think of a letter like d b p q, you know, I mean, that whole thing. It's like she knew that maybe like a circle should be on the line. So do you put the stick on the left side? The right side? Down up. She didn't know. I mean, so it's just kinda like they're trying to it seemed to me like she was trying to just kinda draw what she thought it meant.

**Amanda:** Work off of memory maybe.

**Dr. Mark:** Like, maybe was that here. I mean, so was it like a it was just an a letter was an abstract thought, not a concrete thing the way that we would think about it.

**Amanda:** So do you think in pictures?

**Rhianna:** I I assume I definitely think in pictures.

**Dr. Mark:** It is difficult to diagnose sometimes and it doesn't have to be speech and language. That's the first thing. It may be more common, but the first thing you notice, it may be more common, but it's not always. And diagnosis is really a process. A lot of times, you have to do background information and IQ testing and oral language skills. And there's just a whole list of things that that ends up with a a collation of all this testing in the hands of somebody that's experienced in making these diagnoses. And that's maybe a problem to find sometimes particularly where we are in a rural area. And so I can see how some parents would be very frustrated at trying to tease out this problem and figure out what's going on. It's an amazing thing you're doing. The awareness and education that you're trying to get out there is definitely worth it. I want you to keep it up. Okay? And I I just love hearing these stories and

**Amanda:** And and we have learned a lot today because, again, another one of the listener's question questions was, you know, what are some resources? What are some referral sources? You know, do we have any of those close to us? And so I kind of did some research and I found There's actually the International Dyslexia Association for Georgia, and you can actually look them up online and we'll we'll link them in our show notes and everything. But as I was reading what the information they have available on their website, I was like, wow, that's pretty pretty neat, but So for short, they're just called IDA, and they on their website, they say, you know, the IDA Georgia provides referrals for testing or tutoring upon request. You can contact them and they can actually provide a referral for your child to be tested or tutored. They also have a list of IDA Georgia professionals who have indicated to the National IDA that they're able to provide service is for the dyslexic community. So I'll link that in the show notes as well. There's like a whole list of people. But one thing that I thought was super interested in a potential great resource is they say that they accept calls from teachers who have completed an intensive Wilson or Orton Gillingham training course, and they're now seeking students for their practical. And they say these courses require the teachers to complete a supervised practicum in order to become certified. These teachers are willing to tutor children for a reduced fee while working on their practicum. So for anyone listening and, you know, if you're a parent of a child who is dyslexic, then you can reach out to them as long as you can commit to at least twice a week, and you'll have a teacher who is kind of in training, but you can actually get tutoring at a reduced rate. And we do have such a lack of resources in our community that I was super excited to read about this because I would jump all over this. You know, it's like Mark said, some sometimes people think like, oh, you know, I don't I I can't go, you know, local for this medical condition. I need to go way off because something about going way off is you know, magical. And he, you

know, he's like, but, you know, we all trained at super large places. And I guess, I'm trying to make the analogy here that it would bother me zero that these teachers are in training and doing a practicum because, you know, that just lets me know that they've undergone training. And they are working to get to where they need to go. And if they can help my child along the way, then let's do it.

**Julee Brooke:** Absolutely. That's the wonderful resource.

**Dr. Mark:** You know, one really interesting and important thing about any kind of problem or situation that a person experiences is how it impacts their family. And so what specific things in your family did you notice about Rhianna's dyslexia and how it impacted other family members?

**Speaker 4:** Rhianna has a sister, Gigi, who is twelve months and twelve days younger than Rhianna. And reading came extremely easy for Gigi. And Gigi was probably the barometer that enabled us to get treatment early for Rhianna because we saw how Gigi was not struggling and Rhianna was. Well, as they grew up and Gigi watched what Rhianna went through to learn how to read, she realized that we were extremely blessed to have been able to find a specialist and get her in a treatment. And it occurred to Gigi that, like, other other children and other families didn't have those resources. So she talked to me about setting up a go fund me for children with dyslexia to be able to work with specialists was what she wanted. Well, Dominic Lariccia was in the legislature and was someone we went to church with. So we actually Gigi, actually, herself, she was ten, went and talked to him and he invited Rhianna and Gigi to speak before the Senate's sub committee. And they sat at the table by themselves and test afide for the sub committee, and Gigi introduced Rhianna. And it's a push that I don't think we would have ever done if Gigi hadn't had such a big heart and cared about her sister and not wanting to see anybody else go through that.

