



# INTERVIEW TRANSCRIPT

DISCUSSIONS WITH WORLD-LEADING EXPERTS

## Helping Kids & Teens Manage Migraine

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**Introduction:** Migraine affects 1 in 10 children, impacting not just their physical health but their education, their friendships, and their emotional well-being. For kids and their parents, navigating diagnosis, treatment, and support can be overwhelming. Today we are joined by Dr. Christina Szperka, director of the Pediatric Headache Program at the Children's Hospital of Philadelphia [CHOP]. She's a leading clinician and researcher dedicated to improving care for young people with headache disorders. Dr. Szperka will share the latest on effective treatments, lifestyle strategies, and how to support kids and teens living with migraine. Dr. Szperka, welcome to the Migraine World Summit.

**Dr. Szperka (00:44):** Thank you very much. I appreciate the opportunity to speak with you.

**Elizabeth DeStefano (00:50):** Well, I'd love to dive into a comprehensive review of pediatric migraine, including acute treatment, prevention, and support, but to start, to really talk about the landscape of pediatric migraine. We know that migraine can be quite different from person to person, and perhaps even more so in children and adolescents versus adults. How might it present differently in youth versus adulthood?

**Dr. Szperka (01:15):** As you've said, migraine affects about 1 in 10 children. That ranges from children who have low-frequency headaches and essentially have a headache once a month or maybe even less, to children who have very, very frequent headache. And so about 1 or 2 out of every 10 children walking around high school, teens walking around high school, have chronic migraine, and many of those have headache that's actually continuous.

**Dr. Szperka (01:36):** And so we see really a full spectrum of migraine frequency in children, unfortunately. And we also see some variability in terms of how that might express itself. So particularly in younger children, migraine may look a little different. Sometimes the GI symptoms are more prominent. Oftentimes, the pain will come up very, very quickly, and then they'll vomit, and maybe then they'll feel better. So sometimes that may evolve.

**Dr. Szperka (01:58):** Also, children may present with things like cyclic vomiting, episodic torticollis. Different manifestations can come out. Dr. Gelfand's work, even, looking at things like colic. And so are those early presentations of something that's going to ultimately develop into migraine? So there's those early life manifestations.

**Dr. Szperka (02:19):** And then, as children are in school age, they sometimes will have what otherwise appear to be relatively typical migraine attacks, but they are often briefer. Sometimes, for example, the pain may be bilateral as opposed to typically being on one side in adults. And so they look a little different, but more typical of migraine. And then as the children get older it becomes more and more typical of an adult pattern.

**Dr. Szperka (02:42):** Another thing we've actually then looked at — we have a large database at CHOP of children who have seen us for a new patient visit for migraine, for headache in general. And we also see that as they get into adolescence, we see more and more things that are not your typical standard diagnostic features, but things like dizziness that we hear so often from patients, right? Brain fog, trouble thinking, all of those things essentially become much more common as they present into the teenage years.

**Elizabeth DeStefano (03:07):** Interesting. So in very young children, migraine may not look at all like we're used to thinking of migraine in adults, perhaps GI symptom focused, etc. As they age, it might get a little bit more typical looking, but with some different features, bilateral versus one-sidedness of pain, and then evolution of some of those other symptoms like dizziness and vertigo.

**Dr. Szperka (03:31):** Exactly. Yeah.



**Elizabeth DeStefano (03:33):** How underdiagnosed is migraine in children and adolescents? And what are some of the biggest challenges in getting an accurate and timely diagnosis?

**Dr. Szperka (03:44):** So there are some pieces we know and there are many pieces we don't know. And this is actually a large area of interest to me, because I think from a population level, we need to improve diagnosis in order to help children. We have very effective therapies, but we need to get them to those children. And so most of the care that is delivered to children with migraine is done at the level of the pediatrician.

**Dr. Szperka (04:11):** We've done a lot of work with our primary care group here at CHOP and many others have in other places as well. And thankfully, the pediatricians in our network have been very willing to learn more, to try to work on this. We've actually partnered in terms of building in specific EHR [electronic health records] tools to try to help them with diagnosis, things like that. So we very much appreciate their willingness and kudos to a pediatrician to try to manage everything, right?

**Dr. Szperka (04:35):** But I think that still assumes that the child gets in the door of the doctor. Or the nurse practitioner. There are many, many children who don't even seek care. The statistic is, if you think about children with chronic migraine, probably less than half have seen a clinician within the preceding year. So that's kids with chronic migraine, right? Then we think about episodic migraine.

**Dr. Szperka (05:00):** People don't even necessarily know that it's migraine. I have many, many times had someone sit in front of me and say, "That's migraine? I didn't think kids could have migraine," right? So they have to come to attention in order to get a diagnosis. And then, of course, the clinician has to be comfortable making a diagnosis.

**Dr. Szperka (05:19):** That's another major thing that we see is that, for example, many people actually present to the emergency department for the first time because there's a lot of fear about a child having a headache. "Oh, my goodness, it's a brain tumor," right? So they might say, "I have to get my kid to the ER. I'm really worried." And sometimes in the ER, they are seeing a child once and they don't have that relationship continuity. And so they may say, "I'm not sure,"

**Dr. Szperka (05:40):** "This is one single attack. Can I make the diagnosis of migraine or not?" So in some ways, that's a missed opportunity. So again, we've partnered with our emergency department to try to encourage diagnosis of migraine because then essentially it gives it a name, right? And then all of the resources that are available essentially are then more easily accessed by the family. And then we, of course, then encourage follow-up with primary care to then say, "Let's think about treatments and things like that."

