

Headache Diagnostics

Anna Esparham, MD, Director of the Headache Treatment Center at Children's Mercy, discusses primary versus secondary headaches, causes of migraines/headaches, treatment approaches, and differences between prevention and abortive therapies.



Featured Speaker:

Anna Esparham, MD

Anna Esparham, MD is the Director, Headache Treatment Center, Children's Mercy.

[Learn more about Anna Esparham, MD](https://www.childrensmercy.org/Profiles/anna-e-esparham/)

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Transcription:

Melanie Cole: Welcome to Pediatrics in Practice with Children's Mercy, Kansas City. I'm Melanie Cole, and I invite you to listen as we discuss headache diagnostics. Joining me is Dr. Anna Esparham. She's the Director of the Headache Treatment Center at Children's Mercy, Kansas City. Dr. Esparham, it's a pleasure to have you join us. This is a great topic. It's misunderstood. There are a lot of things we don't know, but we're going to talk about what we do know about headaches. So tell us a little bit about why they're important to manage and prevent from worsening.

Dr. Anna Esparham: So, most people don't even realize that kids are in pain especially with headaches because it's so prominent in school and, you know, everyone thinks they want to go home instead of go to school, but that's usually not the case, they're actually in pain. And so what happens is they tend to be a little bit mismanaged. And so then they go to the doctor a little bit late when their headaches start worsening, become more chronic, more frequent, it's a little bit tougher to treat.

And so when that happens, there is major disability on the horizon. So in both the children, adolescent and the adult world, migraines and headaches are the third cause of disability in the entire world, so very close to back pain. So this is huge when we're thinking of the economics, when we're thinking of healthcare costs, when we're thinking of the actual person's life. It can be significantly damaging to them if we don't treat this early.

Melanie Cole: Well, that is certainly true. And wow, that was quite a statistic that you gave. So as I said in the intro they're a little bit mysterious. Do we know anything about why we get headaches?

Dr. Anna Esparham: Well, migraines, we know why. It's mostly genetic. So, there is a genetic history. Usually, there's a family history of migraines and, I mean, there's a whole bunch of genes related to why we develop migraines evolutionarily. And so one of the most recent genetic risk factors that came out was that we adapted to colder weather.

So it's mostly genetic, but the biggest thing when migraines and headaches become chronic, the biggest trigger is stress or emotional pain or dealing with trauma, difficult situations, not really fitting in to the life that the child's in. For example, if they're not really an academic person and they really want to do

welding as a job, for example. So that disconnection is really causing some emotional pain leading to chronic pain. So genetics is really a small portion of it. It's really the environmental triggers that we really try and work on.

Melanie Cole: Well, then tell us about your program at Children's Mercy, Kansas City. What are some of the types of headaches that you commonly see? Explain a little bit about primary versus secondary headaches, and really tell us a little bit about your program.

Dr. Anna Esparham: So the Headache Treatment Center is one piece of the program at the Children's Mercy Headache Section. So it's a huge program where we have different tiers of treating headaches. So the first tier is the actual headache relief clinic. And that's where, you know, these kids are having a couple of headaches, you know, maybe four to six times a month. They want to prevent these headaches. So they go and see a headache doctor or headache practitioner, get started on preventive medicine or preventive supplements.

Now for children, oftentimes what we'll start out with is usually supplements. So we're thinking magnesium, vitamin B2, which is riboflavin and coenzyme Q10, and these have significantly less side effects for children versus the heavy duty migraine medications like Topamax and amitriptyline. So we'll generally start there.

And then if they are a little bit more refractory, meaning their migraines are a little bit more difficult to treat with medicine and supplements, they move on to the comprehensive headache clinic where there's a psychologist, a social worker and a doctor that sees the patient.

So it's a several hour visit and it's very comprehensive trying to get to the emotional side of the pain, in addition to the physiologic side of the pain. And then I come in at the Headache Treatment Center and I'm treating the kids where they are having a headache that otherwise can't be treated at home. So it's like an urgent care ER for children with headaches. And I do all kinds of therapies.

And one of the biggest therapies that I do is going to surprise everyone who's listening today is acupuncture. Acupuncture is one of the best therapies that kids absolutely love. We have about a two to three month wait list for acupuncture and acupuncture significantly reduces head pain. And it also significantly reduces stress and anxiety that is associated with the pain.

And we also do a lot of other different procedures. The most common one is an IV migraine cocktail where we deliver medicines through the vein and as well as nerve blocks, which we basically numb nerves around the head. And we also do a lot of neuromodulation devices too for the younger kids that can't handle a lot of procedures with needles.

Melanie Cole: So as you're telling us about some of the challenges associated with treating headaches and migraines in the pediatric population, tell us about some of the approaches. You mentioned a few of the lifestyle, you mentioned supplements and acupuncture. Tell us a little bit about the difference between what you're doing to help prevent them and what you're doing at the abortive situation when they are in the process of having a headache,

Dr. Anna Esparham: Yeah. So this is really key, because this is misunderstood across a lot of healthcare

providers, because honestly, we weren't really taught headaches when we were in medical school or residency. So we start with prevention and that is a daily medicine or supplement, generally takes eight to 12 weeks to work. So say someone comes in, diagnosed with a migraine, we start them on the magnesium glycinate or gluconate supplement. It is going to take eight to 12 weeks to actually take effect and start decreasing the frequency and the intensity of their headaches. So you have to hang in there with that patient.

And if that magnesium doesn't work, then we move on to the next step, maybe vitamin B2, maybe coenzyme Q10. We might want to add vitamin D3 during the wintertime because everyone's vitamin D falls below the lower levels by February just because we don't get enough sunlight, unless someone lives right at the equator, and then also omega-3s, which has shown to decrease inflammation as well.