**Dr. Mark:** So you've got one child setting up family interviews with the House Sub Committee and you've got another child that's raising money to donate to the school system so that they can teach kids that can't read to read. You know, I think I'm kinda failing as a parent.

**Julee Brooke:** Well, my son really likes soccer.

**Amanda:** Rhianna, what impact did that have on you that your sister, your little sister was being such an advocate for you?

**Rhianna:** I think that it made me really feel seen and heard that, like, someone could kind of see that it was something that I really did struggle with, and it made me really, I guess, have, like, a lot of respect that someone loved me enough to, like, love others that much. Like, I was just very happy to know that I had someone that loved me enough to wanna help others

**Amanda:** and we can all learn from that, you know, if if you don't have a Gigi, I mean, get, you know, find you one, find you an advocate, find you a support system.

**Dr. Mark:** Now, Rhianna, earlier we talked about famous people with dyslexia. You're keeping some pretty good company. Do you know any of them off the top of your head? Have you read that before? Have you learned about that?

**Rhianna:** I can't really remember off the top of my head.

**Dr. Mark:** But Let me let me I bet I bet your mom knows some of them.

**Julee Brooke:** Richard Branson is probably my favorite, and I I think Albert Einstein had dyslexia.

**Dr. Mark:** Tom Cruise.

**Julee Brooke:** Charles Schwab, maybe Yeah. It's it's an amazing list of people.

**Dr. Mark:** It's an amazing list. I'm sitting here looking at it Tom Cruise, Keira Knightley, Cher, Henry Winkler the finds Albert Einstein, the back to the no IQ deficit thing. You know, the the guy that failed third grade math and then did the theory of relativity. You know him? Steven Spielberg, Leonardo DaVinci, Muhammad Ali, Jay Leno, Pablo Picasso. I mean, the list goes on and on and on and on and on. So these are these are incredibly intelligent creative people that are that have one thing in common with you. They're predominantly using the right side of their brain. Okay? It's it actually is a gift.

**Amanda:** I do have one more question for both of y'all, and I'll have to let y'all even put it into the proper terminology. But lots of people, you know, kind of appropriately so, you know, they're concerned are our school systems you know, equipped to be able to intervene with children with dyslexia. And what can you tell our listeners about that that we're doing at least here in our state because there is some legislation and some things. Can you talk about that at all?

**Julee Brooke:** Sure. I I think they're doing screening mails several times a year with children in our school system. And they're able to pull the children out and and work with them in an Orton Gillingham based program. That that's Orton Gillingham is a a method of learning phonics and a method of learning how to decode the sound. And it works especially well with dyslexic children. But it it works with all children. So I'm not really sure why they don't just teach everyone to read that way, but they're they're working some strategies with that. With all children. And then they're identifying some children that need help that need additional help, and they're working with them in the kindergarten to second grade areas. And I think they're gonna have Bill forty eight will be fully funded next year in Coffee County, and they'll be working with the children, I'm assuming, in an even in an even larger capacity next school year, but they're already since last Christmas, they've been working these younger children.

**Amanda:** So they've been screening children for potential signs of dyslexia already. And that's that's great news because, you know, the first step in anything is recognizing, you know, recognition. You know, you have to start somewhere. So we're at least recognizing now. We're screening. And so and there is also some traction that's working towards, okay, once it's recognized, once we kinda meet the screening, we've checked the boxes or whatever in screening and that maybe we need some further evaluation. Do they do they have any specific things that they are working to implement in the future for these children.

**Julee Brooke:** There's there are the tiers of the school system that I'm not extremely familiar with. But it seems like they're grouping more children into the tier two, which just needs a little bit of support. And they're they're pulling those kids out of of non instruction time, I think. And so they're able to to work with them and just based on our personal experience, I I don't think it would take a massive amount of time. It it probably takes a massive amount of resources on the front end, because you've got a problem that's potentially affecting twenty percent of your students. It's overwhelming. I mean, that's an overwhelming number of children to think that you're as a teacher, we probably have to, like, provide help to in addition to the rest of the classroom. But if if they're able to implement these strategies and even

just the ten to fifteen minutes a day they're getting now, I bet that's infinitely better than nothing for for these children that are struggling.

