Dr. Mariam Hanna:
Hello, I'm Dr. Mariam Hanna, and this is The Allergist, a show that separates myth from medicine, deciphering allergies and understanding the immune system. I talk a lot about food in my day-to-day life. I've also had to learn more about other cuisines and culturally diverse approaches to infant and child nutrition as a consequence of my profession, and really more so since allergists became very heavily interested and invested in infant nutrition, food allergies, prevention, and management.

So while I'm not a self-professed foodie, I definitely have grown to appreciate a thing or two about food. I've started prescribing egg ladders to nearly every infant as an example, so over the past couple of years, I've run into some tricky scenarios. So any child that is basically low-risk factors, understanding of the process, and I felt like we had this connection, well, I've prescribed the ladder.

And then here's the obstacles that come back. The baby doesn't eat that texture. Yet.

I don't want to introduce sugar. Yet. Or as my most recent follow-up came back, they don't eat that food.

So they stared at my description of French toast, and then through Google interpreter on their phone told me, what about fried rice? And I felt like a total idiot in the room because I was not being culturally sensitive to what they were saying. But that diet discussion actually doesn't stop as just babies.

I keep talking about it. So now we discuss this while they're on immunotherapy. And what are you mixing it with?

Do you need to use food as a reward? And we get into this discussion. And then I've been known in clinic to actually say, don't worry, I'm not judging you.

It's not like I'm a dietitian. And then this whole idea of today's episode came about and said, actually, maybe we should talk to a dietitian. Maybe it's time to set the record straight and come up with approaches that really align with what we're trying to teach in allergy and immunology, but are nutritionally sound.

So there's actually really only one person you can invite when you're hoping to do an episode like this. It's my sincere pleasure, or extreme pleasure, to introduce today's guest, Dr. Carina Venter. She's a professor of pediatrics in the section of allergy and immunology at the Children's Hospital in Colorado and the University of Colorado.

She conducts research on food allergy prevention and treatment and sees patients with food allergies. She's a registered dietitian in both the UK as well as the US, but she's actually well-traveled and well-spoken everywhere, internationally. She's a senior advisor to Food

Allergy Research and Education, or FARE, and the former chair of the International Network of Dietitians and Nutritionists in Allergy.

She's a member of, here we go, Quad AI, ACAAI, EAACI, YACI, and BSACI, and any other ACI's that could be out there, she's probably part of them. She's served on the guidelines for not only allergy prevention, but also diagnosis and management guidelines. She's an active author with numerous publications, and she's an award-winning dietitian, receiving awards, just like I told you, from the Canadian, South African, British, European, and American allergy societies.

It's my pleasure to welcome you to today's episode, Dr. Venter. Thank you so much for taking time to chat with us today, and welcome to the podcast!

Dr. Carina Venter:
Well, hello, Mariam, and thank you so much for the invitation to talk to you today. I'm very much looking forward to it. I love talking about nutrition and food allergies, so very happy to be here.

Dr. Mariam Hanna:
Awesome, and so a very fundamental question is, why is nutrition such a central part of allergy prevention and management?

Dr. Carina Venter:
That's a really good question, and for me, I always need to be able to draw the line between A, B, C, up to Z, to understand why things are important. We want to make sure they have good nutrition to have a gut, healthy gut microbiome, so that we can best look after their immune system, but you know Mariam, as well as I know, that we see so much anxiety, and to some extent, even depression in a food allergy clinic, and by focusing on the nutrition of the children, we can even address these aspects of overall management of food allergy and allergic diseases.

Dr. Mariam Hanna:
Absolutely, and I think it's helped me be more holistic, in recognizing that when we discuss their nutrition, we are discussing their mental health, but also discussing their disease, and their gut health, and allergy prevention as well. So, how has recent evidence, but not recent evidence, this has been like 10 years plus in the making, changed as to how we're counseling these families about diet and prevention?

