Pediatrician's Corner
A Conversation with a Pediatric Allergist

Editor's Note: This is a transcript of an online course released in May 2025. It has been edited for clarity.

Farah Khan, MD: Hello and welcome to the Pediatrician's Corner podcast brought to you by PNCE.org and the Annenberg Center for Health Sciences. I'm Dr. Farah Khan, an allergist and immunologist at Nationwide Children's Hospital and an assistant professor of pediatrics at the Ohio State University College of Medicine. It's great to have you with us.

I'm really excited for our guest today, Dr. Dave Stukus.

David R. Stukus, MD: Dr. Khan. How are you?

Farah Khan, MD: I am great. So, we happen to work together. He is also an allergist and immunologist and a professor of pediatrics at Nationwide Children's Hospital and the Ohio State University College of Medicine in Columbus, Ohio. Thank you so much for joining us today.

David R. Stukus, MD: Well, it's my pleasure. Thank you all for joining in, whether you're live with us or after the fact. This is a topic near and dear to both of our hearts and I am very excited to talk about some of the nuances and important updates that we have for all of our friends who are listening.

Farah Khan, MD: Me too! I think a lot of the first encounters for patients and parents and families start in pediatricians' offices and primary care offices and there's a lot that we're going to go over today to kind of help set these families up for success. So, what I was hoping we could do today is discuss some of the guidelines, how a pediatrician can implement early feeding and early allergen introduction. We talk about this all day every day. And then talk about some of the nuances of pediatric allergy management and then delve into some strategies to help effectively communicate with parents and caregivers to make it less stressful.

The guidance around introduction of allergic foods has actually changed quite a bit and has changed a long time ago. These are not new guidelines, right? They have been out for more than a decade and it's an idea that's well known to pediatricians, but I think sometimes the execution sort of falls short a little bit. So, we're still struggling to adopt some of these changes in practice. In your experience, which recommendations are most often misinterpreted or maybe even overlooked when we're talking about like early introduction with food allergens?

David R. Stukus, MD: I think healthcare professionals in general are really good at adopting guidelines from like the last 15 years but aren't so good about the most recent updates. So, if we look back at the recommendations from the year 2000, so 25 years ago, the American Academy of Pediatrics basically said we don't want to give any infants milk until 1, no eggs till 2, no peanuts, tree nuts or seafood until 3, if you're pregnant or breastfeeding, don't even think about these foods because you're going to make your kid allergic. So, that was based upon the best expert opinion at the time, no real good evidence. Just 8 years later—which is light years when it comes to guidelines from a major organization—8 years later, the AAP said, in 2008, well, maybe it's okay; but it wasn't an active let's go ahead and put this in the diet. So, it was a reversal in the stance but a lot of people said, well, I don't know. They said, this is what I was taught when, it was avoid, avoid, avoid.

Alright, so then some very smart researchers in the United Kingdom were talking to their friends in Israel around the same time and they said, what are you doing about all of these children who have peanut allergy? And the Israeli allergists and physicians said, what are you talking about? None of our babies have peanut allergy. And the folks said, that's fascinating because we have like 1% to 3% of our kids, what could be different? So, they had a conversation, and they realized that the babies in Israel were snacking on something when they were teething called Bamba, which is like a Cheeto made out of peanut. So, then this led to—this is science at its greatest—so they said, okay, so we have association data, babies in Israel snack on Bamba early in infancy, they have less rates of peanut allergy, so then the very smart researchers in the United Kingdom designed a prospective, randomized, controlled trial where they took infants at higher risk of developing allergy, such as those who had eczema or preexisting egg allergy, and they randomized them. Half the group ate peanut in their diet 3 times a week before 11 months of age until they were 5 years old. The other half avoided peanut altogether. And they were so meticulous about this, they went into these families' homes, they measured peanut dust in their homes to try to make sure they weren't sneaking peanut in the

bedroom and stuff like that. And what they found was remarkable. They found an 86% reduction, 86 percent reduction, in peanut allergy for those infants who ate peanut on a regular basis, starting before a year of age until they were 5, compared to those who avoided it. And that was the LEAP trial, and this is the 10th anniversary of that.

So that was the first really good evidence. And since then, we now have multiple studies, meta-analysis type data, that shows the earlier we introduce allergenic foods, especially peanut and egg, there's really good data for milk and other foods, as well, and keep them in the diet consistently, is the best path for preventing food allergy.

When we talk about the first question which was a big one, like which recommendations do we follow, people still have it stuck in their heads what the AAP said 25 years ago because that's what we were all, it was drilled into us. But now, it's really been a huge reversal of that and there's a lot of, you know, this is science. Science is messy, sometimes it contradicts itself, but we have to go where the evidence takes us.

Farah Khan, MD: Do you hear this often from families in clinic? Well, I was told not to give my baby egg or peanut until they were 1 or 2?

David R. Stukus, MD: Yeah, it was, when we first started, you know, 10 years ago, as allergists we started recommending this because we saw where this was going, and families were actually mad. Because they say, you told me with my older child to keep it out of their diet and then now they have peanut allergy. So now you're saying with my younger one . . . because they invented this. And that's humility at its finest, right? When we say this is what we thought was right at the time, but now here's why we have evidence that shows it's different, things like that. But yeah, I still hear that to this day.

Farah Khan, MD: If you could use one word to describe the LEAP trial, what would it be, since we're talking about it?

David R. Stukus, MD: Revolutionary. It was! So for those who were in attendance at the American Academy of Allergy, Asthma and Immunology annual meeting, it was in Houston at the time, where this was presented for the first time, it was, like we're all nerds, we're allergists or whatever, but it was like we were at a rock concert. Like, the air was electric.

Gideon Lack, the lead author, stood up and then he immediately got whisked off to do interviews with CNN and CBS News and everything like that. So, I mean, it's revolutionary, huge, and this is where we are now.

Farah Khan, MD: That was 10 years ago, right, so it wasn't a few years ago or a few months ago, a decade ago. As pediatricians, what do you think, so I think what everybody worries about the most, and I'm just going to say it because probably all of us are thinking it, which is what if I tell them and then they have an allergic reaction? What if I tell them to introduce and then it's a liability? What if it's my medical license? Right? Like that's the worst-case scenario that I think weighs on a lot of us when we try to take new guidelines, new evidence and try to incorporate it. Like, how is it going to affect these patients and families? What would you say to those primary care providers—because they're the ones that are having these conversations—before they get to our clinic?