**Elizabeth DeStefano (06:06):** So underdiagnosis is clearly a problem. We don't know how much of one exactly, and work could be done to help better understand that. And then some of the barriers include it first rising to the level of attention of caregivers for being what it is, who may be unfamiliar with this, then getting in the door to a provider, the provider having the tools to recognize and diagnose it as such.

**Elizabeth DeStefano (06:28):** And then that possible gap if they're seen emergently, and potentially at risk of not receiving continuity of care to take the next steps. Interesting. So to that first point, what should parents look for and what information should they gather in exploring this at the beginning?

**Dr. Szperka (06:45):** Absolutely. So I think when we are evaluating a child who is presenting with headache — and I'm assuming this is headache — as we talked about earlier, for younger children that may actually present with belly pain, that may present with recurrent episodes of vomiting without other signs of infection. So take what I'm saying about headache and apply it in those, too.



**Dr. Szperka (07:03):** But so the pattern to me is really the most crucial part because if there's a child who has an attack and then it resolves, and then some time passes and then they have an attack and it resolves, I am much less worried about other causes. I think that that is much, much more likely to be consistent with migraine. Of course, not everybody reads the textbook, right? And so things aren't necessarily always that clean.

**Dr. Szperka (07:26):** And we absolutely see kids who will present with a headache that doesn't go away or may be triggered by things. We see lots of kids who have a migrainous headache after concussion. But that pattern piece is very important. And then understanding how does it present, right? So what are the symptoms? What's the pattern of the symptoms in terms of what comes first, and second, and third? Is it just pain and isolation? Are there other symptoms that are occurring as well?

**Dr. Szperka (07:51):** Sometimes the parents can be the best — the caregiver can be the best one to really observe, right? So the child may not report the lights bothering me, but they suddenly want the lights turned down. They yell at their siblings for being noisy, right? So those things can be certainly observed in children as well.

**Elizabeth DeStefano (08:06):** So caregivers can be on the lookout for these recurrent episodes, recurrent attacks, typically that resolve in between, except in those more limited instances where it's onset that continues, and look for and maybe ask about symptoms that a child may not know to share — sensitivity to light or sound or nausea or dizziness, and record those symptoms so that they have some of that information about patterns and symptoms to bring to their provider?

**Dr. Szperka (08:35):** Yes, exactly. And to be honest, as we're describing this, I don't always recommend that families keep diaries once they're at the point of diagnosis and things like that, because we don't always want to draw too much attention to it. But in the very beginning, when we're trying to understand what's going on and trying to get to a point of diagnosis, it is very helpful.

**Elizabeth DeStefano (08:52):** Great point. Thank you.

**Elizabeth DeStefano (08:54):** So after a diagnosis, the immediate goal is often identifying ways to effectively, acutely treat attacks when they occur. Why is early and effective treatment for each migraine attack important?

**Dr. Szperka (09:09):** There are hints that we see that if we are appropriately treating the acute attacks, that it actually may change the trajectory over time. And so when we are making that diagnosis and giving our initial counseling, we are recommending a number of different pieces. But when we speak about the treatment of the acute attack, I think so often families are concerned about giving children medication. And so they feel like, "Well, I should wait till it's really bad."

**Dr. Szperka (09:38):** Or, "I should wait until they can't stand it anymore." And our recommendation is instead, please actually treat it early. As soon as the pain is spiking up, we want you to use the acute treatments. And I'm saying medication, but actually there's nonmedication options as well, which we'll talk about. But get into that immediately, because then it helps to resolve that attack more quickly. And that actually sometimes then will shorten the attack.

**Dr. Szperka (10:04):** So as opposed to an attack maybe lasting two days because it was treated very late, if it's treated early, perhaps it'll go away in an hour or two. And then that's less time that the child is disabled by the migraine.

**Elizabeth DeStefano (10:15):** And this is a big learning curve often for a lot of us that we don't embrace until adulthood sometimes, this understanding that we're actually doing better for ourselves and maybe really for keeping our migraine under better control by treating early. So I can only



imagine the learning curve, and that's why I think it's so important for parents and caregivers to be able to hear that if they're new to migraine and managing it and helping support that in their child.

**Dr. Szperka (10:45):** Yes. And another piece with that is that the child has to be able and willing to advocate for themselves in the school setting. Because if a child develops migraine in school, most of the time, they are then going to be required to go to the nurse's office to get medication. And so often what I hear is, "But I don't want to raise my hand. I don't want to be different. I don't want to call myself out."

**Dr. Szperka (11:06):** And so figuring out a way to, one, empower that child to speak up and advocate for themselves, or to come up with a way to make it less obvious, right? Perhaps it's — I've talked to kids about, "Well, can you carry a Post-it and put a Post-it on the corner of your desk, and that's when the teacher knows that you're going to the nurse's office or going to the restroom?" Things like that.

**Dr. Szperka (11:25):** Are there ways to make it a more subtle communication so that the child doesn't feel that they're called out so much? But again, ways to get them to be able to receive their treatment early.

**Elizabeth DeStefano (11:37):** What a wonderful insight. And I'd love to come back a little bit later, too, to dig in a bit more into managing education and needs and accommodations with great suggestions like that. Can you walk us through the first-line treatments that you recommend to treat a migraine attack in a child or teen as it's happening?

**Dr. Szperka (11:59):** Absolutely. So this is an area where I would tell you that our official guidelines and our real practice don't always align. So the official guideline recommendations are to use either ibuprofen or acetaminophen as a first line. It depends on which guideline you read. But generally speaking, ibuprofen has overall the best level of evidence. And for many children, that's effective. But it isn't for all.

