

Seizing Life, episode 106
Kids Ask Docs the Darndest Things About Epilepsy
Guests: Dr. Kristen Park and Dr. Adam Numis
(Transcript)

Kelly Cervantes: 00:00 Hi, I'm Kelly Cervantes and this is Seizing Life, a biweekly podcast produced by Cure Epilepsy.

00:18 This week on Seizing Life, we share an episode recorded live at Epilepsy Awareness Day at Disneyland this past November. My family and I have been attending this event for years. It's a great opportunity to learn about new epilepsy discoveries and devices from doctors, researchers, and organizations that are working to improve the lives of those living with epilepsy. It's also a wonderful way to connect with others in the epilepsy community.

00:46 This year, Cure Epilepsy hosted two live podcast recordings during the conference. For this episode, we invited two pediatric neurologists to answer questions from kids. And wow, did these kiddos come through with some great questions. Not to be outdone, some parents got in on the questions too. So here's Kids Ask Docs The Darndest Things About Epilepsy.

01:10 Thank you all so much for coming today. I love this event so much. It's always fun and it's in the happiest place on Earth. But it's also informative, and it's community building and informative. And I walk away from this event every year just so happy to have been here. And today I get to be happy with two incredible doctors sitting next to me who are here to answer all of our children's incredible and insightful questions.

01:45 So first, I have Dr. Adam Numis who is an associate professor of neurology at the UCSF School of Medicine. Dr. Numis is a pediatric neurologist and specialist in epilepsy. He focuses on evaluating and caring for children with epilepsy, particularly those with difficult-to-treat seizures, which I'm sure many of us are quite familiar with in this room.

02:09 Dr. Kristen Park is an associate professor of pediatric neurology and director of the Pediatric Epilepsy Fellowship. Dr. Park specializes in pediatric neurology and neurophysiology at the Children's Hospital Colorado.

02:24 So we are going to open the floor for anyone who has a question to ask their question to the docs. I'm going to get started with some questions that we have had curated by the Cure Epilepsy team over the last day and a half or so. So I'll get started with one or two. Start thinking of the questions in your

head, what questions you have, and I'll be opening it up to the audience in just a bit.

02:56 Oh, here's a good one. So this is one that's related to my family as well. Why is my sister in a wheelchair, but so many others with epilepsy aren't?

Dr. Kristen Park: 03:08 That is a really good question. So I think that's because epilepsy is a big diagnosis and it means a lot of different things for lots of people. So people can have epilepsy for lots of different reasons. Sometimes they can have an injury at birth that gives them seizures. Sometimes they can get meningitis. Sometimes their brain might not have formed in the same way. And so all of those different things can have other things that come along with them, and those things can cause difficulty walking and the need for a wheelchair. But there are other people who have seizures, we're not really sure why they have them or they didn't have any of those other things, and they may not need a wheelchair. And so I think that's the answer that I would give for kids. In adult terms, I think comorbidities is the word that we would use, and...

Kelly Cervantes: 04:02 What does comorbidities mean?

Dr. Kristen Park: 04:03 It means those things that travel along with seizures, so cerebral palsy, autism, learning issues or intellectual disabilities, behavioral or psychiatric problems, all of those things are considered comorbidities of epilepsy. They probably share the same biology. They may have similar causes or precursors, but I say they travel along together. And so some people with epilepsy have those things, and some people may have one or two, some people may not have any of them, and that determines some of the additional things that you can see with epilepsy.

Kelly Cervantes: 04:43 Oh here's a good one. How does a seizure start, Dr. Numis?

Dr. Adam Numis: 04:47 Great question.

04:48 So seizures are just collections of your brain cells that just get too active. And so when you hear on your EEG, someone might say, "Oh, there was a spike wave discharge," or, "There was this epileptiform something." That just means there's a collection of neurons that are just a little bit too active. And if that activity gets rhythmic, you see one of those little extra bursts of electrical activity and then they keep on happening. If they become frequent enough and rhythmic enough, that's what a

seizure really is. And depending on where in your brain that seizure might be starting, it's going to look very different. So if you have a seizure coming from the front part of your brain, it's going to look a particular way, from the back part it's going to look totally different.