David R. Stukus, MD: Yeah, well I mean hopefully you'll read the evidence yourself. And we have really good guidance now and good guidelines, so we want you to understand what the evidence shows and why. And it's really hard for any of us to adopt contradictory practices, right? So, if we've done one thing one way for decades and then, all of a sudden they've reversed course, it's a moment of self-reflection. But if we're all committed to lifelong learning, that's what this does. And that's okay. So, if you're afraid of that, I think there's a couple of important points to recognize. One, well what about the flip side? What if we could've recommended it and we didn't, and they develop food allergy which could've been prevented? Okay, there's liability there as well. Nothing we do in medicine is 100% effective, but we've learned that, for infants, when they experience an allergic reaction to a food, they're at very low risk of having truly severe life-threatening reactions. Can it occur? Yes, but it's very rare. More often than not—and this is how we get patients, right—a parent feeds a food, whether it's peanut or egg or whatever, they get some hives or rash, they start acting fussy. With or without medication, the symptoms resolve within an hour or 2, sometimes they vomit once. That's how food allergy presents. So, when we can counsel families and say, listen, even when it does occur, we hope it doesn't, this is our best path to prevent that, but symptoms are relatively mild and a lot of people think that infants can verbalize or their airways are really small so they're more likely to have their airways close shut, things like that. That's not the case. That is not typically what we see whatsoever.

Farah Khan, MD: I love that you said look at it on the flipside. Like if you don't introduce, you're setting these kids

up, especially the ones that have moderate-to-severe eczema, maybe have an egg allergy, right, they are at higher risk of developing potentially other food allergies, like peanut, because people just say, oh, well don't introduce.

Based on your experience, what are the 3 most important practices for pediatricians to implement around early feeding and early allergen introduction to help prevent development of food allergies?

David R. Stukus, MD: I love how you started this conversation of this is like a wonderful partnership of all of us together because, as allergists, we're not seeing these families at the crucial moments, but pediatricians are. So, I think number one is to make it a part of your standard practice. Whether it's at the prenatal visit and families are meeting with you to see if they want you to be their child's pediatrician, at the 2-month well visit, the 4-month well visit, the 6-month well visit, whether it's just standardized conversation you have, whether you make it part of your after visit summary, whether you have handouts which are readily available, things like that. Just make it a part of those standard well visits. We want to reinforce this and have that conversation time and time again.

Number 2, practice how you present it and there's various ways you can do this. So, we can say we used to think that avoidance was the best way to protect children, but now we know that the earlier we introduce these allergenic foods and keep it in their diet consistently, that's the best way to promote tolerance because the immune system in the gut is very powerful and it has a very strong memory. So, if they're eating the food regularly, that's the best way to have them not become allergic. So, just practice spiels like that.

Then number 3 is really—I think we'll talk about this in a little bit—is getting used to just the standard questions you're going to get from families and really have practical tips for them on how to do this and make it work. And you also want to make it a guilt-free zone. So, if you see somebody at 9 months and they haven't introduced it yet and we wanted them to do it around 6 months, that's okay. If they don't, hey, this is life. We still have a window here. We can still try. Let's do the best we can.

Farah Khan, MD: Those are great, great tips. So, we're going to move on to the next topic here: what's a food allergy, what's not, how do we figure out the diagnosis. And what I want to do is talk about some of the signs and symptoms that go into all of these adverse food reactions that oftentimes, again, present to primary care providers and pediatricians first before they end up in our offices. And sometimes the first 1 or 2 times that a kid is having a reaction to a food, it's not always clear, especially with the diagnoses that are not as common. And I wanted to just highlight some of the things that we think about, the differential that we're going through our heads with almost every single patient that comes in with a complaint with some food, some kind of adverse reaction. So, let's start with, I love this one, irritant contact dermatitis.

David R. Stukus, MD: My favorite diagnosis, yeah. It's often, we walk in a room, right, and we see these beautiful babies, they're almost always less than a year of age, blond hair, blue eyes, fair skin, a history of rashes and/or eczema and parents come in saying that they keep getting rashes on their face or wherever food contacts their skin and the list of foods that they are worried about are typically foods that aren't often causes of allergy. So, things like tomatoes, berries and citrus and cinnamon.

When the list grows longer and longer, we start thinking less about food allergy and we start thinking other reasons for it. And once you see this, it's just reassurance. Sometimes we can just put a barrier ointment on the skin as babies are feeding themselves, but it's interesting because a lot of people think that strawberry is a common cause of food allergy, but when was the last time you diagnosed strawberry allergy?

Farah Khan, MD: No, I never have.

David R. Stukus, MD: Yeah, it's not, it doesn't cause allergy. Does it cause rashes?

Farah Khan, MD: Absolutely.

David R. Stukus, MD: Absolutely, yeah. That's a perfect example.

Farah Khan, MD: What do you tell those families then? Does contact dermatitis put them at higher risk of having a full-blown system allergy to those foods?

David R. Stukus, MD: No, we want to keep it in the diet. It's reassurance and, for pediatricians, as you become more comfortable with this, it really is. I mean, feel free to refer to your friendly pediatric allergist, we love seeing these families. We don't do any testing for it. There's no need for it. We just reassure and you go with confidence and say I know exactly what your child has and this is how we can manage it. And it's going to be okay.

Farah Khan, MD: I think putting that rash into context for families, like look, they didn't have lip swelling and sneezing and coughing and vomiting and it went away without the child even being bothered by it most of the time. And that's usually helpful to kind of help narrow the diagnosis.

We've had a lot of guidelines from our professional allergy and immunology organizations that have come out with atopic dermatitis. I'm going to use eczema for short, but tell us a little bit about eczema and food allergy because it all travels in the same family and it's very confusing for parents and families and primary care providers to navigate.

David R. Stukus, MD: Eczema does not cause allergies and allergies do not cause eczema. Often eczema is the first outwards sign of an atopic or allergic baby. Typically presents anywhere from 2 to 6 months of age and it's the classic they get inside the elbow folds, behind the knees, on the cheeks, the red, itching rashes that they scratch and dig until they bleed and stuff like that. So, it's a clinical diagnosis. It often runs in families. So, when we start seeing eczema in the baby, they're raising their hand saying I have underlying TH2 inflammation which goes along with allergies and allergic disorders and those babies are at risk to then develop food allergies, environmental allergies when they're older, as well as asthma, things like that.