**Amanda:** Yeah. So to put that into perspective, you know, potentially a classroom full of twenty children. Potentially, there are four children that may be dyslexic sitting in the classroom. And I didn't go to school to be a teacher. I you know, God bless them and what they're doing. I was not cut out of that mold, and so I could not do what they are doing. And I'd love to sort of get their perspective at some point, you know, but since this is something that seems to be being talked about kind of more recently you know, I'm not sure that dyslexia and how to teach dyslexic children is something that's part of their curriculum. You know, I don't know the answer to that.

**Julee Brooke:** What I understand, dyslexia wasn't even recognized until five years ago when that bill was passed. It was I think it would kind of probably some of those kids would get grouped under other umbrellas of of terminologies or whatever, but I don't I don't think that there was a category for children with dyslexia.

**Amanda:** So I think you said it, based earlier when you said, you know, it's not really anybody's fault. It's just that, you know, they they didn't know. I mean, if this was just recognized five years ago here. In our state, I assume that we're talking about, then, you know, that I mean, what could you have had just a a couple of cohorts that have graduated since that time that may possibly had some curriculum on it in their training. Right.

**Dr. Mark:** Rhianna, have you met any other kids at school with dyslexia?

**Rhianna:** I've met a couple of students, but there are students who never students who I know there are some students who got early intervention, but most of the students that I know who have to select still struggle and they never really got the help that they needed. So it's affecting them a lot in high school.

**Amanda:** Well, statistics statistically speaking, you know, lots of people with dyslexia, and they may not know that they have it.

**Dr. Mark:** So I think she you know, the the importance of early intervention, you know, it's good going mom. You did good. So I think it is super important to do screening in the school systems to make the diagnosis as early as possible because in my reading for this, the statistics were kind of all over the place. Some saying between two and seven percent of the population and other resources saying up to twenty percent. I think the reality is we don't know because of the lack of screening. And there's co existent conditions with dyslexia, particularly ADHD and anxiety. And perhaps that's being recognized and the dyslexia is not being addressed because maybe it's just a minor form of it. So I think the screening is super important to ferret it out and to get these kids the help they need. To help with the reading. I I think that that's really, really important.

**Amanda:** You're basically helping break the glass ceiling I mean, in our community, but on a much larger scale, I mean, you know, you said a few moments ago, I'm not sure if I know many other kids who are dyslexic, well, again, not that we know of, but statistically speaking, there are many more that have at least some degree of dyslexia. And the fact that you are sharing your story and speaking out about it and helping bring awareness to this topic you know, that's that's really gonna be what helps people as much as anything. You know, that's gonna help mamas start recognizing earlier the things to look for. Maybe

there's, you know, a teenager even listening or or a kid or whatever listening right now that's like, hey, I couldn't put it into those words because I'm just like I couldn't come up with the words, but she's describing perfectly what I've been experiencing. The letters are on the paper. They're not backwards, but they make no sense. To me. So you're doing you're doing an incredible thing. Thank you. It's admire you teenagers who are so willing to speak out about these things. I don't think that I would have been this brave at your age.

**Dr. Mark:** So you know, so many years ago when you watched her and cried, tears of relief, and I'm sure proudness also because you knew that she could do these things and now she's doing them and and look what she's doing now.

**Julee Brooke:** I couldn't be more proud and I I couldn't be more proud that she's willing to use her voice and to use her struggles and to be so open and honest about them in a way that'll that'll hopefully help other other kids and other parents.

**Amanda:** Well, in YouTube because you used the word stigma earlier, and I don't wanna beat that word to death, but there is a stigma with certain things and dyslexia is one of them because, again, ignorance and I don't mean ignorance in a derogatory way. But the fact that you are brave enough to speak out about it and tell other parents, other mamas, you know, hey, these are the signs and these are the things that worked for us and that there is hope. You know, don't be embarrassed about it.

**Julee Brooke:** Absolutely. And and knowledge is power. I mean, if you can ever just know, like, okay, this is this is what's happening. And now we have a real plan that it's just it sets your mind, that he's so much better than everything being nebulous and and not being sure of what to do next.

**Amanda:** That's right. Because as mama's, you know, everybody says, well, as a mama, I wanna be able to fix everything. And we do, you know? And so if you're at a point that you're like, hey, what? You know, the computer program I bought is not working. You know, then keep going. Don't stop. You know, because letting the stigma be the barrier that stops you from seeking help for your child, maybe the thing that prevents them from being able to read the medicine bottle when they're having to give their child some tylenol and all when they're an adult.