05:29 And so seizures start when those collections of neurons, brain cells, kind of start talking with each other and start having that hyperactivity. As they do that, they can recruit their neighboring friends to join along with them. And so they all are starting to dance together. And then eventually when it's big enough, that's when the seizure happens. So it's that rhythmicity once it gets big enough. And if it's big enough, it can spread throughout your brain, not just on one side, but potentially cross over to the other side.

Kelly Cervantes: 05:57 All right. I'm going to open it up to the audience. I have more questions here, but I want to see if anyone has a question, if you want to raise your hand at any point. Awesome. Brandon's going to come over and bring the mic so that we can hear what your question is.

Speaker 13: 06:14 So I have a sister who passed away from epilepsy, and now I'm working with my family's foundation to, we help a lot of families out that also have seizures. So as someone who doesn't have epilepsy, what's one of the best things I can do to help others?

Dr. Kristen Park: 06:29 Yeah, that's a great question. I would say one of the best ways you can help is to advocate, to educate and advocate. So somebody says something not so nice about somebody who's had a seizure, or you see something on TV where someone has a seizure, then you can say, let me tell you something about epilepsy. And you can educate them about how common it is, about how it affects people, about the fact that you can die from it. You can give people that information, and then if you want to take it a step further, you can do what you're doing. You can participate in a movement or an organization that is designed to help raise awareness, help to further research, help to get people treatments that they need. All of those things are helping the whole community with epilepsy. So I think that's what I would say.

Dr. Adam Numis: 07:26 When you interview kids, young adults and families, people with epilepsy have more stigma than kids and young adults with cancer or AIDS. So it's highly stigmatized and people just don't talk about it, even though it is so common. So making sure that you're spreading awareness like Cure and what we're doing here at the Epilepsy Awareness Day, I think that's the most

important thing, so that we're not just not talking about it and putting it in the back corner. It's not that anymore. We really should be talking about it. That way we can talk about the full, it's not just the seizures, it's everything we need to talk about. The other thing echoing too, the research I do is trying to come up with ways to prevent epilepsy in those who are at risk. Cure is a great foundation, helped fund that, but the government funding comes and goes, right. Depends on who's here any given year. So it's a lot of foundations that help us do the work that we're doing.

- Kelly Cervantes: 08:17 Thank you so much. I think we had another question in the back over here.
- Speaker 5: 08:24 My sister has epilepsy and when she was, well, when me and her were younger, she was able to walk around and talk like a normal kid. But as she grew older, she started having seizures and she started shaking a lot more. And it's been a lot harder for her. And I'm wondering why epilepsy started to take action as she grew older.
- Dr. Kristen Park: 08:57 Yeah, that is a great question. And I'm sure that's been kind of hard to see, to watch that in your sister. I think what I tell families is that we like to think of epilepsy as kind of just a diagnosis that you can live with and that doesn't change over time. But that's not always the case for everybody. And the way I say it is that sometimes it can take a toll on the brain. Having a lot of seizures can kind of wear it out over time. Think if you wore the same pair of jeans every day and you walked around in them and they wear out. And so I think sometimes those seizures, especially if we can't get them under control, make it hard to do things and make it hard for the brain to work, and they can cause those problems to creep up on us.
- 09:53 Sometimes there are also particular conditions that underlie epilepsy. We said epilepsy is kind of a big umbrella term, and people have it for lots of different reasons. Sometimes those genetic reasons can change over time. And when a person's brain is young, they might just have seizures, and as they get older they might have other problems too. And I think what we're doing is trying to work so that doesn't happen to other kids, but it's hard. It's hard.
- Kelly Cervantes: 10:24 Ooh, we have another question right over here. This is great. You guys are awesome. Thanks for having all these questions ready.