Dr. Carina Venter:
So, when it comes to diet and prevention, it's really such wonderful times, where we're still learning so much, and we now actually have positive messages that we can give to families. And so, one of the main studies that was published in the last decades is the LEAP study, also followed by the EAT study, where we showed that if children introduce food allergens, particularly peanut in the LEAP study, and then also other allergens in the EAT study, that we

can prevent peanut allergy, and also egg allergy shown in the EAT study. But what these studies have really shown us is that we should stop being scared of food, and we really should just let babies eat, and they should eat their allergens.

My data, and also my research from the United Kingdom, which has been replicated in Europe, as well as in Asia, shows that when we just open our baby's diet, and we let them have a diverse and healthy diet, we also see less food allergies. And we actually showed that for every additional food we give babies by six months of age, these were small portions, babies were developmentally ready to eat, we reduced food allergy prevalence by 10% for every food given up to the age of 10 years. And for every additional allergen we gave the babies by 12 months, we also reduced food allergy by 30% up to 10 years of age.

So just really a very practical, very positive message, when babies are ready to eat, let them eat, let them keep the food in the diet, and let them just learn to enjoy foods alongside food allergens.

Dr. Mariam Hanna:
And that's beautiful, and I am completely a convert to what it is that you're saying. Recently I was asked to review with Health Canada about the implications as to what that means for breastfeeding infants and are we harming that parent-child dynamic of breastfeeding with this early allergen introduction?

Dr. Carina Venter:
You know, that is a very sensitive question. And so the first thing I want to make clear is that mothers should breastfeed their babies, and babies should be breastfed for as long as mom and baby are happy to do so. I definitely support breastfeeding in my clinic as my number one priority.

But to answer your question about whether we are actually jeopardizing breastfeeding or breastfeeding duration by introducing food earlier, it's really not the case. And I can actually quote two studies. So the first study wasn't really about introducing foods, it was about early introduction of formula in the one group versus delayed introduction of formula in the other group.

But by six months of age, the number of children that were still being breastfed was similar in both groups. So even though they suggested that the mother start supplementing breastfeeding with cow's milk formula, the duration and the numbers of breastfeeding didn't go down. That was very reassuring.

And then study data from the EAT Study in England also showed that despite introduction of food allergens from around about three months of age, which I think is slightly early, because most babies aren't really ready to eat till about four, four and a half months. But in this study, they actually started introducing allergens from three months onwards. And once again

breastfeeding duration and numbers of breastfeeding was not lower in the study where early introduction was instructed versus the group where they didn't actually talk about early introduction.

So I really think we should work with the family, we should work with the babies. Babies tell you when they're ready to eat.

Dr. Mariam Hanna:
I actually, I think I was naive when I was like, okay, early allergen introduction, but then there's this cascade of questions that stems just from this one topic alone. So we'll get you to dissect that for us a little bit.

Dr. Carina Venter:
So this is my clinical practice that I'm sharing. So first I want to start by saying that often people say to me, but don't you know the American Academy of Pediatrics say we have to wait three to four days between each new food. But the American Academy of Pediatrics actually published a book with David Hill as one of the main authors saying that in the past, pediatricians used to recommend three to four days between each new food.

New evidence suggests that it is safe to introduce multiple foods at once. And I think you can probably hear how many times I've quoted this sentence. So when I start introducing solids into babies, we normally start with one to two fruits or vegetables.

We normally do one food on day one, another food on day two. My third food is normally a food allergen. If they're already on formula, I don't really worry too much about getting yogurt in, but if they're still breastfed, yogurt is normally my first food or first food allergen that I introduce because that's an easy way to mix the other allergens with.

And then we will do one low allergen food, let's say on day four, maybe banana, but I would still put peanut in the day after. And then I may do another fruit or vegetable for breakfast or lunch and put another allergen in. So more often than not, I start with one day on a low allergen food, day two on a low allergen food, day three, I put my first allergen in.

And then from day three onwards, I would do one low allergen and one allergenic food every day. Sometimes, because in allergy, there's no rule book. The only person who writes the rule book is the mother or the father in front of you or the family in front of you.