Eczema is a very complex skin condition. Eczema it not a complex allergic condition. So, the skin has a disrupted barrier, up to 40% of infants with eczema are missing, they have mutations in a protein called filaggrin. Filaggrin is like building a house with bricks, filaggrin's the mortar. If you have no mortar, all the heat escapes. Well, with eczema, all the moisture escapes, which leads to dryness. And barriers work both ways. So, if the barrier isn't intact, then that allows allergens and irritants and other things to enter the skin. Then, underneath the surface of the skin, there's a very complex immunologic cascade that can occur which can involve the allergic inflammatory mediators, but it's all about inflammation. So, eczema, while you may have allergies in addition to that, and allergies may make your eczema worse upon exposure, it's not what the cause of eczema is.

So, that being said, infants with eczema have a lot of total IgE, right? It's a byproduct. IgE by itself doesn't mean anything. It's a nonspecific biomarker. If you have a very high total IgE, you start measuring specific IgE to things like foods on a blood test, especially, or a skin test, guess what you get?

A bunch of false positives? So, we want to be very careful about removing food from the diet of infants who are, with eczema, who are eating it. If you have IgE-mediated food allergy, you are going to have a history of every time I eat this food, within minutes, within 1 or 2 hours, I'm going to have some combination of red, itchy hives, swelling, vomiting, anaphylaxis. If you are eating a food without those symptoms, you are not allergic to that food. I don't care what your IgE test says.

But a lot of babies, and in the pediatrician's quest to try to help the family or the family comes in and they're desperate and they want to know what am I doing. They do IgE testing and these infants are eating the foods without issues, then you take the food out of the diet, you avoid it for a period of time, then you actually become allergic. So, that's us causing harm and that's really bad. So, if you look at the current evidence-based guidelines, it specifically recommends against elimination diets or food allergy testing or eczema. And, long story short, very few infants truly have 1 or 2 foods driving their eczema. As I mentioned, eczema's not caused by . . . it's a complex skin immune pathway, that sort of thing. The other reason is we have so many effective therapies for eczema now that we know that removing food from the diet is not a benign intervention. It causes real harm, and it can lead to the development of allergies. So, we can fix eczema, good daily skin care, use of anti-inflammatory medications, we have nonsteroidal medications now, reassurance for the family, letting them know there is no single cause of your eczema. That being said, every single person watching right now and listening knows one family that swears that it's something in mom's diet . . .

Farah Khan, MD: It's the eggs! It's the eggs, Dr. Stukus!

David R. Stukus, MD: We get destroyed on social media. Parents think, how dare you, and my kid's eczema is out of control until I remove this! But what else did you do? Well, we finally started using an emollient and we used the topical steroids and started bathing every day. So, we want to be cautious with anecdotes and just recognize, especially on a blanket level, we do not recommend food avoidance in infants.

Farah Khan, MD: I think both of us, as allergists, I don't think I've ever recommended to a family, oh well, let's just cut out dairy and see what happens with the skin.

David R. Stukus, MD: I have had 2 patients in 20 years and they had truly, truly severe, refractory, they were doing excellent skin care, we had the most potent topical steroids, they still had terrible eczema and, even then, it was let's do a 2-week trial elimination. So, if we are going to remove food, it's let's try this, 2 weeks, strict elimination, what I'm looking for is, is this the best their skin has looked in months? If we do not achieve that result, it's not the food.

Farah Khan, MD: Yeah, and then to set up the conversation with the family, like this is a brief trial, if it's not working we're going to come back, we're going to figure out what our next step is going to be instead of just, oh let's just try it for 6 months and then life happens and then it's a year later and we've been avoiding dairy and then potentially have converted into the food allergy.

David R. Stukus, MD: We also don't want to start with dairy and say, well, we didn't really get complete improvement, so maybe we should take egg and maybe peanut and wheat.

Farah Khan, MD: The other common symptom that gets referred to us is reflux and colic. And these babies are sometimes really challenging, right? It's easier for, us as providers, we see them for 15 minutes or 20 minutes and then we send them home and say, okay, do this. But it's the parents that have to execute at home, right? And then sometimes it's the second, third, fourth, fifth visit for the same complaint and they're frustrated and primary care providers are like, I'm trying to help you. So, let's get you into the allergist. But tell me how you think about reflux, colic and the food allergy space.

David R. Stukus, MD: Not only are they frustrated, but they're sleep-deprived and they're stressed and they're desperate. Yeah, so this is where we can absolutely assure. So, reflux and colic is not a food allergy. So, let's just define this very easily. Allergy, regardless if it's IgE-mediated or delayed onset, allergy needs cause and effect. I eat something, I have these symptoms. It's going to happen every single time you eat that food. If I avoid that food, I don't have these symptoms. A lot of these infants, especially if they're exclusively breastfed, very little intact allergen or food protein passes through maternal breast milk. So, if the babies themselves aren't eating, not only does food not cause reflux or colic, it's very unlikely that maternal diet is causing that.

Sometimes I describe to families, you know, it's really nice when you're in utero. It's lovely! If you remember your time in utero, I don't remember mine, but I imagine it was very cozy, very warm, surrounded by liquid and I heard mom's voice all the time. Sometimes she sang and it was very soothing. And then, out of nowhere, for me it was on June 7, 1976—I don't remember that day either—but out of nowhere I go from this very lovely environment, I was thrust into this cold, bright, loud, scary environment where my skin was exposed to the air for the first time and then I had to learn how to eat for the first time in my life. And it can be an adjustment for some people, right? So, for babies, there can be an adjustment period and if we think about the normal developmental stages that we all learned as pediatricians, there's normal development in learning how to eat and swallow and that's where reflux comes into play. Some babies, it takes time for those muscles to strengthen so the food stays down. Sometimes, it is behavioral or who knows what, but before we start going down the rabbit hole of dietary elimination and things like that, let's, 1, ask what's the diagnosis? So, reflux is a physiologic problem. It's almost universal, and some infants obviously have it worse than others. There may be certain foods that make it worse. I have reflux. If I eat a dozen Buffalo wings, my reflux acts up. I'm not allergic to Buffalo wings, I don't have a Buffalo wing intolerance. I eat 1 wing, I'm fine. So that's not the cause of my reflux, I have reflux, it just exacerbates it. So, that's an example. So, it starts with the diagnosis and being thoughtful about dietary elimination.

Farah Khan, MD: How many moms have you met that are willing to put themselves on the chopping block if it means that their baby will get some relief, right? I've never met a mom who's going to be like, well I'm not going to limit, I will eliminate anything you tell me.