Speaker 6:	10:32	So my mom has epilepsy and I was wondering, how do you know if a person is having a seizure?
Dr. Adam Numis:	10:39	Great question. It can be really, really hard. So sometimes if you have a seizure where you're stiffening, it's a little bit more obvious, but a lot of people don't have those types of seizures. And so seizures can have tons of different flavors. Think of it, if you're going to the ice cream store down in Disneyland, there's so many different flavors and seizures are really the same exact way. So again, if you have a stiffening one, it's pretty easy to see, but for a lot of people it can be really, really hard. So it might just be some blinking, some staring off. The names of the seizures change every five to 10 years because we as doctors get around in a group. I wish we'd include patients and family advocacy groups. We have not yet. But again, those names keep changing, but just so you know, it can be really hard. And sometimes the only way we can figure it out is when we use those EEGs, those electrodes that we put on people's heads, and that can give us the actual answer. Is this a seizure? Is it not? And so just so you know, if you're having a tough time figuring it out, know that the doctors too, we sometimes have a tough time figuring it out too.
Brandon:	11:42	Hi, this is Brandon from Cure Epilepsy. Since 1998, Cure Epilepsy has raised over \$85 million to fund more than 270 epilepsy research projects in 17 countries. Learn what you can do to support epilepsy research by going to cureepilepsy.org . Now back to Seizing Life.
Kelly Cervantes:	12:03	So I have a question that someone submitted that I sort of want to follow up on that, because we've talked a lot about seizures and about epilepsy. And I know a lot of times when I'm reading in the news or if I'm talking to doctors, seizures and epilepsy, a lot of times people use those words interchangeably. Are they the same thing?
Dr. Kristen Park:	12:26	Yeah, that's a great question too. So I would say they're related, but they're not exactly the same. So anybody can have a seizure for any reason. So if you got hit on the head with a baseball or you had meningitis or you had an allergic reaction to something, you could have a seizure. The seizure is kind of the main symptom, that rhythmic discharge and those manifestations in our body. So that's what a seizure is. Epilepsy is the tendency of someone to have those seizures without one of those provoking factors. So just out of the blue on a random Tuesday or over and again, over and over again. So not just one. Sometimes people have one seizure and they never have another seizure. But the

tendency to have seizures for no apparent reason over time, that's what epilepsy is.

- Kelly Cervantes: 13:21 So I have another question here. How does a doctor decide if someone has epilepsy?
- Dr. Kristen Park: 13:26 Exactly. So we kind of talk to the people and we say, tell us the story of what happened with your seizure. When did it happen? Have you had more than one? And then we decide was it a seizure or was it something else that looked maybe like a seizure? And then we might do some testing. So we might do an EEG or a picture of the brain, an MRI. We might talk about what their risk factors might have been. So some of those things I mentioned like, oh, well I had meningitis when I was 15 and now I'm 20 and I have seizures. Well, maybe that's why. So we try to put it all together.
- Kelly Cervantes: 14:08 Oh, we have a question in the back over here, Brandon.
- Speaker 7: 14:11 All right. So I'm a performer and my brother has epilepsy and LGS. And so whenever they come to my performances and when we have all those flashing lights and stuff, I'm always worried about him having a seizure when we're performing, but he usually doesn't. And so what my question is, why do some people with epilepsy have seizures when there's flashing lights and then some kids don't?
- Dr. Adam Numis: 14:41 Great question. So like we were talking about epilepsy is hundreds if not thousands of different diagnoses. And flashing lights with people with some particular types of epilepsy can be very stressful and actually trigger seizures. In other people it's just another stress on your body, kind of like getting sick. That can be a stress that makes seizures more likely to occur. For most people, it's not a risk factor, it's not a trigger for them. It's interesting. So the whole flashing light thing, we figured out, there was a Pokemon episode in Japan and that particular high frequency of flashing caused a lot of people in Japan to have seizures kind of at the same time. And so that frequency is no longer allowed in the United States. And frequency means how quick the lights are flashing on and off. And so commonly, even though you see those warnings on movies and things, typically the frequency isn't high enough to trigger seizures. Although it certainly can be in stress and in some people even those lower frequencies can be problematic.
- Kelly Cervantes: 15:39 Oh, we have a question here.

Speaker 8: 15:40 I just want to go on that same note. Because sometimes lights bother her, but sometimes they don't. But it seems like anytime if she runs, I get scared, I always try to make her stop because I don't know exactly what the window is, but running or active like things, trying to play a sport or something, is almost a guarantee for her to have a seizure.