**Dr. Mark:** You know, it's an impressive story and the old saying adversity leads to strength. I I think that you, Rhianna personify that. Thank you so much.

**Amanda:** And And again, I know I'm going back into my book here, but I'm a big book person. You know, now my kids will be trying to study, and I'm like, where's the textbook? And they're like, we don't have one. I'm like, I I need a book. But randomly opened the book up, literally, and this part isn't highlighted, so we're gonna have to highlight this part. But it says, "change starts small. The days when accommodations didn't exist for dyslexic children are over". And, I mean, I think that's just all the hope that we can hope for.

**Julee Brooke:** Absolutely. It's I think, hopefully, just getting this awareness of dyslexia out there and what Rhianna has been able to do is hopefully to make other kids braver and less embarrassed if they do have dyslexia. It'll make other parents seek help and realize that it's not at all a reflection on their intelligence, their character, they're not lazy, they're not dumb. They they just need a type of help that is out there and and you can find it. So it's it's not as scary at all when you think about it that way.



**Dr. Mark:** So So what is the name of your awareness program and tell tell us that?

**Rhianna:** Decoding Dyslexia with Rhianna.

**Amanda:** I love that, by the way. I really do. I love that. Decoding Dyslexia with Rhianna, so tell the listeners how they can find you.

**Rhianna:** We are on Facebook and Instagram, and just look that up.

**Amanda:** Excellent. And we'll link that also in our show notes. So that everybody can find you and tell the listeners a little bit about the fundraiser that's going on.

**Rhianna:** So right now, I'm in the process of doing a t shirt fundraiser. We're selling these t shirts, and I will be selling them at lunch, but they're dyslexia awareness T shirts, and all the many collected and fundraiser is gonna be given to the Coffee County Board of Education back to the community. Into the literacy program programs specifically for dyslexia.

**Julee Brooke:** Can you tell them what the back of the t shirt says?

**Rhianna:** The back of the t shirt say, one in five depend on me until everyone can read.

**Amanda:** I love that. So let me ask you. I know that October sixth is Dyslexia Day here in Douglas, which is today. We're gonna air this on October the sixth. So when is the last day? Like, can can listeners still purchase t shirts?

**Rhianna:** Yes, we're gonna, like, sell the shirts after just in hopes to raise awareness for dyslexia.

**Amanda:** That's right. So there's not really a a cut off. If someone wants to purchase a t shirt at any point, they can maybe reach out to you on Facebook, Instagram, something like that. Do y'all have an email address that you'd like us to link or anything?

**Julee Brooke:** Sure. You can use my email address. It's [juleebrooke@gmail.com](mailto:juleebrooke@gmail.com).

**Amanda:** Yeah. Okay. So if people bought to purchase a t shirt, although today is Dyslexia Day here in Douglas, and rest assured that your money will be going to a great cause, you know, it'll be going to the literacy program like you said here in our community and what an awesome thing that you're doing by raising money, and also bringing awareness to this topic.

**Dr. Mark:** Thank you all so much for being here today. It was a great topic. Great people just tons of information and tons of learning. I truly enjoyed it.

**Julee Brooke:** Thank you so much for having us.

**Amanda:** Well, Mark, those were awesome guests to have. I think they're doing a phenomenal job raising awareness for dyslexia.

**Dr. Mark:** Without doubt.

**Amanda:** So it's now time for my favorite segment of the show. It's our phone of friend segment where I ask Mark questions that you the listeners have. And so a couple of questions on dyslexia, Mark. First, the first question will kind of be a recap. What are some early signs and symptoms of dyslexia?

**Dr. Mark:** Well, it's it can often be language delay. There can be pronunciation issues of words that persist beyond the usual baby talk period of life that should all disappear by five or six. If it's not disappearing, you may have an issue. These children are sometimes unable to produce rhyming words. They can't they also can't focus on one phonetic component of a word, meaning just like one little sound of a word, and they'll sometimes have writing difficulties. So there's a lot of different things that can point you in the direction of maybe my child has a dyslexic issue. Again, it can be difficult to diagnose and may require, you know, detailed testing, but, you know, you've got to be clued in first, and these are the clues.