David R. Stukus, MD: I've met so many mothers who are tearful because they've eliminated foods and their babies still have colic. Or here's what happens is a lot of these naturally resolve. So, if you start doing all these interventions and some babies, those first few months of life, right, if we just catch them at the right time where you happen to eliminate a food where it was already starting to resolve, well you're going to start to think that that was causative whereas it's just correlation.

Farah Khan, MD: Tell us a little bit about FPIES, food-protein-induced-enterocolitis-syndrome, and sometimes it's not so obvious because it's not with the traditional foods that we think about with IgE-mediated food allergy. So, give me some pearls about how you think about this diagnosis.

David R. Stukus, MD: FPIES is an allergy. It's a delayed allergy. So, again, it's cause and effect. FPIES causes

vomiting, severe vomiting, like exorcist-type, profuse, projectile vomiting 1 to 3 hours after eating a food. It can be followed by diarrhea and then lethargy. It can really wipe infants out. It scares the heck out of parents. The foods that are attributed to FPIES are typically not foods that cause IgE food allergies. So, now we're talking about things like oat and rice and fruits and vegetables, avocado. We can see it with peanuts and milk and egg, of course. Here's the trick: there is no good test that diagnoses FPIES. So, we have to take a very careful clinical history and it's a diagnosis of exclusion. So, we have to make sure there's no other reason. And the reason why is, so not only can every symptom that occurs with traditional IgE food allergy occur for nonallergic reasons, but there are so many reasons why babies can have projectile vomiting. So, sometimes it's just gastroenteritis. Sometimes they have a bad day. I don't know. So we want to be really careful when making that diagnosis.

A couple of things to consider. One, FPIES should not cause hives, swelling, rashes. It's really just isolated GI symptoms. Number 2, it's almost impossible to diagnose after 1 episode because there are so many reasons why kids can have that. Number 3 is if it's lasting for days and days or if it's occurring to a suspected long list of foods, we need to rethink our diagnosis and consider other causes. But when we do diagnose it, we just counsel families. We offer antiemetics for them to have on hand just in case they accidentally eat it. Almost all of these children naturally outgrow it as they get older, so we talk about trial reintroduction, usually 6 to 12 months after the last known reaction.

Farah Khan, MD: After having talked about these other adverse food reactions, give me a few pearls that primary care providers can kind of think about when they have a 9-month-old who's coming in with some adverse food reaction. What are some questions, some pointed questions that they can sort of take with them to kind of help narrow the differential down?

David R. Stukus, MD: Ask parents what foods they're worried about. If they say I have no idea, it keeps happening regardless of what they eat, that's not food allergy. The most simple question. They have to give us a good story. So, you need to focus on the clinical history. It's kind of like the MadLibs, right? So, you need to tell me, how old was the child, what was the food that they ate, what were the symptoms that they had, what was the timing of onset, how long did they last. If you say they ate lemon and 4 days later their left ear got red, I believe you but that's not food allergy. If they ate peanut and within 15 minutes they had generalized hives and vomiting that lasted for 2 hours, you have my undivided attention. That's more concerning for allergy. So, you start with the clinical history, and you can reassure parents when the history is not worrisome for food allergy. I'm glad you're here today. The good news is this is not worrisome for food allergy. I think this is what's going on with your child.

Farah Khan, MD: On the heels of that, tell me how you want primary care providers to think about the food allergy testing, whether we're talking about skin testing or lab testing, to make it very clear for them. Because, I mean, we know pretty quickly when these patients present to us whether or not the testing is going to be helpful.

David R. Stukus, MD: I think there's a couple of big things. One, food allergy tests are not screening tests. These are all the things we learned in medical school week 1. They don't meet any criteria. You can't just test for a bunch of foods and whatever comes back say this is what you're allergic to. That's backwards. You take the history, based upon the history, then you can do specific IgE tests. Everybody listening has had these food allergy panels marketed to them because it's a money maker and they say, wouldn't it be great if you could tell your patients or their caregivers exactly what they're allergic to with 1 simple little blood test. Well, it would be great except they don't work that way. So, what happens is you have somebody you're worried about peanut and you do a panel and it comes back with elevated IgE to rice and egg and banana. Now what do you do with it? You shouldn't do those tests in the first place unless you have a good history for that. They're also not predictive. So, if somebody's never eaten a food, if we do an IgE test, I can't tell you what's going to happen. We get tons of false positives. It's also not a pregnancy test, so it's not a yes/no answer. Just because, if you have detectable IgE, that means you're sensitized. It does not mean you're allergic. So, what happens when you eat the food? Forty percent of children, 40%, have detectable IgE to milk, egg, shrimp or peanut, but only 5% are allergic.

These are terrible tests. Now, then you say, well why should we do them in the first place? Well, we can use them to confirm a suspicious history or we follow them over time. When we've established a diagnosis, then we can repeat the serum IgE and follow that, and once it's trending downward, we say, oh I think you're outgrowing this. Now we can do a food challenge.

Farah Khan, MD: Is there ever a scenario that you want primary care providers to draw the labs before you see the family?

David R. Stukus, MD: I think it depends on their access to specialists, right? So, not everybody is able to see a good pediatric allergist within a few weeks or a couple of months. So, if you're going to wait periods of time, we want to give guidance to families and absolutely do it. Or if the history's . . . I saw somebody today. It was actually somebody that we trained in primary care, they had a pretty convincing story for IgE reactions to milk in an infant. And they drew the IgE level, which was elevated. So, that made my job a lot easier. So, I had a conversation with the family about it. But they didn't do panel testing.

Farah Khan, MD: Love it. Narrow, targeted testing. Okay. So, this sort of goes into the next step that we were going to talk about. We talked a lot about food allergy panel and then what's something that the primary care providers can say to parents and families to not set up the expectation necessarily that, oh you're going to get testing and have all of the right answers on exactly how to feed your kid because sometimes families do come in with that expectation.

David R. Stukus, MD: That sets us up for failure. That's not good for us or the families because they come and they say, oh hi, nice to meet you. How can I help you today? Well, we were sent here so you can test them for everything. That's not what we do. So, if you're willing to say, I appreciate you coming in, your story is concerning for possible allergy, I'd like to refer you to an allergist so they can meet with you and discuss if testing is necessary and what the test is. That's a healthy relationship there and I think that sets us up so we're helping everybody in this manner. Otherwise, we have to spend so much time undoing misinformation about why we don't want to do panel testing and things like that. So, I hope people would be willing to have that conversation instead.