Dr. Kristen Park: 16:05 Yeah. I think triggers can be, there are some common triggers, like missing medication, staying up too late, flashing lights for some people. So those I would say are common triggers. And then there are triggers that are pretty individual for each person with epilepsy that may induce a seizure in them. I have heard of exercise kind of being one of them, just again as a stress on the body. And so I think it's going to be a hard balance to determine how much exercise is good and healthy and safe and how much might be too much and kind of provoke a seizure. But I think it probably is related to kind of stress and energy that the body is using.

Dr. Adam Numis: 16:55 Yeah. Most of the time we think it's when people are drowsy that they're more likely to have seizures, because that's when your brain cells are more likely to talk with each other and kind of sync up. And so for many people, exercise helps prevent seizures. But certainly I have patients, we have patients, where it does the opposite. And again, it's that stress on the body. We think that exercise can kind of provoke in some patients with particular types of epilepsy.

Kelly Cervantes: 17:18 We have a question down here, Brandon.

Speaker 9: 17:21 So if you have two children from same parents and they both have LDS and they're polar opposites. So like Ellie is tired all the time. She runs through the house, she'll have a seizure. If anything happens, she has all types of drop seizures, everything. Her sister, on the other hand, she's failed all her medications, she's been through two, we're on more and more. Her sister on the other hand, failed one medication. They were both diagnosed with general line seizures and then about a year later it turned LGS. Her sister on the other hand is completely hyper, runs to the house, talks a mile a minute, can't stop talking, doesn't have any drop seizures. Is it very normal for two children like that to have a genetic type to be completely different, and one medicine work for one and not the other?

Dr. Kristen Park: 18:07 Yeah. So my first response would be, do you know why both of them have LGS? No. Have you looked into it at all?

Speaker 9:	18:16	Well, we were going to do genetic testing, but we were told it was way too expensive and not need to bother.
Dr. Kristen Park:	18:20	Okay. So I would encourage you to revisit that assumption with your doctor, but I would assume, given the fact that you have two children who are affected, that it's somehow genetic even if we can't figure it out. And the striking thing about genetics and epilepsy is that if we are talking about Lennox-Gastaut Syndrome, it's most likely caused by a problem in one gene, most of the time. And we have to remember though that each of us is more than one gene. So even if they share a problem in the same gene, they also have 19,000 other genes that make them who they are. And the interactions of all of those genes and the information that they got from each parent makes them different from each other in many other ways. And a lot of that is what accounts for the differences.
	19:17	So you may take something like Down Syndrome. All of those children have the same genetic change in their background, but some of them have heart defects, some of them have seizures, some of them don't. Some of them hold jobs independently, some of them don't. Some of them, they have lots of different problems and yet they all have the same genetic condition. So there's still a lot of variability even if we share some of our genetic material.
Kelly Cervantes:	19:45	We have another question in the back over there?
Speaker 10:	19:50	So I was wondering, given how common epilepsy is and given how detrimental it is to lifestyle and potentially fatal, why is it that we know so little about it?
Dr. Adam Numis:	20:04	Again, stigma. I get people with epilepsy, young adults and children have more stigma around their diagnosis than kids and adults with cancer or AIDS. And all of these are terrible things, but it's just not talked about. And when it's not advocated for, the government doesn't provide the funding we need too. So if you look at the government and what they're funding, Alzheimer's research typically wins out. Epilepsy is way down there. And so it's really just pushing that envelope and telling people about it, raising awareness, making sure everyone knows so we can push it forward. Both getting access to care is important. We need to train more pediatric epilepsy specialists. We need to get the research done so we can treat epilepsy better or prevent it in kids who are at risk. And so it's just a matter of really putting it out there and de-stigmatizing it as much as we can.

Kelly Cervantes: 20:51 So I have a question here that I want to make sure that we get to. My brother has a special diet for his seizures. Why does this work?