**Amanda:** So once a child is diagnosed with dyslexia, what are some tools that can be used to hopefully help them learn to read?

**Dr. Mark:** Well, we just heard in Rhianna's story about the the three-dimensional and the tactile learning experience she had with recognizing letters and then the tools that the teachers use like phonics, and they also do common word memorization things to force the connections, the new connections to be formed in these axonal pathways to help the the brain get the visual input to the language center. So that's the basic concept. It's things that that help the brain, you know, form these connections that are that are not there?

**Amanda:** So one listener's question of can dyslexia be treated?

**Dr. Mark:** Absolutely. We went through that in detail with these programs that are being implemented in the school systems basically, phonics based systems to get around that failure of communication between the vision and the visual input and the language centers of the brain. So, yes, it can be treated in quite effectively. Refer back to my comment about these teachers that are doing this being engineers and mechanics of these children's brains helping the brains change.

**Amanda:** Right. And, you know, since this is a newer topic, and every school system may not have, you know, specific implementations that are geared towards children with dyslexia. Again, I was very excited to learn that there's the International Dyslexia Association of Georgia. There's a website, and they actually have a list of individuals who, you know, will provide tutoring or who will provide assessments. And I'll link those in our show notes. Another question from a listener, does dyslexia only affect reading?

**Dr. Mark:** No, it does not. It can be like most diseases. It's a spectrum of disease presentation. It can be very limited and just affect the reading, but it can also affect writing, it can affect memory, it can affect organizational skills, timekeeping, concentration, communication skills in general, and there are also co-existent conditions such as anxiety and ADHD.

**Amanda:** We've already kind of brushed on this, but I think this is a great question. So I want to ask it, you know, number one, what tools are used to diagnose dyslexia? Recap that for us?

**Dr. Mark:** Well, it's often it it depends. It oftentimes requires complex amount of testing if it's a difficult to diagnose situation that involves IQ testing and reading and language and there's just a whole list of things that has been all collated by a specialist in this that puts out a report and often these reports are

generated to provide to certain treating clinicians with experience in this, and then they come up with the diagnosis. Sometimes it's much simpler and straightforward, and it just requires a single interaction like occurred with Rhianna. So it's its variable also.

**Amanda:** Another very excellent question. Is there any gray area or does it mimic other learning disabilities very closely? And the reason that this particular question was asked is because this listener said that you know, she feels like her child may have some of the signs and symptoms based off of her personal reading. However, she's been told that her child doesn't have dyslexia. So I think what she's trying to ask is, is there any gray area or are there almost like different degrees of dyslexia. See, if I may wear it that way?

**Dr. Mark:** There are different degrees in presentations, and it can be extremely difficult to diagnose sometimes. Sometimes it straightforward and simple. That's why oftentimes it will require the detailed testing and analysis by somebody specialized in this. There are some mimics. People can have acquired dyslexia from brain injuries, strokes, hemorrhages, things like that. People can have a disconjugate gaze because of muscular imbalance between the eyes where you're not getting convergent images. And true binocular vision. So the input is flawed rather than the analysis of the input. In the language centers of the brain. So, yes, it can be very difficult. It can be very complicated. It can be a lot of overlap syndromes with ADHD and anxiety. And it can be very difficult to tease all of this out to a specific diagnosis. That's why I think you link to the resources potential specialty care is so important because oftentimes it is very hard to make a correct diagnosis. And making a diagnosis in medicine is everything because once you know the problem, then you can set about working on the problem. But until you know the problem, you really can't do the proper kind of care that needs to be provided.

**Amanda:** Well, our next question is gonna actually magnify one thing that you just touched on. So I'm super excited that this person asked this. One of our listeners said I developed dyslexia after my major ear surgery and mainly with numbers. My surgeon told me after surgery it had happened to others. I still think it's weird. I wish that there was more help for kids with dyslexia because it can be very challenging. So have you ever heard of someone developing dyslexia before following surgery? I know you just said it may happen after a brain injury.

**Dr. Mark:** Well, specifically, I don't know what happened to that person or why, but yes, there is what we call congenital or developmental dyslexia. Which is what we're usually talking about. And then there's acquired dyslexia that happens after TBI, traumatic brain injury, or a stroke, or a hemorrhagic stroke. I would also surmise that one could have a hypoxic event during anything, some critical illness surgery that could probably toxin induced perhaps that could damage a part of the brain that controls language. So specifically what happened during surgery, I don't know, but there are definitely secondary causes of dyslexia.