**Dr. Szperka (12:27):** And so in the United States, rizatriptan is FDA-approved. It's a triptan medication, migraine-specific acute medication. It's FDA-approved down to the age of 6. However, the level of evidence in the studies wasn't actually strong enough to make it into the guidelines all the way down to age 6. And so actually, the guideline recommendation is to use a triptan for teenagers.

**Dr. Szperka (12:50):** But what happens in real life is we see a child, we try ibuprofen, perhaps we'll try something like naproxen. We may try combinations. But there's really, given the safety information we have for something like rizatriptan, there's no reason not to reach for that. And so we absolutely do use triptans in children, certainly down to the age of 6 and of course, frankly, I've certainly used them younger.

**Dr. Szperka (13:17):** And so it's that combination, that tug between what's the official evidence and then what's real life. So official evidence is use an NSAID, perhaps acetaminophen.

**Dr. Szperka (13:29):** And then if that's not sufficient, you can add something for nausea or vomiting, you could add essentially a triptan, but we kind of, the more that a child has not had success using certain medications, the more willing we're going to be to spread a little bit. And so, for example, though the gepant medications are still in clinical trials, we will also use those off-label, particularly in older teenagers.

**Dr. Szperka (13:55):** So again, so much of what we can do is limited by insurance. But in a child who has, for example, not had success with at least three different triptans, perhaps we might apply to the insurance company to give us a gepant in a 15- or 16-year-old. And because we feel like, biologically, are they really that different from an 18-year-old? No, right? And so is it reasonable for us to go ahead and use that off-label medication if we need to?



**Dr. Szperka (14:19):** We will also think about all the other nonmedicine things we can do. Essentially thinking about how can we consider what might be bringing on that attack, and are there things we can think about to try to manage that. So is it that they need access to a water bottle because they're really dehydrated by 11 a.m. in the school day and they need to get access to water so they're not dehydrated by that point, right?

**Dr. Szperka (14:45):** Is there some stressor that they're trying to manage? And then we also sometimes will use acute [neuromodulation] devices. And so there are a number of devices, which I think we'll probably circle back to later. But so we certainly will absolutely use, sometimes, devices, either in place of or in combination with medication.

**Elizabeth DeStefano (15:02):** Very interesting. So it sounds like you will often start with the guideline-recommended approach of ibuprofen, maybe acetaminophen, then move on to a triptan, particularly rizatriptan in the youngest of patients, given the data there, and perhaps other triptans for other ages. And then you may even consider a CGRP-targeted therapy, specifically the gepants, in those mid- or older teenagers, potentially, all for acute treatment to help stop an attack in progress.

**Elizabeth DeStefano (15:36):** From there, you also kind of look holistically at all of the factors that may be part of why attacks are happening beyond the biology and the genetic predisposition of this condition that somebody has, and see which of those can be managed to help. And then, of course, move on to also consider, maybe even with medications, something like neuromodulation, which we'll dive into a little bit, too. Now, how do you decide when to take that step beyond ibuprofen and acetaminophen? Is there a certain number of attacks that haven't been well handled by an NSAID that would lead you to take that next step to a triptan?

**Dr. Szperka (16:16):** Yes. And so — and I think to some degree, this is a little bit of style — at this point, given when I see children, I am actually inclined to, for example, at the first visit, give them steps of, I'm going to say essentially, “First use this, but then I want you to have a triptan as a backup.” Because I see so many kids who end up in the emergency department, I'm thinking, “I don't want you to end up in the emergency department.”

**Dr. Szperka (16:40):** And a general pediatrician who's seeing the child for the first time may not take that second step yet. They may essentially say, “I'm going to start with the NSAID,” but they have such close contact with the family that perhaps then they'll move on. So, I think some of that's a little bit of style.

**Dr. Szperka (16:53):** But if there is an individual attack that's insufficiently treated, or if there have been a number of attacks that are just seeming to last longer than they really need to, then I will absolutely escalate to a triptan.

**Elizabeth DeStefano (17:06):** And what can you tell caregivers, who may be experiencing their first foray into a prescription with their child, about what concerns they may have about safety when it comes to using something like a triptan when that is warranted to help support their child?

**Dr. Szperka (17:25):** Absolutely. So we've been using triptans now for 25-plus years, right? And so I do feel very comfortable using, for example, rizatriptan, because of the fact that it's been FDA-labeled for so many years for such a young age. And so we've got cumulatively a lot of evidence to say it's safe. Nothing is without side effects. Everything has potential for side effects. And so there absolutely are children who are going to have side effects to it.

**Dr. Szperka (17:51):** But they are, by and large, not dangerous side effects. And so we absolutely — I find that it's best to be transparent. Honestly, depending on — I think it's also important not to oversell the side effects. Because sometimes if we talk about the side effects too much, then we make people nervous. And then that just makes it worse.



**Dr. Szperka (18:11):** But being transparent about the potential for side effects, but then also reassuring of, you know, there are other options. If this doesn't work for you, there's other things we can try. And for the vast majority of patients, we are able to find something that does work for them that doesn't cause unbearable side effects.

**Elizabeth DeStefano (18:28):** And I can imagine there really is a balance there between having people be informed about side effects, but not so scared about them that they're looking for them in advance. I remember the first time decades ago that I first used a triptan, and being aware of the fact that there could be what I experienced, which were some prickles and some feeling of chest tightness, and it helped me understand that that was OK, because it was such a new experience for me.

**Elizabeth DeStefano (18:54):** I could have found it very alarming, potentially even risky or dangerous. And knowing that it was anticipated helped me understand, well, maybe not my favorite feeling, it was safe.

**Dr. Szperka (19:05):** Correct. Correct. I would say that, yes, chest tightness is theoretically possible. What we see, I would say even more commonly, is jaw tightness. And exactly, to be told, OK, this is something that can happen, and it will pass. And it's not pleasant, and I wish it didn't, but it will pass. The other thing that I think about that scares families in terms of triptans is if the child's also on, for example, an SSRI.