Dr. Kristen Park: 21:01 Yeah, that is also a great question. I think we know some of how special epilepsy diets work, but not all. But in general, the body has three types of things that it can use for energy, it can use proteins, sugars, and fats. And the brain actually can only use two of those things for energy. It can only use sugars and fats. And so special diets for epilepsy essentially force the brain to only use fats for energy. It says, we're not going to give you any of that sugar or those carbohydrates, we're only going to give you fat. And that kind of shifts how the brain functions and makes energy and is able to generate seizures. And so most of the diets are based on restricting those sugars. They give the body enough protein to grow so that it can make muscles and bones and other tissues that need proteins. But it says we're only going to give you fat.

21:59 Also those diets, especially the ketogenic diet, so the ketones are the breakdown products of fat and they have acids with them. So that shifts the acid base balance in the body, and again, helps to prevent seizures. I think the exact way that the diet works, unless Dr. Numis knows anymore.

Dr. Adam Numis: 22:22 We're trying.

Dr. Kristen Park: 22:22 It's kind of hard, we're doing a lot of experiments and we're trying to figure it out, but we're not exactly sure. Those diets actually got started because a long time ago people recognized that when kids with seizures or people with seizures were sick and they didn't feel good, they didn't eat a lot, they essentially kind of starved their body, their seizures would get better. And somebody said, huh, I wonder if we can take that and modify it and turn it into a diet that people can eat long term that will have the same effect.

22:54 And so they did that with the caveat that they had to add some vitamins and minerals and things to make those people stay healthy, you don't want to actually starve your body long term. So they made sure that they got all the vitamins and nutrients that they needed while mostly eating fat. But that's kind of how it started. So I think we know that it works, but I think we haven't quite figured out exactly how, because it would be great if we could put it into a pill and make you only have to take that rather than having to eat butter and whipped cream and stuff.

Kelly Cervantes: 23:28 Yeah. That's fascinating. I had no idea that that was the origin of the diet. I think we have another question back here.

Speaker 11: 23:33 Yes. Okay. So my son who's 23 now was not diagnosed even though we've been seeing, we call them funny little space outs. We'd been seeing them for years before he was diagnosed at 14 years old. But before he was diagnosed, he was always very hard to wake up. And he's fairly well controlled on his prescriptions, unless he forgets to take them. But he's still really hard to wake up and it is super typical of him to sleep until three in the afternoon. No problem. And I'm just wondering, is that, what's going on? I mean, it's not drugs, because it's not really different from when he was a kid and wasn't diagnosed yet. So I can't really blame his drugs. But is he maybe still having seizures somewhere that we don't even know about?

Dr. Adam Numis: 24:37 Yeah. Some people, I mean my brother is one of them, is someone who just needs to sleep forever and that's a possibility. But there's more common things like sleep apnea. So it may not even be seizures at all, but things like sleep apnea are common. If it is seizures, that's where an EG is helpful where they could do that overnight and potentially figure that part out. But sometimes, like you're saying, it's not medications, it could, it may not be the seizures. And then we're talking about things that sleep studies might be helpful for. So great question.

Dr. Kristen Park: 25:05 I would also say that sometimes people with epilepsy have a lot of trouble with sleep. If we think about, again, those comorbidities, those things that travel along with epilepsy, they're typically other things that the brain is responsible for. So the brain not only can generate seizures, but it's also responsible for our ability to speak, our ability to learn, our behavior. And it is also responsible for our sleep. So sleep is regulated by the brain. And so if the brain is not working exactly correctly, then you can have problems in all of those areas. And those problems can include sleep, either not getting enough sleep or getting too much sleep or being difficult to wake up from sleep or having disorganized or disordered sleep in some way. So I see a lot of sleep problems in young people with epilepsy. And I think, as Dr. Numis said, it's probably a good idea to investigate it further and figure out if there's a known cause that could be treated in some way.

Kelly Cervantes: 26:05 Yeah, sleep studies can give you fascinating data. They're a pain in the neck, but they're fascinating. So I have a question here. My brother had an EEG the other day. What does that mean? What is an EEG?