**Amanda:** One listener asked, when I'm reading back numbers out loud, I say them backwards more often than I care to admit. Is that a type of dyslexia. I always joke that I have numbers just like see.

**Dr. Mark:** It could be. I did read in studying for this. I did read about some numerical forms of dyslexia. I don't remember all the details, but I think, again, I think that's one of those things that so specific it may require further testing to exclude other things or to hone in on that as a limited form. So kind of waffling on that answer a little bit, but probably the best I can do on the fly.

**Amanda:** Okay? And our last question. When listeners say, can you help explain the neurobiology behind dyslexia, see and how this creates a processing delay in children?

**Dr. Mark:** Well, the neurobiology is that there's this failure of connection between the visual input, reading the words, looking at the words and the letters, and getting that information from the eyes in the vision centers to the language centers. So there's something neurobiologically that's developmental, that's missing or different about those connections. And so you have to therapeutically do exercises that force the new interconnections and and new connections to get the information to those centers. So that's what's going on. If you look at MRI studies that showed diffusion, which is a functional MRI study of dyslexic brains compared to normal brains. There's an excess of activity in the frontal lobes and on the right side of the brain relative to the language centers when presented with this information to as compared to a non dyslexic. So again, like we were talking about in the podcast, you know, they're they're actually getting very close to understanding this they're proving it. They're proving the difference in the brains. And now there's all of the gene analysis, the nine different genes that have been identified although not exactly what combination of genes or specific genes is causing it, but they're battling all around the issue and they're getting very, very close. And so it's really an exciting area of research and and just amazing for somebody of my age and with my educational background and what I've watched over the last thirty years or so, the change in the knowledge base, it's absolutely phenomenal.

**Amanda:** Absolutely. So to kinda just sum it up, if you are a parent, if you're a mama, if you're a guardian who thinks, hey, my child may have some of these symptoms. First, certainly turn to your child's teacher, also turn to your child's pediatrician. And if you are a healthcare provider, and you have a child in front of you with their parent and the parent says, hey, I think my child may have some of these symptoms of dyslexia. Again, some of the things that you can do, you can we will link in our show notes, some of the resources that we have here in our state anyway. And but the good thing about it, the International Dyslexia Association is not just in Georgia. There is a national association as also, there should be state specific links for each healthcare provider. You can at least find people who are registered with the IDA. Anyway. And, you know, the main thing that I'm excited about is that dyslexia is recognized now and more people are starting to become aware of it. They're starting to be interested in dyslexia, and it seems like we're making forward progress. We're all making forward progress.

**Dr. Mark:** Without doubt, it's it's a fascinating topic to read about. There's ongoing research. They're actually starting to delineate the the problems behind it and fixes for it and they're proving things that we didn't know just a short time ago. And so it's it's actually really neat to read about and it's really awesome to see young people doing what Rhianna's doing and getting out and spreading the the knowledge. It's it's great.

**Amanda:** Absolutely. I couldn't have said that better myself. So for all of our listeners, again, thank you so much for joining us. You can find us here again next week on Friday, you know, same day of the week, each week, same time our episodes will drop at ten AM eastern time. You can find us at [markmedicine.com](http://markmedicine.com). You could also find us on social media, or you can find Mark on social media. Dr. Mark Brulte on Facebook, Instagram, and TikTok, send us an email, [drmark@markedmedicine.com](mailto:drmark@markedmedicine.com) with your questions. You can also send Mark a question on Facebook Messenger. You can follow our page. Sometimes we'll post you know, questions from time to time and ask, you know, hey, drop in the comments. Any questions you have about dyslexia for example? And you may hear a sense of the questions in our next, you know, whenever we have the relevant episode, that pertains to that question. So You can also get our website. You can find the Ask Dr. Mark tab. You can submit questions there. And

remember, if you have a story to tell, if you have something that you're super passionate about, something that you would like to educate us on, healthcare providers on, then reach out to us. We wanna hear from you, we want to learn from you, and we're all in this together and thank you so much for joining us.

Links mentioned in

Children's Dyslexia Center in Atlanta  
Overcoming Dyslexia and Dr. Sally Shaywitz