**Dr. Szperka (19:24):** And then sometimes at the pharmacy, they'll go to pick up the medication and be told there's a black box warning, you can't use these together. And so I do my best to remember to warn them ahead of, yes, there is this black box warning. I wish it weren't there.

**Dr. Szperka (19:37):** The American Headache Society many years ago put out a physician statement saying, we're not worried about this because serotonin syndrome, which is the concern, we think is affected by a different serotonin receptor than the one that is effective with triptans. So even though there is this black box warning, I'm not actually worried about it. But again, if they've heard that from us before they go to the pharmacy, they're much less worried.

**Dr. Szperka (19:58):** Whereas if they hear it for the first time from a pharmacist, then honestly, it looks like, well, "They know what they were doing, right?" And so essentially, it's trying to build in that just information. Then people — I think in general, we approach our relationships with families and with children as trying to just be a dialogue. And to make decisions together as much as we can. Because if people have information, then they're empowered, and they can feel much more comfortable about things.

**Elizabeth DeStefano (20:25):** Absolutely. You've researched migraine-associated symptoms like photophobia. How does understanding these symptoms that may be present for a child with their migraine influence your acute treatment recommendations?

**Dr. Szperka (20:40):** I would say that the associated symptoms, I think of as part of the migraine package. And so when we're talking about when to use acute treatments, generally speaking, I will tell them at the first warning that you have a migraine, I want you to start thinking about treatment. Because again, some of it is — it's rare that our kids are carrying their own medications, right? They're going to have to go ask for it.

**Dr. Szperka (21:01):** They're going to have to wait for the end of math class and go. So I don't want them to wait. If it is a child with aura, if it is a child whose first symptom is thirst or hunger or whatever, it's fine. If there's something you think you can do to manage it in a nonmedicine way, right? The first thing you feel is hungry, maybe you missed breakfast that morning. Maybe the hunger is part of your migraine. But if you want to address that and see if it helps it, fine. But otherwise, I want you to start thinking about getting to your medication early.



**Elizabeth DeStefano (21:27):** Knowing that we have a better chance of taming that attack by treating early rather than waiting. So let's now move on to talk about prevention. Because once families have an acute plan in place, the next question is often, OK, how can we prevent as many attacks from happening as possible? So let's start, if we can, with nonpharmacologic options. What approaches exist and when do you consider them for children and adolescents?

**Dr. Szperka (21:58):** We think about nonpharmacologic options for prevention, honestly, all the time. So even in children who have relatively low frequency of attacks, we are always trying to think about: Are there things that we can do to essentially balance reducing the risk of migraine, but also balancing real life. And so I think it's really important to think about, for example, the migraine brain likes consistency.

**Dr. Szperka (22:23):** Think about consistency of sleep. And so perhaps your brain just doesn't like it if you sleep until noon on Saturday, and you really need to balance it and get a little more sleep every day of the week and get up at a relatively similar time on the weekdays and the weekends. But I don't want you to never have a sleepover if you want to have a sleepover with your friends. And so you've got to be a kid too. I don't want your migraine driving your whole life.

**Dr. Szperka (22:44):** But I also — when it's reasonable, to keep that into account and try to have a relatively consistent pattern of taking care of yourself, I want you to do that. But that, again, is where it's important to dialogue and to really have a good relationship with both parent and child, because at different times, with different families, sometimes the child is so afraid of having the migraine that they won't let themselves go. And sometimes the families are worried.

**Dr. Szperka (23:11):** And so making sure that you give everybody permission to have their opinions and speak it out loud. So we do those things: taking care of yourself; things like thinking about the water you're drinking and the exercise you're getting. There actually — when the CHAMP study came out a decade ago, and we found that essentially two-thirds of children got better in every group, we thought about, well, what else are we doing.

**Dr. Szperka (23:37):** And so there was the pill-taking and the placebo and all those things. But at the same time, everyone was being counseled on how to take care of themselves. Everyone was being counseled on how to use an appropriate acute treatment early. And so essentially we think that it's the combination of these things that probably has a large benefit in preventing migraine attacks.

**Dr. Szperka (23:56):** So taking good care of yourself and taking acute medications early, as we just discussed, is probably a large part of how to really prevent migraine attacks. So that's where we start. And then the other thing I would think of in terms of other holistic things is, sometimes our first line of preventive pill-based therapies is actually vitamins.

**Dr. Szperka (24:16):** And so we typically will make the decision to start a daily pill-based therapy when a child reports either at least one headache a week or significant disability. Sometimes if they have even less frequent attacks, but they last a very long time or they're really disruptive, we'll even pull the trigger a little earlier. But otherwise, I would say typically it's around the threshold of about once a week.

**Dr. Szperka (24:44):** And some would say, “Well, but it's a vitamin. Why not do it with everybody?” But I also feel like you don't want to draw more attention to migraine than you need to. So when somebody has very infrequent attacks, I don't necessarily want them taking something every day and thinking about it. But if we are moving on to vitamins, there are a number of different things that have been studied. So we've had studies on riboflavin and magnesium and many other things.

**Dr. Szperka (25:06):** How much of it is what's in the pill, and how much of it is the pill-taking behavior and the expectation that you're going to get better? We don't really know. Again, in the



CHAMP [Coalition of Headache and Migraine Patients] study it was amitriptyline, topiramate, placebo, and all three groups got better. We don't know what that placebo ... was that pill-taking, again, the other things we talked about.