Dr. Kristen Park: 26:21 That's a great question too. So an EEG stands for electroencephalogram, and that is a test that measures the activity of our brains. And similar, Dr. Numis answered a question earlier, and I liked his imagery. It's similar to the imagery that I use, which is that typically brainwaves should kind of be percolating along like this and then all of a sudden you get a little burst of them. All of these neurons in a certain spot are firing altogether, and that's what called a spike. And people who have epilepsy or who have a tendency towards seizures often have these spikes on their EEG. They can either come from all over the brain or they can come from certain spark parts of the brain that give us a clue to where those seizures might start. And that's what it is. It's a group of neurons that all fire at the same time.

27:14 And I like to say that a spike is like a spark, and that if you let that spark go and you feed it, it can cause a seizure or a fire, but it by itself is not a seizure. And so those EEGs help us to tell if a certain part of the brain is not working the way that it should. Maybe it was injured, maybe it didn't form quite right, and we can see that in those brain waves being a bit slower. We can see seizures on an EEG. We can see maybe where seizures might start. So an EEG is one of our biggest tools to help us to not necessarily always make the diagnosis of epilepsy, but tell us more about what seizures might be for someone, what kind they might be, where they might come from, how they might behave. And so it's one of our kind of common tests that we do to help us to take care of people who have seizures.

Kelly Cervantes: 28:10 Awesome. New question over here.

Speaker 12: 28:16 So I'm wondering if you could maybe educate us about this sort of understanding or misunderstanding. I think there can be a tendency to have a greater level of concern or inspiration to treat certain types of seizures, especially those in kids more than others. So the really obvious or tonic conic, that kind of thing, as opposed to the really sort of quick, easy to miss staring or daydreaming, that kind of thing, and how that may interact or interplay with stigma. So is stigma generating that or vice versa.

Dr. Kristen Park: 29:06 Yeah, I mean I think that in all honesty, a seizure is a seizure. And a seizure is the abnormal activity within the brain. The first patient that I saw when I came to Children's Colorado was a child who had had an absence seizure on a jungle gym and she fell off and she broke her arm. And she would not have done that had she been able to maintain that grip on the jungle gym and not had a seizure. So a seizure is a seizure. And especially

with absence seizures, most of the time when people have them, they have 50 to a 100 during a day. And if you're sitting in a classroom and you have 50 absence seizures, you're not going to understand what the teacher said. You're not going to get that information, you're not going to learn the way that you should in class that day. And so all of those seizures need to be treated.

29:54 I think partly what it is that those seizures tend to get under-recognized because you don't see them. So somebody says, oh, well your kid's staring off. They probably just have attention issues. They don't have anything like epilepsy, that's very serious. No, you're overreacting. And so I think it's really easy to diagnose epilepsy when someone has a convulsion on the floor in front of you. But it's much more difficult to diagnose epilepsy when someone's just staring off and their eyes are blinking or a little baby has some subtle movements that happen every once in a while. And so I think part of that stigma is getting people to recognize that epilepsy is common and epilepsy looks different. It's not just a convulsion, it's also all these other things. And so when a parent comes to you with a concern about something that's happening, think that it could be a seizure.

30:52 One of the people that I work with, Dr. French, is trying to coin this new kind of term. And so I'm put it on this podcast. And it's like SSSS. So a seizure is a sudden, strange, short, spell. So it happens all of a sudden, it lasts for a short amount of time. It's weird. You're seeing flashing lights or your arm is somehow twitching or tingling. And it's a spell. It happens over and over again in the same way. And so when those things happen together and you give that history to a physician, seizure is what should come to mind. That's what we have for stroke right, FAST. They have this little acronym. And that's why it gets all the recognition that it needs to get its research, because people know like, oh, when my face is drooping, I'm having a stroke. I need to go to the doctor. So we need to do the same thing for epilepsy. Somebody is having these types of episodes, we need to educate them that it could be a seizure.

Dr. Adam Numis: 31:51 And getting to your point about stigma, if there is someone who has a bigger seizure, whether that be at home or at school, not just ignoring it and not talking about it is what we need to do. That is a teaching moment. So if someone has a seizure in school, that's where families and practitioners need to work with schools and try to use that moment to educate the classroom, what a seizure is, what epilepsy is. When we don't talk about it, that's how stigma arises. We need to use those

opportunities as learning, teaching movements for everyone to utilize, so we again, try to destigmatize this.