So these supplements are generally started first and then we can move on to medications like certain SNRIs, SSRIs, anti-seizure meds like Topamax and then beta-blockers. The other types of therapies that we're talking about is the abortive treatments. And this is to be used as needed. Now, oftentimes a lot of parents and families will just start giving ibuprofen and Tylenol every six to eight hours for weeks on end, because it may be decreasing their headache little bit, but what's happening is that this actually can worsen their headache because it causes a medication overuse headache when over-the-counter medicines or triptans or anything that's going to abort the headache pain is used more than 10 to 15 times a month. So that's about two to three times a week.

Now Naproxen is generally a little bit better in terms of decrease in the risk of that medication overuse headache, because it lasts for 12 hours and it's not that fast-acting ibuprofen or triptan, for example. Generally, we give a headache cocktail that is like a combination of Naproxen, a combination of an anti-nausea, anti-headache medicine called prochlorperazine or Compazine with Benadryl, because Benadryl counteracts the side effects from Compazine.

So that's generally a typical headache cocktail. And then we always give triptans if they do have a diagnosis of migraine. And we can give a triptan with the headache cocktail, if their migraines are that severe.

Melanie Cole: Can you expand? This is fascinating by the way, Dr. Esparham. Can you expand a little bit about other options? You mentioned acupuncture. We've heard about Botox. We've heard about all of these different things that can help kids with headaches. Tell us a little bit about what you see going on in the field. Are there any game-changers? Tell us about why those work.

Dr. Anna Esparham: Yeah. So really the nonpharmacologic therapies are those game-changers that you're talking about, Melanie. And the reason why that I just talked about was because those abortive treatments, if we overuse those abortive medications, it can significantly worsen headaches by causing central sensitization.

So we really, in the pain world, have to focus on integrative pain therapies or non-pharmacologic pain therapies. And so right now, a lot of companies are really studying neuromodulation devices. One of those is called the Nerivio, which just came out. It's by Theranica. Nerivio is a neuromodulation device. It actually is an electrostimulation device that stimulates the arm at a 100 Hertz. So it's actually one of the meridians in acupuncture. And it stimulates those nerves, sends a signal to the spinal cord and the

brainstem. And because it's signaling at a 100 Hertz, it releases serotonin and norepinephrine in that brainstem and spinal cord and serotonin and norepinephrine when released actually activate the inhibitory descending pain pathways to stop the headache- migraine pain cycle.

And that's how also some of the other neuromodulation devices work. So we mentioned Nerivio. It goes through insurance. The first device I think is usually \$10 based on the insurance. And then every other device off of that is going to be about \$99. So it could be cost prohibitive for some families.

The CEFALY is another neuromodulation device, C-E-F-A-L-Y. And that stimulates the trigeminal nerve on the forehead anywhere between 20 minutes to 60 minutes, between 60 Hertz to 100 Hertz, which also releases neurotransmitters that block the pain cycle as well.

And the final neuromodulation device that's out there is really more for adults right now. It's called gammaCore. We can't prescribe it for kids, but we do have this at the headache treatment center. gammaCore stimulates the vagus nerve and the vagus nerve is involved not only in pain pathways, but a whole slew of pathways in the body because the vagus nerve is one of the largest nerves in the body that connects to almost every physiologic pathway in our body. And so it only lasts about eight minutes, that gammaCore treatment.

The other treatments that we use are clinical hypnosis, which I'm certified in, and many of our practitioners are at Children's Mercy. Clinical hypnosis has been shown to help kids with headaches. Kids love hypnosis, and it's not that pendulum swinging and making you cluck like a chicken kind of hypnosis. It's really just an active meditation relaxation form that's not so boring for kids where the kids are actually using their own imagination to release the pain from their brain, from their mind, from their head and their body. Our bodies are more powerful than we know, and we can actually change our own physiology by imagining it.

The other therapies that we tend to use that are non-pharmacologic are also in the same venue of hypnosis, but like aromatherapy, active muscle relaxation, meditation, mindfulness. It's amazing and well-researched how much that can calm the pain cycle.

Melanie Cole: This doesn't seem like such a mystery as headaches used to be to the healthcare community. Really absolutely fascinating, Dr. Esparham, what you're doing. So as we wrap up, when would you like other providers to refer? When do you feel it's important that they encourage their patients to seek out the specialists at Children's Mercy? And what's the number one takeaway you'd like them to remember when providing care for a variety of headaches?

Dr. Anna Esparham: So right now, because of the COVID pandemic, what we're seeing is an increase in headaches related to viral illnesses or COVID just because it can induce a lot of chronic headaches that a lot of the treatments that we have at our disposal, unfortunately, can't treat it until that virus has really run its course.

So what the primary care providers can do in our community is really test them for COVID, flu, strep, make sure it's not a secondary headache. And then start them early. The biggest takeaway is start them early on a preventive supplement. If you all go to www.headachereliefguide.org, you will find a lot of these preventive supplements, medications to go ahead and start them on or you guys can just reach

out to one of us and we'd be happy to help you. I'd be happy to give my email out and it's really just to start them on preventives and then the abortives making sure that they're not taking those every single day.

Melanie Cole: Great information. Absolutely such an informative episode, doctor. Thank you so much. What a great guest you are. To refer your patient or for more information, please visit childrensmercy.org to get connected with one of our providers. This has been Pediatrics in Practice with Children's Mercy, Kansas City. Please remember to subscribe, rate and review this podcast and all the other Children's Mercy podcasts. I'm Melanie Cole.

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