**Dr. Szperka (25:27):** But so I'm not sure when I'm recommending a vitamin if it's the vitamin itself or if it is the process of saying, "I'm taking something every day to get myself better and I'm going to get myself better." Maybe that's really a lot of it. But it's helpful to know that we can use relatively benign things and that really is going to help most of the time.

**Elizabeth DeStefano (25:49):** Interesting.

**Elizabeth DeStefano (25:50):** So when you're thinking about prevention in children and adolescents, which you're thinking about from the beginning, even as you're talking about acute care, it sounds like you're really focusing primarily on those lifestyle adjustments that are so critical and empowering to helping to maybe reduce and best manage migraine. So consistency that the migraine brain likes around things like sleep, and eating, and hydration, and probably movement, and so forth, right?

**Elizabeth DeStefano (26:15):** And then maybe also considering at the threshold of one attack per week, or maybe less frequent, but if they're particularly disabling or long, that idea of those vitamins and supplementation, regardless of what the efficacy from that is, right?

**Dr. Szperka (26:33):** Exactly. Yeah. One thing I should actually add, though, before we move on, is when we're thinking about those healthy habits, as we call them, it's also really important to make sure you understand. So if I lecture somebody and say, you need to get more sleep, but I don't ask them what's going on in their life. Perhaps they've got a job that's keeping them out until 11 o'clock at night and they need that job.

**Dr. Szperka (26:52):** So it doesn't do any good for me to lecture them on, "You need more sleep," if that's not something that's possible in their life. The last thing I want to do is make a parent feel guilty because they come home late from work, because that's the shift that they work, and that doesn't do any good, right? That's going to alienate them and make them feel worse and that's not helpful. They're trying to do their best for their child. And so making sure we understand the circumstances and then try to essentially counsel but not be paternalistic and essentially negative in that.

**Elizabeth DeStefano (27:22):** Wonderful. Wonderful point. In what circumstances, when you're thinking about prevention, would pharmacologic options come into play?

**Dr. Szperka (27:32):** So I think that answer will depend on who you ask right now. And so I would say that most of us, I think at this point, first reach for supplements before we reach for prescription medications. However, there's a little bit of difference in terms of obviously the family's perspective. So there are some families who really feel strongly that they want to go to a prescription medication first, and that's an option.

**Dr. Szperka (27:59):** And then there are those of us who also might make a different decision depending on, for example, the headache frequency. I would tell you that my bias was that if I met a child who had continuous headache, I was thinking I probably need to go to prescription medications first rather than go with a supplement. Because I felt like maybe I don't need just that pill-taking behavior and those things, but maybe I really need what's in that med to actually make a difference.

**Dr. Szperka (28:21):** Interestingly, we are in the process actually of — we've just recently been showing at conferences and writing up a study of new daily persistent headache [NDPH]. So that time when essentially a headache starts and is continuous then. And by and large, unfortunately, those headaches are a little bit more difficult to treat. They don't respond as well to typical therapies. And my bias, as I said, was that I needed to use prescription medications.



**Dr. Szperka (28:45):** But when we looked back and did a chart review, we had 172 kids with NDPH. The rate of response to oral prescriptions and supplements was actually very similar. And so, to be honest, it wasn't great. It was about a third in that circumstance. So not nearly as good as our responses in migraine, but still, it wasn't necessarily different. So it really made me rethink my practice in terms of, hey, maybe it's reasonable to say, let's start with a vitamin.

**Dr. Szperka (29:13):** Now, I will certainly escalate them and keep going with additional therapies pretty quickly if that child has continuous headache, significant disability. But I think it's reasonable to think about vitamins first and then potentially then to move on to oral prescription medications.

**Elizabeth DeStefano (29:31):** One of our community members named Nat asked, “For adolescent girls experiencing menstrual migraine, what are the pros and cons of using birth control as part of prevention at a young age?”

**Dr. Szperka (29:44):** Absolutely. So there are pros and cons of using birth control overall, right? And so I would say that my approach to thinking about menstrual migraine is to first think about: Could we do perimenstrual prophylaxis, right? So if an adolescent girl has regular periods and they know when their period is coming, could we use something like a long-acting NSAID, a long-acting triptan? Sometimes I've even used vitamin E for a few days before and then the duration of menses.

**Dr. Szperka (30:16):** So can we do something like that to make it so that even before the headache starts, we can try to treat it? The problem is, of course, not all adolescent girls have a regular period. And so in that time, it is completely normal to take a couple of years for children to reach the point of having a regular pattern. Then we're left with sometimes the first thing they get before they get the bleeding is a headache.

**Dr. Szperka (30:40):** And so they get a really bad headache that then lasts for four or five days and is really hard to treat. And so we will, again, think about: Can we do additional acute treatments? But it absolutely is certainly one of the things we can think about would be to use birth control. I don't personally prescribe birth control. So in this circumstance, I'm referring to either an adolescent doctor or their general pediatrician. But I think it is certainly a reasonable option to consider.

**Dr. Szperka (31:07):** And oftentimes what we'll do is we'll use — if the child really does have significant migraine around their period — we sometimes will use a low-dose continuous medication for several months in a row to actually avoid and decrease the frequency of the period. The other piece that comes into play with this is whether there is a concern about migraine with aura. And so in the setting of migraine with aura, we think about the fact that there may be a slight increased risk of stroke.

**Dr. Szperka (31:35):** And then if we're adding an estrogen-containing birth control pill, then essentially that also potentially could be additive in increased risk of stroke. This is obviously, thankfully, not something we really see very often in teenagers, right? This is a relatively theoretical risk for our patients. But it is a theoretical risk on a population level.