- Speaker 13: 32:25 How would you recommend families go about finding a therapist? Maybe that's versed in dealing with families that have epilepsy and some of the sort of special maybe concerns or things they should be aware of?
- Dr. Adam Numis: 32:41 Great question. It really is state dependent. It is one of the hardest things. Finding a physician is difficult. Finding a mental health provider, it can be even more difficult. And navigating that is really hard. You can ask your epilepsy specialist if they have some people on mind, again, our center has someone that we work with closely. That's not everywhere. And certainly for patients who aren't able to come into the city, it's hard. It's really hard. And you just have to be persistent and persevere. You get a lot of nos. A lot of people are full with COVID. People are seeking mental health services off the roof. A lot of people are filled, but you just got to keep on trying. There's differences based on your insurance. So talking with your insurance on how to find that, the last thing you want to do is pay out of pocket if you don't have to.
- 33:28 But it's not easy and it's a journey. And it takes weeks, if not months, sometimes to find the right fit. And if you find someone and it's not the right fit, it's okay to say that didn't go the way I wanted it to. And move on to another one. Mental health specialists are different than epilepsy specialists. It's really person by person, like you're saying. Some may have a little bit more expertise in kids with epilepsy or kids who developed a little bit differently. And it's important to find that person. And if they're not the right fit for you, go to the next one. Because it's really, it can be tough in a journey, but it's well worth it. It's calling, it's searching, it is not easy by any means, but it's worth it.
- Dr. Kristen Park: 34:07 But I think your supports can be helpful. Talk to other families. Talk to organizations that you work with. Talk to your doctor. Talk to your pediatrician. Help have people help you to access the services.
- Kelly Cervantes: 34:23 Do we have another question over here? One more here.
- Speaker 14: 34:28 What do you do if someone has seizures when they're born and you didn't pick it up from your parents or your grandparents?

Dr. Kristen Park: 34:51 I think I talk to people and they say, well, what are the ages of the kids that you take care of who have epilepsy? And I say, well, we care for people all the way up to 21. And unfortunately we see babies who have seizures that started right after they were born, sometimes even before they were born, while they were still growing. And that's hard. And we're working to try and figure out why kids start to have seizures at that young age and what medicines are best for them, because their brains are different than the brains of an older kid or an adult. And so they need to have their own treatments and their own research.

Kelly Cervantes: 35:32 Well, I think we talked a bit about people can have epilepsy because of their DNA, right, genetics. But there are other reasons that someone could have epilepsy that's not genetics. Why might someone have epilepsy if it's not in their DNA?

Dr. Adam Numis: 35:48 Good question. Yeah. So sometimes, especially in adults, if you have a stroke, that can be a reason why someone might develop epilepsy. In kids and adults, hitting your head, so trauma can be a reason. When you're first being born, sometimes it can be a difficult delivery where you're not getting quite enough oxygen, that can cause some injury in the brain, which is also a reason people can have seizures. So again, getting back to it, there's hundreds and hundreds of reasons why people have epilepsy and each one, maybe some medications might work better, others may not. And so it really is an individual's diagnosis and that's where we spend our time is really trying to think about the person individually. Not just thinking about the diagnosis of epilepsy, but trying to figure out what is the cause and what may be the best kind of way to help manage them.

Kelly Cervantes: 36:31 All right. I want to thank our doctors so incredibly much. Dr. Numis and Dr. Park, thank you, thank you for answering all of the questions. Thank you to all of you for asking the questions, coming prepared, doing your homework. Thank you.

36:51 Thank you to Dr. Kristen Park and Dr. Adam Numis for sharing their expertise. And thank you to all the kids and parents who asked such thoughtful and wide ranging questions. For almost 25 years, Cure Epilepsy has been dedicated to funding patient-focused research to find a cure for epilepsy. As we approach the end of 2022, I hope you will consider making a year-end donation to help us achieve our vision, a world without epilepsy. Please visit cureepilepsy.org/donate. Through research there is hope. Thank you.

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