Farah Khan, MD: I think what's interesting is that the parents now grew up in the generation where we were doing broad food allergy testing and some of them ended up in allergists' office and got like 60 foods tested on their back and they're like, oh I thought that's what you were going to do with my 2-year-old.

David R. Stukus, MD: Then we say, well good news, things have changed. And by the way, you're probably not allergic to the 20 things that you were told you're allergic to either.

Farah Khan, MD: That's true. And then usually they're like, oh yeah, I eat everything, I don't avoid anything. Okay, so once a food allergy is diagnosed, what do you want a pediatrician to know about the most effective way to collaborate on the ongoing evaluation and management of a patient with food allergy?

David R. Stukus, MD: Let's move away from the-sky-is-falling fear-based messages. There's some really scary messages from the past 10, 15 years about how it's not safe for these children to go out into the world or attend school or go to playgrounds. And there's a reason why we have nut-free schools and peanut-free areas at the baseball game and stuff. So, none of these are medically necessary, but this was before we really understood risk. So, now we know, right? So, we know that we want to focus on ingestion. Very few children are going to have like an airborne reaction to a food, with some very rare exceptions. So, we really want to focus on let's read labels, let's make sure we're not accidentally eating what we're allergic to. Let's focus on things that say "contains" 1 of the top allergens. If it says things like "may contain, processed in a facility, shared equipment," those are generally meaningless, and the vast majority of people experience no reactions to those. We want to counsel them on good hand washing before and after eating and just good communication with food handlers, especially when they're going to get ice cream and going to bakeries and restaurants and stuff like that. The other thing we want to counsel on is, okay, if accidental ingestion occurs, here's what to look for. So, if your child has symptoms, if they have hives, we can treat them with a good second-generation antihistamine, not the first-generation antihistamines like diphenhydramine - as you take a deep sigh. Dr. Khan, you want to tell us why first-generation antihistamines are terrible?

Farah Khan, MD: They're terrible. So, diphenhydramine or Benadryl came out, it hit the shelves in the 1940s, it was not studied with any kind of vigorous activity like drugs now are studied, and they work on so many different receptors, and so you get a ton of side effects. And for some kids, they actually have the opposite, the paradoxical effect where they are just ramped up and not drowsy and groggy, but they are just like bouncing off the walls and it's also like not that great as an antihistamine. It doesn't last that long and everybody thinks, oh, Benadryl is the fastest-acting and that's why we should have it on hand. But it's not. I would much rather use cetirizine which works almost just as quickly.

David R. Stukus, MD: Second-generation antihistamines for hives. Anything more than hives, such as vomiting, difficulty breathing, coughing, if they look acutely ill, give them epinephrine. And the messages we want to send are epinephrine's safe, epinephrine works fast, it treats all of the symptoms and can reverse anaphylaxis as well. So, we really want to promote that we now have needle-free options of epinephrine that are available as well.

Farah Khan, MD: I also just want to add, a lot of people, including healthcare professionals, think, oh if you have respiratory involvement, that's when it's anaphylaxis and you have to use epinephrine.

David R. Stukus, MD: No, absolutely not. We don't need to wait for that. We don't need to wait for throats to swell shut and wheezing to occur. So, hives and vomiting, anaphylaxis. Vomiting and you get acute respiratory congestion, anaphylaxis. If you're not sure if it's anaphylaxis, use epinephrine because it works really fast and it's very safe.

Farah Khan, MD: Okay, so some of the more common questions that we get from new moms are related to maternal diet and breastfeeding and the prevention of food allergies, right? Again, parents, moms will put themselves on the chopping block, like tell me what I need to do, right? Tell me what I need to do to help prevent or treat any condition. So, what do you usually say to these moms who typically, when we meet them, they're also postpartum, they're going through a lot of physiologic changes themselves and they're responsible for taking care of this tiny human being?

David R. Stukus, MD: It's simple messaging. It's, well the good news is you're not giving allergens to your baby through breast milk. You're giving nutrition. So, if you want to protect them, you won't be able to by what you eat. You wouldn't be able to cause them to develop food allergies by what you eat either. So, eat whatever you want. Whatever makes you happy while you're pregnant or breastfeeding is not protective nor causative for food allergy. It really is that simple.

Farah Khan, MD: It's not really like oh you should try eliminating dairy or try eliminating peanut butter.

David R. Stukus, MD: Or don't intentionally eat more of it either. It's just do whatever you want. It has no impact.

Farah Khan, MD: Are there any other resources that primary care providers can point the parents to? Because sometimes I think what some parents struggle with now is that there is so much information and sort of figuring out like what's a credible source, what are some people or online organizations, like what are some things that they can sort of look at if they wanted to dig into some more of the details here?

David R. Stukus, MD: Let's steer everybody away from social media. Don't go there for this type of advice. So, the professional societies, all the .orgs, American Academy of Pediatrics, they have great information. HealthyKids.org, the allergy organizations and we have great advocacy organizations, as well, that are devoted to this. So, and all of them have their own medical scientific councils, so that's where I would send them for information.

Farah Khan, MD: Not the support groups online?

David R. Stukus, MD: No, those are echo chambers of anecdotes and misinformation.

Farah Khan, MD: I think one of the things that I love about our specialty is that it has changed so much and so fast and it always feels like there's something new and exciting happening. That's one of the reasons why I applied to this specialty because I was like, this is amazing! What are . . give me some new recommendations, guidelines, stuff that has come out now that we've talked about the LEAP trial, so since then, in the last decade or so that sort of pediatricians and primary care providers can even look to.

David R. Stukus, MD: Food allergy prevention is something that we should be stressing obviously as we sort of discussed. So, we want to promote introduction of allergenic foods into the diet and ongoing exposure. It's not like a little drop on the tongue and then you're good to go. We don't want to rub it on the skin first because that's how you sensitize people.

Farah Khan, MD: That's not what TikTok said, Dave!