**Dr. Szperka (31:53):** And so in that circumstance, we will also think about, is it appropriate to start with a progesterone-containing medication, a progesterone-containing pill first. Either something like a mini pill or things like Depo, Nexplanon. And actually I've had many teenagers nowadays get IUDs because then it's essentially a locally delivered hormone that's not systemically delivered and doesn't have the same risks. So I would say that all of the things you might think about in a 20-year-old, we absolutely do think about in a teenage girl as well.

**Elizabeth DeStefano (32:20):** You mentioned earlier the possibility of the use of gepants, a CGRP-targeted therapy, in the context of acute treatment, treating an attack when it happens. And we're starting to see CGRP-targeted medications move into pediatric care. One, fremanezumab (or Ajovy),



is now FDA-approved for children 6 to 17 who weigh at least 45 kilograms. What does that mean for real-world care in prevention and use of these CGRP monoclonal antibodies?

**Dr. Szperka (32:53):** So I would say, one, I think the entire community was thrilled to pieces and we were all very, very happy to see this. How it's going to play out, I think, is a little bit of a to-be-determined. So where does fremanezumab fit in our cascade of treatments. So I personally would say I'm still going to use a vitamin first. But if I'm then needing to get to a prescription medication, I'm just very transparent with families and say, here's what I have.

**Dr. Szperka (33:21):** So fremanezumab looks great in the short term. It's been around for seven years. And so we have seven years of long-term data. I don't have 40 years of long-term data like I do with some of the other medications I'm using. And so it's the devil you know, the devil you don't know, right? Fremanezumab looks great and has fewer side effects.

**Dr. Szperka (33:40):** And some families, particularly families where perhaps one of the parents has used either that or another medication in that class, they are often very eager to move forward with that. Plus, of course, it has the advantages of things like a monthly injection as opposed to a daily pill and all of those. However, many kids don't want a shot either.

**Dr. Szperka (33:58):** And so there definitely are circumstances where they're not interested in taking an injection and they'd rather stick with something that's oral in the beginning. The major other piece of this is insurance. And so even though it was FDA-approved in August, we absolutely are still getting denials and it is unclear if we're going to be able to go to fremanezumab early or if we're going to have to fail first a few other therapies.

**Dr. Szperka (34:24):** Obviously, there have been different position statements and things coming out saying you shouldn't have to fail first. But the reality is that's what insurance has been enforcing. And so I think the landscape is to be determined. Many of the insurance companies will change their policies as of the turn of the year. And so I think it's going to be really interesting to see what happens in the beginning of 2026.

**Dr. Szperka (34:45):** And then, of course, there are many, many other trials that are ongoing and some of them are wrapping up. And so we're very hopeful that perhaps there will be more information coming out. The fremanezumab episodic migraine trial was positive. The fremanezumab chronic migraine trial was not, unfortunately, better. Essentially, the fremanezumab was not superior to placebo.

**Dr. Szperka (35:07):** So again, if I have a patient who has not had success with a number of other therapies who has chronic migraine, at this point, I'm still offering them fremanezumab because I've seen it work, right? And so this is an example of the official and then the real world. But again, I think we're all very hopeful to see what happens with the trials that are coming out, too.

**Elizabeth DeStefano (35:27):** That's great.

**Elizabeth DeStefano (35:28):** Well, this came up briefly a little bit earlier, Dr. Szperka. What about these nonmedicinal neuromodulation devices for acute treatment and/or prevention of migraine in children and adolescents? And neuromodulation may be a very new concept to some people.

**Dr. Szperka (35:46):** Neuromodulation has been part of our treatment armamentarium for actually probably close to a decade now. But we have so much more access now than we did in the past. And so there are a number of devices. The majority of them have a little bit of evidence. The REN [remote electrical neuromodulation] device (the Nervio device), has actually quite a lot of evidence in children and adolescents.



**Dr. Szperka (36:10):** And both due to the lower upfront cost, as well as the essentially added additional evidence we have from pediatrics, that is often our first go-to neuromodulation device. We have demos of most of the devices in our clinics. I find it very helpful to be able to show a child what the device looks like. And so, thanks to our nurses, essentially, we've got a number of different things. We'll do a little show-and-tell in clinic.

**Dr. Szperka (36:35):** Because I think if you think about this thing and it seems so foreign, it's hard to think about, "Should I do that or not? Should I purchase that device for my child or not?" And so being able to feel it, and see it, and understand, "OK, this is a pretty benign little thing," is often very helpful. There is insurance coverage for some devices, depending on which insurance company you have, and which device, and things like that. So that is, unfortunately, I think, a major problem right now, because it means that I have to think about, "Should I offer this device to this child?"

**Dr. Szperka (37:09):** And because I worry about walking in and saying, "I want you to spend \$100 to buy this device for the child, or a few hundred dollars to buy a device for a child." And if the family doesn't have the means to do that, again, then I'm taking something that could potentially be a positive and turning it into a negative, and then they feel guilty that they can't do that.

**Dr. Szperka (37:27):** And so I don't want to not offer it, but I also don't want to risk the family feeling like they're not able to provide something that I'm recommending. And so I really hope that in the future that we're able to continue to expand insurance coverage so that we can offer these devices regardless of financial circumstances for the family.

**Elizabeth DeStefano (37:47):** And for those viewers who are interested in learning more about neuromodulation, we do have a specific interview on it this year: What it is, how it works, different options, including the ages for which they are FDA-cleared for this year.

**Elizabeth DeStefano (38:07):** Moving on, Dr. Szperka, now to talk a little bit more about whole care, as we've touched on here while talking about acute and preventive options. There is a strong link between migraine and mental health, particularly anxiety and depression, not surprisingly. How do you address this in your clinical practice? What advice do you have for parents who are really interested in supporting their child's emotional well-being while managing migraine?