If I have families that's really anxious, we may actually do two days between each new allergen, but we still do the low allergen foods every single day. So I really just work with the family in their comfort zone. But then the next important thing is to say that once we've got those allergens in, we really need to continue eating them.

We do believe that two grams of the allergenic protein is the optimal dose, but babies have different appetites. Some babies will actually ask for more and some had enough when they had half a teaspoon of peanut butter. So I say to the families, just offer like a normal teaspoon portion, see how much the baby will eat.

Don't force the issue. Some days they don't want to eat any cashew butter. That's okay.

We can do it again a few days later. But really just keep offering it continuously. And once you've started an allergen, don't stop.

Because that is really when we run into development of food allergies.

Dr. Mariam Hanna:
I feel like we should make a song about this. Once you start, don't stop. Once you start, don't stop.

Okay.

Baby-led weaning. I'm not going to bias you with my opinion right off the bat. Your thoughts on baby-led weaning, Dr. Venter?

Dr. Carina Venter:
That's a very interesting question. And this is, again, my personal opinion. I think there's some foods that absolutely lend themselves very well to baby-led weaning.

I think like a soft boiled carrot baton that a baby can hold and suck on or some steamed or boiled broccoli is another wonderful baby-led weaning food. But when it comes to the allergens, there's two issues there. Most of them don't actually lend themselves to baby-led weaning.

So it is much better to actually take the peanut butter, dilute it with a bit of breast milk, water or formula milk, and then feed that off a teaspoon to a baby. So that's number one issue is the textures that come in is not really baby-led weaning friendly. And the second thing is we know that eczema in a baby is the highest risk factor for developing food allergy.

And our eczema babies, when a food touches the skin around their mouth, whether it's a tomato or strawberry or peanut butter, they do get they do get a little bit of a rash and a flare. So if you do a baby-led weaning, particularly with the allergens, like let's say a peanut puff and the baby touches their face and there's a few hives, the parents immediately think they're now peanut allergic. And then it can take a lot of conversations and sometimes even a food challenge, which is time invasive to prove that the child is not really allergic. It was just a contact reaction.

So for those two reasons, texture and my concerns about contact reactions around the mouth, even if we put a barrier like Vaseline around the mouth, it can happen. I prefer no baby-led weaning with the food allergens, but for other foods, if they want to do baby-led weaning and it's

a food that I think can be easily held and munched on by a baby, I'm happy if they do baby-led weaning for those foods. So it's like a bit of a mixed approach.

Dr. Mariam Hanna:
But a very reasonable approach. Okay, the other one, I think the guidelines have landed themselves nicely to this with the thinning of certain textures, but there are certain kids that have, I hear it's like taste version. I hate eggs.

I've always hated eggs. I use eggs a lot as the example in my office, but they don't like the taste and or texture of this. How am I supposed to get it in?

How do we support parents with that?

Dr. Carina Venter:
Yeah, that's interesting. My least favorite food in the world is eggs. I don't like eggs, but there are ways to actually mix it with.

Yogurt is my number one food that I like. It mixes beautifully with peanut butter. With the egg, this actually may sound a bit strange to start with, but you can actually boil an egg and then just puree or liquidize it with some water or breast milk.

Breast milk works really well because the babies, they know the taste of breast milk. And once you have like a paste, you can mix it in with yogurt and or fruit puree. You can mix it with a mashed banana.

I don't like baby food in pouches because they have a low pH and they have no natural microbial load. But worst case scenario, perhaps just like a baby pouch with mango in may be a good way to just get that peanut or cashew in or egg on the first two days and then you can stop using the baby pouch. So I do a lot of mixing.

But with the egg, I want to get back to this because I'm also to blame. I was co-author of many of those prevention guidelines where we said it has to be a well cooked egg, really referring to a hard boiled egg. But my latest data, getting back to the egg ladder, actually shows that one of the allergenic proteins, the ovalbumin, is almost non-detectable in a scrambled egg and so we really need to make, move these babies onto scrambled egg if you want to do proper prevention.