David R. Stukus, MD: Let them eat it and keep it in the diet. Diversify their diet. Expand it, things like that. Anaphylaxis, we've learned a lot. So, we sort of talked about how, you know, fatal anaphylaxis is filled with fear and misinformation, especially in children. So, we've learned things like when you use epinephrine to treat a food allergy reaction, you don't automatically have to go to the emergency room. And the reason why is because most children get better pretty fast and when you go to the emergency room, you sit there for 6 hours and you get

things you don't need, like steroids and Benadryl and stuff like that. So, there are now guidelines that basically say if you're in a safe environment and you receive epinephrine in a prompt fashion and you have a second one available just in case and you experience rapid resolution of symptoms, you don't automatically have to call 911 and go to the ER. Now, if you feel the need to go, absolutely go. If you're not getting better, absolutely go. If there's any concern, absolutely go. We're not saying you have to stay home. We're saying you don't automatically have to go. And that is so patient-centered and patient-friendly and people love it. They love the freedom to say, oh I can treat and monitor? Yes. Because people otherwise don't use their epinephrine because they don't want to have to go to the ER.

Farah Khan, MD: They don't want to get stuck with that $2,000 ambulance bill and then the $4,000 ER bill and I find that parents, because we do walk through the emergency action plans during our clinic visits, they're like, yeah, I can recognize these symptoms and will use this as a resource. So, oftentimes, they'll call in, they'll get to our nurses' line or they'll call the on-call doc and just run it by, like hey my kid had an accidental exposure, I used it and we can give them some guidance and we can spare them the 6-hour visit to the ER.

Tell me, tell me a couple of new and exciting things that are happening with food allergy management because the traditional advice, which is still perfectly fine, is you avoid, you carry your EpiPen, and you come back and you get your routine labs with us every so often. Tell us some of the other options.

David R. Stukus, MD: Well in the United States, omalizumab, which is an anti-IgE biologic, was approved for treatment of IgE-mediated food allergy in February of 2024, and what omalizumab does is it blocks the IgE antibody. So, it doesn't care what you're allergic to, what it does is it increases the amount you need to eat to trigger an allergic reaction. So, it protects you. It makes you kind of bite-proof. It also lowers the risk of having anaphylaxis from higher ingestions. It's great for people with multiple food allergies and it's also a wonderful treatment for allergic asthma. It has indications for chronic urticaria. It doesn't have an indication for environmental allergies, but it's a great treatment for that as well. Each treatment is $2,000 to $3,000, so you want to make sure insurance covers it. And it's given by injection, subcutaneously, every 2 to 4 weeks. So, not every family loves it because it's expensive and it's a shot they have to give. But we also have ways of desensitizing, both oral immunotherapy which involves . . . this is all highly regulated, so we don't want to just recommend people do this without supervision. You eat small amounts of your allergen every single day and we gradually increase this every couple of weeks to reach a maintenance dose, and then, over time, that also increases your threshold and protects you from having severe reactions. But there's a trade-off because it's a part of your daily life. Allergic reactions can occur to every dose, so there's restrictions, like having a full stomach, no exercise for about 2 hours afterwards, monitoring during acute illness, things like that.

There are other ways to desensitize. Some people are using sublingual immunotherapy which can be a little better tolerated and then hopefully, within the year of launching this, we'll have epicutaneous immunotherapy for peanuts. So, a patch on the skin that desensitizes over time as well. So, lots changing in this space, but that's why we want pediatricians to know about this so you can refer them to an allergist to talk about treatment options with every one of these families.

Farah Khan, MD: Do you think about toddlers and young babies differently in the food allergy management and treatment space compared to like a 16-year-old with an established peanut allergy?

David R. Stukus, MD: This is sort of the newest approach to this stuff. So, the immune system's very malleable in those first couple of years of life, so if we're going to do something like oral immunotherapy, that's our best chance if we can do that in the first couple of years that we might potentially, potentially—none of these have been approved to cure—we might cure that person, or at least make them better tolerate it. Whereas, once you're 14 years old, you're already well-established. You're probably not going to outgrow that and we can protect you; it's not like we're going to make it go away.

Farah Khan, MD: How do you approach these families because there are so many treatment options now, right? It's not just like, avoid, because even when I was in fellowship training and I'm younger than you are, so it was not as long ago as you, it was just, oh, avoid, carry your EpiPen and come back and see us. What are like a couple of pearls how you approach these families?

David R. Stukus, MD: This is shared decision-making at its finest. So, there's no right or wrong answer. What works for 1 family doesn't work for another. And you can change your mind at any point. Here are our options. For some families, avoidance is all it takes. I have a peanut allergy, I'm playing

soccer, traveling and going out to restaurants, if I have accidental ingestion, it doesn't interfere with our lives. Great! You don't need treatment, you're fine. Let's monitor your IgE levels over time and see if it goes away. Other families, oral immunotherapy is the way to go, and it works with their schedule and what their desires are. For some, it's omalizumab. So, yeah, everybody has, you know, what's best for them, it's up to us to provide the information. It's also up to us to elicit their values and preferences.

Farah Khan, MD: Yeah, and every family, every patient's going to be a little bit different and that's okay.

David R. Stukus, MD: And their mind may change over time. Every age is different as well.

Farah Khan, MD: Let's get some of your final thoughts on the importance of following clinical practice guidelines to increase healthcare efficiency and patient outcomes. Let's start there.

David R. Stukus, MD: Well, this is why we're here. So, I can't keep up with all of the literature. I'm an associate editor for one of our peer-reviewed journals. I read the manuscripts that come into us, but I can't keep up with everything that's published. Nobody out there can. Pediatricians are amazing, but you're in charge of treating like 500 things. I treat like 5. That's up to me. I need to know all the evidence surrounding those 5 things and that's . . . I take a deep dive into the nuance. So, you, participating in activities like this, that's one way to do it. So, you don't have to sit down and read these guidelines from cover to cover. I've been a coauthor on some of them. I have trouble staying awake reading them. They're long and dense, but they're there for reference. They also are there because they have all the references. Micro CME like this, go to your annual meetings. Whether it's the American Academy of Pediatrics or whatever society you belong to. That's where you can get up-to-date not only knowledge but perspective from the experts in the field as well.

Farah Khan, MD: What should the threshold be for a primary care provider to refer to an allergist if they have that resource available where they live?

David R. Stukus, MD: If you have it available, I hope you have a good, trusted relationship if you're sending your patients to an allergist that, you know, we have to clean up our own backyard There are some that still do panel testing and practice outdated medicine. So, if you recognize that, maybe try to find somebody else to refer your patients to or have a conversation with that allergist. But what we like to do is for our pediatricians in our community, we say, listen, if you have any concern at all for food allergy, send them our way. We will spend time with them.