**Dr. Szperka (38:32):** It's something that we just discuss very openly. So we have two psychologists actually on our team. And we do multidisciplinary intakes with our psychologist as well as our physical therapist for children who have not had benefit from a couple of medications, right? So second opinions, transferring within a division, etc. And so our psychologist is part of those visits.

**Dr. Szperka (38:52):** But even in every other of our intakes, we are asking about mental health. We're asking about stressors. We're asking about anxiety because it is such a crucial part. And we do our best to really just normalize it. When we're thinking about how anxiety and depression may be related to headache, I think it's also important to acknowledge cause and effect. So there absolutely are circumstances where, for example, if a child's worried about their math test, that may bring on a migraine.

**Dr. Szperka (39:21):** But there's also, at the same time, a large component of anxiety around the migraine attack and how that's going to affect life. And so I have numerous times talked to colleagues who will say, "Oh, the child's really depressed and that's why they've got a chronic headache." Well, pause. Were they depressed before they had a chronic headache? Or are they feeling really depressed because they're not going to school, and they're miserable, and everything in their life has changed?

**Dr. Szperka (39:42):** And so I think it is really important that we think about anxiety and depression, and that we treat anxiety and depression, and we acknowledge it for what it is. But I also think it's important that we acknowledge the role that the migraine itself has in contributing to it, right? Both in



the acute attack, because certainly the acute attack can affect your mood, but also in the overall realm of life.

**Elizabeth DeStefano (40:05):** So for caregivers whose children are not being seen and treated in a headache clinic, for instance, when should they consider seeking additional support from a psychologist or a therapist as really part of the migraine management plan that may focus on factors separate from and outside of that where they're seen?

**Dr. Szperka (40:26):** So there's good evidence that cognitive behavioral therapy [CBT] is very effective in migraine treatment. And again, that's not to treat the anxiety; that's a separate thing. It's great for anxiety as well, but to treat the migraine even in children who don't have a diagnosis for anxiety or depression. And we absolutely, again, will offer that to many of our patients. There's an ongoing study looking at this now, the study is being run out of Cincinnati Children's.

**Dr. Szperka (40:54):** We're looking at cognitive behavioral therapy plus or minus use of amitriptyline. So do you even need a pill-based therapy? Perhaps CBT alone is sufficient. So I think that's an excellent option, and it's a very good nonmedication option. If a family comes in and says, "I don't want a med," we will talk about the fact that there's really good evidence for CBT, is that something that they're willing to consider?

**Dr. Szperka (41:14):** The problem, of course, is finding a psychologist who is able to do CBT. And so there are many, many, many children out there who might benefit from CBT, but not necessarily enough. And so there's, again, ongoing research to think about different ways to make it more accessible. Could a nurse do biofeedback? Could you use an app to do some of these things? So there's a lot of things essentially on the horizon.

**Elizabeth DeStefano (41:36):** So migraine can take a toll not just on the child, but really on a whole family, certainly caregivers. How can parents and caregivers care for their own mental health while they are supporting a child with migraine or any chronic illness, really?

**Dr. Szperka (41:52):** There's two pieces to this, I think. So one is the fact that the migraine feels so unpredictable. And it will often come out at a time when there's something going on. So it could be a happy stress. It could be a birthday party, and then suddenly your child has a migraine, and that's really frustrating. And so just trying to not overreact to that and kind of go with the flow as you have to in life anyway, right?

**Dr. Szperka (42:13):** So trying to do your best to just take everything in stride as best as you can and acknowledge, "That was really frustrating, right?" Don't pretend it wasn't frustrating. It was, but also try to keep going. But then I think the other piece of it is also just to make sure that the relationships in the family are not taken over by migraine.

**Dr. Szperka (42:32):** So you don't want to put all of your attention on your child who's in the middle of a migraine attack and not take care of the other kids. And again, it sounds — it sounds so harsh, but it's not intentional. Parents are trying to do their best, but you're only one person and you're trying to provide attention to everybody in the house. And I think we often put ourselves last. So trying to figure out how not to put yourself last all the time.

**Dr. Szperka (42:53):** But it's also OK to expect your child with migraine to do some chores. It's OK to expect them to fold the laundry. It's OK to ask them to empty the dishwasher. And, "I'm sorry you have a migraine, but we need to keep going," right? The same way that I think it's appropriate to expect them to go to school, even when they're not feeling perfectly, because it's the better thing for them in the long run.



**Dr. Szperka (43:11):** The more school they miss, the more stress they have from catching up and all of those things. It's also OK to expect them to do chores. And again, your family can figure that out. Is that, do the chores on the days they feel better, and ask a different child to do them on the days they don't feel well? But asking them to contribute to the family so that the other kids aren't uncomfortable, aren't feeling jealous about the difference in attention.

**Elizabeth DeStefano (43:32):** You mentioned school. So let's pivot and touch briefly, if we can, on education. School can bring some extra challenges for a child living with migraine. And one of our Migraine World Summit viewers, Anna, said she'd love help in better working with her son's school. Like many, she may not know about an organization called Migraine at School that actually works specifically on this advocacy with schools to support families with their children's educations. What do you see in your experience as the most crucial approaches or accommodations to help a student with migraine succeed academically?

**Dr. Szperka (44:12):** I'm glad you brought that organization up. They're excellent. And I think that it's important to really partner with your school. And I would say in some ways the most crucial thing for a child with a low frequency of attacks is to make sure they can go to the nurse and get their meds. And understanding that the child's not faking, the child's not making it up.