And so I find that I do like this liquidized paste with the boiled egg, but then I quickly move on to the scrambled egg or omelette. And so babies tend to be happier eating scrambled egg and omelettes. And getting back to baby-led weaning, once you've made an omelette, you can actually slice it in strips and then the baby can feed themselves.

But if they have eczema, I'm a little bit reluctant with that self-feeding of the egg. So it really just depends on the family.

Dr. Mariam Hanna:
I love that. And you know what, in keeping with evolving evidence, when we learn something, we update or we revise. Okay, so time to move on to our allergic child.

Okay, so this is now patient with known diagnosis to food X. Do they all need nutrition counseling when they're diagnosed with food allergy or there ones that really stick out to you that these patients really need some particular counseling around nutrition.

Dr. Carina Venter:
Over and over it's been shown that it's the children with milk allergy that has the biggest nutritional needs. And data from Israel actually show that these children are, even as adults, they're shorter adults. And so we really need to make sure that the milk is replaced sufficiently.

Then children with more than two food allergies or multiple food allergies, that's the other red flag that needs to come to see a dietitian. The third red flag is children with texture issues. And so a mom that says, this baby is 10 months old.

We're still on purees. And that's a big red flag because really for children to develop normally texture wise, you'd want some mashed up or lumpy foods by the time they're 10 months. So if they're still on purees, that's another big red flag.

Clearly all babies in a food allergy clinic, and perhaps that's the most important thing I'll say today on this podcast, they need to be weighed, but their length also need to be measured. Because babies and children with food allergies, they start to falter on their length before they actually start to falter on their weight. And so we really need to monitor length in a food allergy clinic.

In an ideal world, I think all children with food allergies need to see a dietitian. But there's insurance issues, there's not enough allergy trained dietitians, which also limits how much we can offer.

Dr. Mariam Hanna:
Okay, you mentioned right up front at the beginning of our conversation that our patients bring a lot of anxiety. And the label of food allergy adds to that a lot in the whole parental dynamic. And so there's this whole world of these allergen free products that has exploded.

These allergen free products tend to be devoid of the top eight, but not all allergens known to mankind, or else they'd be water. Are we altering their nutrition by offering them such processed products?

Dr. Carina Venter:
That's another good question. And for me, perhaps a little bit of a sensitive answer, but I'll give you my view. So first, we need to start with the plant-based milks.

But the issue with them is that they contain emulsifiers. And we know that emulsifiers is detrimental for the gut epithelial barrier. And we at least think that if we can look after our gut epithelial barrier, we're going to see less allergies and also less severe allergies.

So I worry about the emulsifiers in these milks. On the flip side, when you do buy these plant-based milks without the emulsifiers, they separate within two days. And then you have a lot of wasting and your sustainability is going down the drain because we have a lot of wasting.

So I say to the parents that my personal view is, let's go for this plant-based milk with the emulsifier. But we really need to have a diverse diet alongside this emulsifier to try and look after our barrier as much as we can. So that's that.

But then we also now get the foods that's like top 8 free or top 9 free. Many of them have multiple ingredients, like some of them have like 20 different ingredients and about 50 of them you can almost not pronounce. And there's definitely at least two or three emulsifiers in the products as well.

So I show them to the family and I explain that really these foods are considered ultra processed foods. I do not want to make them part of a child's normal diet. But really other than for social events or when there's a shortage of time, I don't recommend these products to be used every day.

Dr. Mariam Hanna:
So is eating a muffin daily healthy, Dr. Venter? Because I love to eat a muffin every day too. I think I should prescribe that for me.

Dr. Carina Venter:
That's a good question. When I first published the MAP Milk Ladder, I was still very involved on Twitter or X, as it's called now at the time. And the recipes were full of sugar.

And mothers would actually contact me via Twitter saying, hey, Carina, you're a dietitian. Surely you should know better. How could you do this?

How could you do this? And that is why we then published the iMAP, so the international version of the MAP Milk Ladder. And the recipes there, even though it's still pancakes and cupcakes and muffins and cookies, they're all sweetened with fruit.

So we use banana as opposed to sugar. So the latest recipes that we use for the ladders are much healthier than actually just the first ones. I'm also just about to publish an egg ladder.