Even if you don't think it's food allergy but parents are worried, you don't have the time for this. You're seeing 40 patients a day with all these concerns. That's why we're here. So, that's what I would recommend.

Farah Khan, MD: Is there anything that you would like to see from primary care providers that refer to us or something that even allergists can do better to close the communication loop with primary care offices that are referring to us?

David R. Stukus, MD: Well hopefully you're getting a report back that talks about that. It's up to us, we should be providing . . . this is what I educate our residents and fellows on, like okay, we need to clarify this is what we think the diagnosis is and here's why. You sent them thinking it was food allergy, here's why we don't think it's food allergy. Here's why, here's what testing we did that we think was indicated, here's what foods do or do not recommend they avoid. Do they need epinephrine? Yes or no and here are the next steps. So, that's my job to provide it back to you. And then hopefully, when you refer to us, you will tell us why. What's your question? What are you worried about? And we can address that to the best of our ability.

Questions and Answers

Are there any circumstances in which you do not recommend early introduction of allergenic foods?

David R. Stukus, MD: It's a great question. No. And here's when I see people get concerned. What if they have truly severe eczema? Well, we actually want those babies to eat as soon as possible. So, those are the ones that we absolutely want to intervene with. Can you develop food allergies if you don't have a history of eczema? Absolutely, that's why we recommend it to everybody. But those are the ones, truly persistent eczema, we absolutely want them to start eating these foods and keeping them in their diet. We can change their lives. Family history. So, interestingly, family history does not increase your risk of having food allergy. In fact, siblings, younger siblings, they have an older brother or sister who have a food allergy, are at lower risk for reasons we don't fully understand. So, there's no reason to delay introduction or to even test before introduction. We also get that there's a lot of concern. This is the art of

medicine. This is what we do. Do I ever do allergy testing even though it's not medically indicated? Of course I do, but I have a conversation with families and I say, listen, we still don't want to do panel testing. What are the foods that you're concerned about? If we get a negative result, would you be willing to go home today and feed these foods to your child because that's the best-case scenario? And if we get an elevated result, I'm not going to diagnose them as having an allergy to something they've never eaten, but we'll talk about maybe introducing it here in the office under our supervision and build some confidence there.

So, short answer is no, there's no circumstance where we want to—even if they have other food allergies—we want to introduce the other foods because it's very unlikely they're going to be allergic to 8 foods. But we have an opportunity here to intervene and build some confidence.

Can you talk a little bit more about the new guidelines around eczema and allergy? How, if at all, do your recommendations for allergy prevention change for parents of infants with mild-to-moderate eczema compared to with severe eczema which kind of ties into the last question?

David R. Stukus, MD: Let's start with the first one. So, the Atopic Dermatitis Practice Parameters are open access. They were published last year. There's a wonderful like infographic. It's a 2-pager you can hand to families that walks through maybe 20 different recommendations in addition to recommending against elimination diets. It really talks about the different topical therapies, of which there are now how many different nonsteroidal ones do we have? Six, maybe? Different classes of medication. It talks about bleach baths and bathing and all kinds of stuff. So, eczema really is . . . it's counseling about this is a skin condition. It is chronic. There is no known cure. It tends to improve as kids get older. There are dozens of triggers, whether it's weather, extremes of weather like cold winter air or hot humid air in the summertime. Sometimes increased body temperature, acute illness can make it worse. The type of clothing you're wearing. The number 1 reason for poorly-controlled eczema is lack of a good daily skincare regimen, so not using enough moisturizer. We do want to recommend bathing every day, generally for 5 or 10 minutes with a mild fragrance-free soap or no soap. And immediately after bathtime is when we want to put that thick emollient on. Here's a little pearl for you. So, lotions and emollients are very different. Lotions don't absorb into the skin. So, if it's anything out of a pump, that's not going to be as good for eczema as something—the greasy stuff—that you scoop out of the tubs, the stuff that ruins all the bed sheets and the clothing and stuff like that.

Then I generally recommend every time you change their diaper, put it on and focus on the areas where they really have problematic eczema or all over their body. You want them so greasy that you go to pick them up and they slide through your hands. We also need to not be afraid of topical steroids. So, there's a lot of fear out there about the side effects and steroid withdrawal and paradoxical effects and things like that. And people are concerned about this to like over-the-counter cortisone. You can put that on your face 17 times a day and it's not going to cause side effects. Don't do that. It's not medical advice, but point being . . . So, the flip side, we talked about this before, right, so what's the flip side if we don't treat the eczema? Well, that's when you get terrible skin. So, if you don't treat the eczema, not only does it cause ongoing misery and these are the itchiest kids you can possibly imagine, it then disrupts their sleep cycle. They end up in bed with their parents. They're not sleeping at night. They are miserable. It doesn't need to be that way. So, if we're not treating the eczema, they're going to be miserable but then at leads to long-term scarring. So, the hypopigmentation, that's what parents care about.

There's no easy fix for that. That takes years to resolve. The lichenification, the thickness that you get and the scarring or if you start getting bacteria in the skin, oh my gosh, we can prevent that. So, you haven't heard me once mention food, right?

It's skin care, skin care, skin care, skin care. Education, counseling, education, counseling. And that's where we are with the guidelines. So, when it comes to food allergy prevention and introducing these allergenic foods, that's the conversation with families, like wow, we really want to focus. Like I want to do everything I possibly can to give you the confidence to get these foods in your baby's diet and keep them in their diet. I want to repeat, for those who may have glossed over, don't rub it on the skin first.

You get nonspecific rashes that don't cause . . . is not an indicator that they are allergic or just causes more confusion. It's also not reassuring that they don't have a reaction. So, just let them eat the food.

Farah Khan, MD: I think changing the narrative for the parents and families. Eczema is stubborn. Eczema is frustrating. Eczema is you're going to have a few good days and then a couple of bad days and then a few good days and then a couple of bad weeks. And then for them to

realize, oh, it's normal and then that's another way of framing it that I find parents have found it helpful, like oh I don't need to eliminate the dairy and the wheat and the soy.

David R. Stukus, MD: Absolutely! And, oh by the way, we didn't talk about biologics. We did with anti-IgE, but we have approved biologics to treat atopic dermatitis down to 6 months of age.

It's amazing. So, learn to identify, it's all pattern recognition. That's what we do in medicine, right? So, okay, we have an infant with eczema, it's a little stubborn spot here on their cheek, it gets better with over-the-counter cortisone. That's fine, that's mild eczema, that's going to go away in the first year of life. That's very different than when they have extensive body surface area or we're using potent topical steroids and we're not getting much improvement. So, recognize those kids. Those are the really high-risk ones and those are the ones we want to intervene to make their skin better and try to prevent food allergy development.