**Dr. Szperka (44:35):** Just because the migraine comes on in the middle of the math test doesn't mean they're faking and they're trying to get out of the math test. It's just [that] sometimes stress brings on a migraine. That's not faking. So we're very clear on that with our 504 letters. But I think then also flexibility is key. So if the child is developing a migraine attack and they're supposed to do X, Y, Z.

**Dr. Szperka (44:57):** Maybe they're supposed to take a test next period, and they're really not going to do well on that test if they have brain fog in the middle of their attack. But perhaps by the time they take their meds, they're better at the end of the school day. They can take the test at the end of the school day or a different day. And so just flexibility. Say they make it through school. Maybe they've had a migraine all week. Maybe it's an adolescent girl with her period.

**Dr. Szperka (45:16):** And they make it through the school day. Then can we get permission not to do the homework that afternoon? So can we essentially just get a little bit of slack here? So the child's pushing themselves really hard. Can we ask for flexibility so that they can keep going? They're not losing ground and getting behind their peers. But they also maybe don't have to do absolutely everything all the time.

**Dr. Szperka (45:41):** And sometimes that's asking school. And honestly, sometimes it's giving the child permission, because sometimes it's really the child who's driven to do everything and not ask for accommodations. And so trying to balance all that.

**Elizabeth DeStefano (45:51):** Interesting. And you mentioned the 504 plan, which in the U.S. allows for accommodation in schools for kids with certain conditions. And those may be called different things and available in different ways in different countries. What is the best way for a caregiver to approach a school about pursuing some kind of accommodation through a plan like that or other?

**Dr. Szperka (46:14):** Within the U.S., typically the public schools are using a formal 504 plan. Children who are in private school, it's often not a formal 504 plan, but it's usually a very similar process. And so essentially, it's just a matter of requesting to the school to say, "My child has a medical condition." And migraine is now officially on the list of things that are acknowledged there, which is awesome. Thank you, advocates.

**Dr. Szperka (46:35):** But that my child has a need to have a little bit of variation, right? To have a little bit of support, extra support and accommodation. And so whether that's the child's teacher, whether that's a guidance counselor, the school nurse, just approaching them and saying, "I need a



little extra flexibility. I need my child to be guaranteed certain things because it will help them. It will level the playing field and help them to be able to perform the same as their peers," is really important.

**Elizabeth DeStefano (46:59):** I think it's so important for caregivers to understand that options like this exist. They're appropriate. And there's an organization like Migraine at School that can actually help them work through this to support their children in education. One thing to touch on here as we wrap up, Dr. Szperka, is really about the idea of empowering people of this age, right? Adolescence is such a key time for so many things, including identity and independence.

**Elizabeth DeStefano (47:26):** How can both clinicians and parents help teens manage migraine without feeling like they're defined by it or limited by it, while also encouraging them to take ownership of it for their best health?

**Dr. Szperka (47:42):** So I think we actively try to coach teens to take more and more ownership of managing their migraine. I will often say to my patients, "If you act like an adult, your parents will treat you like an adult. And so if you are able to take your medications consistently, then they will let you take your medication. If you are forgetting it four out of five days, then they're going to nudge you and bug you, and you're not going to want to be bugged, right?"

**Dr. Szperka (48:07):** And so can you think about maybe tools on your cell phone and things like that to remind you? I am, both myself and certainly our — I would say it's standard in pediatrics that I talk to the child. I don't talk to the parent. Yes, the parent is part of the conversation, but I start with the child: "And I want *you* to tell me what's going on. I got five messages from your mom in the past six months, but I want to hear from you what's been going on." And really invite them to tell their story. And the parents are there for backup, but that's training them for when they're an adult and they're essentially going to need to do this independently.

**Dr. Szperka (48:38):** So I think both in our office visits, but also at home, the more that they can advocate for themselves and do for themselves, that that brings on that responsibility and that maturity.

**Elizabeth DeStefano (48:51):** So looking to the future, Dr. Szperka, what gives you the most hope for the next generation of kids growing up with migraine, both in terms of treatment and understanding?

**Dr. Szperka (49:03):** I think, to me, I think it's huge that we're acknowledging it. Like so many parents will say, "Oh, I had this, but nobody paid attention or nobody diagnosed it." And now they're bringing their child in for care, and that child is able to receive care.

**Dr. Szperka (49:19):** And it seems that, if we are able to help that child early enough in the course, that we're going to change the trajectory and that we're going to actually help them. That perhaps maybe these teens in our office are not going to grow into having terrible migraine as adults. I'm not going to promise they're not going to have *some*, but many of them may get to the point where it's really a minimal problem for them.

**Dr. Szperka (49:43):** And so, whether that's the actual medications we're using, or whether that's just the whole approach that we're able to take, and we're able to, again, just bring this to public awareness. I think it's a number of factors, but I think that there's a lot of reason for us to be hopeful.

**Elizabeth DeStefano (50:00):** Well, that is certainly a very encouraging perspective. Thank you. This topic is so important, right? Talking about this, understanding, and being able to feel better equipped to help support children, adolescents, teens living with migraines. We're so appreciative of you being



here with us, Dr. Szperka, to walk us through all of the important aspects related to it. Thank you so much.

**Dr. Szperka (50:25):** Thank you. I'm grateful for the opportunity. Thank you very much.

**Elizabeth DeStefano (50:28):** And where can people who are interested in learning more about you or your work go?

**Dr. Szperka (50:34):** We have a website for the CHOP Headache Program. And so we have a number of resources there. You mentioned Migraine at School. There's a lot of resources available to learn more about headache. Headache Relief Guide is another website I would mention. So that's not me specifically, but again, information about migraine and children.

**Elizabeth DeStefano (50:54):** Wonderful. Thank you so much, Dr. Szperka. Thank you for joining us on the Migraine World Summit. Thank you.