There is some sugar in those recipes, but we're already working on the child-friendly version of the ladder and convert all those recipes to sugar-free recipes. But if you are going to use just store-bought muffins and cookies for your ladders, which I personally don't like, then they're going to have sugar in. When it comes to ladders, perhaps I have a very purist view, but my ladders have all been analyzed for the milk proteins and the egg proteins.

So I like to use my recipes because I know what's in them. I know they're healthy and it makes me feel safe as a clinician. But I know that ladders are used throughout the world using commercial products.

Successfully, I just don't have experience in doing so.

Dr. Mariam Hanna:
Fair enough. Now we're going to go to something that's a little bit more structured and standardized. We're going to flip our discussion to oral immunotherapy.

So this is separate from ladder. I don't clump my ladders with my oral immunotherapy discussions. Oral immunotherapy tends to be, as you said, very much like a weighed amount of protein, a specific structure that I want going in.

Are there dietary considerations to be aware of, like during and before, in preparation for OIT, during and after?

Dr. Carina Venter:
OKI'm going to address the probiotics first. So we only have one study where they've used lactobacillus GG, which is a probiotic alongside oral immunotherapy. And we did see less gastrointestinal side effects in the children.

So they had less tummy ache, which is one of the main reasons why children stop OIT, because they have a tummy ache. So do I routinely suggest that we use lactobacillus GG alongside OIT? No, but I do think that it is important to feed that allergen to a friendly gut microbiome.

The second thing is as you know better than I know, the main thing is to get the allergen dose in. Because if we start missing dosages and we have days between dosages, then we really run in trouble. So if all else fails, and I've published this paper with your wonderful colleague Douglas Mack, chocolate sauce is going to save the day.

Dr. Mariam Hanna:

Sounds delicious. Sign me up. Sounds great actually. And what about how much food needs to be in their stomach as protection? So we often will counsel patients about dosing with food, and then they'll say, like, how much food do we need in there?

Dr. Carina Venter:
Okay, so in terms of how much food do they need to eat before we do the oral immunotherapy, I also don't think anybody has studied that. I go back to what I've always done with oral food challenges, is I don't want the kid to come in with an empty stomach just because they're grumpy. And then to try and feed them anything, it doesn't go well.

If you actually feed them really well, and they have a full stomach, then they have no interest in eating that, even a 10 milligram dose of an allergen, because they're just full and they don't want to eat. So my go-to normally is to say, whatever meal they were going to have before the updosing, keep to not perhaps half a meal, but a smaller meal than a full meal. And so, but I also don't know whether anybody has really studied to look whether the amount of food in your stomach will actually reduce or increase allergen absorption and change the efficacy of OIT.

I think, practically speaking, they need to eat something, but not too much.

Dr. Mariam Hanna:
And you've also nicely highlighted there's a lot of unanswered questions in, like, nutrition and food allergy that are still evolving. And like you said, some of our guidelines and some of our recommendations have already even changed from the publications of first ladders to where you're at now or what we're doing with immunotherapy. All right, time to wrap up and ask today's dietitian slash allergist, Dr. Carina Venter, for her top three key messages to impart to patients and physicians on today's topic, nutrition matters. Dr. Venter, over to you.

Dr. Carina Venter:
Okay, my top one would be that food allergy management is not just about avoiding the allergen. You really need to look at the overall diet.

My second one is, it really, children with food allergies should also learn to trust and love food. So we really need to give them a positive message about enjoying whatever they can safely tolerate. And number three is really, let's not over rely on ultra processed food.

Sometimes just opening a can of salmon, which has got a lot of omega-3s in and mixing it with some mashed potato and then having a salad next to it is a very easy, very healthy way to eat. You do not have to stand and cook for hours. And so that's the messages that I try to get to my families, is that fresh eating doesn't have to be that complicated.

Dr. Mariam Hanna:
Awesome. Thank you, Dr. Venter, for joining us on today's episode of The Allergist.

Dr. Carina Venter:
Thank you for having me.

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