Farah Khan, MD: I think most allergists will say just refer them to us, like we're happy to see them to get their skin under control and then figure out how to safely get the foods into their diet. Sometimes, parents and families will actually end up with dermatologists because that sometimes is just easier and faster to get into them, but they don't do any of the food allergy management or how to introduce foods, right? So, allergists are more than equipped to handle the eczema.

Do you have any advice for how to handle the logistics of early introduction to allergenic foods for a younger sibling when an older sibling is in the same house and may be allergic to some of those foods?

David R. Stukus, MD: Thank you, excellent question. I'm going to add onto that when the mother is allergic and she's breastfeeding. Ooh, that's tough. Okay, so it's counseling about risk. So, we know that we want to focus on preventing accidental ingestion. We know that young children explore the environment on their hands and knees and they put everything in their mouth. So, whatever they're allergic to, we do want to emphasize an allergen-free zone anywhere other than the dinner table. So, don't let older kids run around the house eating cheese so they could drop some and they can pick up if they're milk allergic and so on and so forth. Soap and water removes allergen from the skin surfaces. Hand sanitizers do not. And then the detergent-based wipes can remove from surfaces. So, you can prepare meals, you can, and just sitting, you know, if somebody is allergic to milk, if somebody's having a grilled cheese sandwich next to their plate, they're not going to react to that, even just sitting next to them. So, no food sharing, good hand washing, maybe sit them separately at the table if you have to. Same thing if they're going to school. Kids can sit at whatever table they want, they don't have to sit at an allergen-free table. That's social isolation which is awful. I've heard horrific stories of that. It really is just focusing on don't eat your food. So, it can be nuanced and it depends on the ages of the children and what they're allergic to. Sometimes families label their food, especially if it's like milk. There is a safe milk and stuff like that, but we want to encourage them to live their lives and just reinforce that which is a very different message than if we say, listen, there's allergen everywhere in your home and once you bring it into your home, you're introducing risk and it's in the air and stuff like that. That's not true, that's not what we want to focus on.

Now, if you have a mother who's allergic to a food and we're recommending introduction of these foods, and here's the question I get, they're breastfeeding, they want to feed their baby peanut butter, mom's allergic to peanut, how can they safely breast-feed without reacting when the baby latches on? That's a really interesting nuance question. Right?

Farah Khan, MD: So, what do you say?

David R. Stukus, MD: Well, so if you can have a peanut-free meal before they latch on, that can remove it from the saliva. Sometimes you can do a barrier, so whether it's a nipple shield or something like that. Other times, it's, you know, alright, I hear you, maybe we wait a little bit until they're a little bit older or perhaps we have the other caregiver introduce these foods, maybe do it at daycare if they go to daycare as opposed to at home. But it's not a reason not to do it, but it involves a lot more thoughtfulness and care. But those are really interesting conversations. Do you have any tips on that?

Farah Khan, MD: No. I say what you say. And it's so hard, right, because it also like you have to dial in to the anxiety that the mom is experiencing because she is already beating herself up by the time she gets to our office. So, it's, well what are you comfortable with? And maybe starting the conversation there sometimes.

David R. Stukus, MD: Let's be honest with ourselves, so 95% of children will not develop food allergies regardless of when we feed them. But we have a chance here where, if

we can prevent even 1 child by early introduction because it's very safe and it's effective for the vast majority, then we want to do that. But there may be situations where, okay, it's not feasible for whatever reason.

Farah Khan, MD: Right, and not making those parents and families feel guilty for it and we just sort of figure out how we're going to approach it, when it's logistically possible.

Please expand on the comment you made earlier about how food allergy tests are not screening tests. What testing should we do as pediatricians when we suspect a food allergy?

Farah Khan, MD: Sometimes parents really want those food allergy tests. I mean, it's not just you and I as allergists that are fighting that battle. It's the primary care providers where the conversation starts and the demands start sometimes.

David R. Stukus, MD: The practice of medicine has really changed dramatically in recent years. I don't know if it's a postpandemic thing or just where society is today. So, what if that family walked in and they demanded a full body MRI for their child because they read, they saw on TikTok that they should have that scan done every 6 months?

We're not going to do it, right? I mean, that's an absurd example but it's also an example of just because they ask for something doesn't mean it's medically necessary or even useful. So, I think just describing the harm to them and say, well that's actually the last thing we want to do. So, what concerns do you have? Can we talk about that? Here's why we don't want to do a panel. If you have concerns about specific foods, then maybe we can evaluate those specific foods. Again, walking through. Like if we have a negative test, it's very reassuring they're not actually allergic to it. If we have an elevated result, it doesn't mean they actually have a food allergy, so we have to figure that out as well. I think it works well to listen to their concerns. I found a trick recently where, you know, by the time they come see me, especially for things like chronic abdominal pain or recurrent diarrhea, things like that, where they've already seen their pediatrician several times, maybe a gastroenterologist and then they come see me desperate to know the answer, I just listen. Sometimes it's 10 minutes; sometimes it's 15 and people out there, you just sighed, like how do you manage to do that every day. Well, sometimes that's what they need. So, if you know going in or read the room or have a relationship with them, sometimes they just need to be heard. There's a reason why people leave good evidence-based medicine to go towards alternative practitioners is because they spend an hour with them, and they lay hands on them, and they listen to them, and they offer them some miracle cure that we can't offer. Let them tell us and listen and say, you know what, I understand what you're going through and I'll be honest with you, you sound like an amazing parent. If you haven't figured it out by now, odds are I'm not going to figure it out either. Here's what I think is actually going on. Instead of doing a bunch of unnecessary and maybe harmful tests, what if we try this approach? That sort of thing. So, sometimes it is just a brief trial of avoidance followed by reintroduction. Sometimes it's tincture of time, a lot of times it's reassurance. And if you need to do a food allergy test just to satisfy that relationship you have with them, just try to limit what you do. Or, worst-case scenario, you order the panel and you get some results you don't know what to do with. Make sure you say I'm not quite sure that they're allergic to this, maybe see an allergist.

Farah Khan, MD: The thing that I tell my primary care provider friends is that they're problematic tests, they have to be interpreted very, very carefully. That will be our last question. Thank you so much, Dr. Stukus.

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