

Food Allergy Prevention : To Eat or Not to Eat
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Food Allergy Prevention

To Eat or Not to Eat

As you know, there are differing opinions on how best to avoid food allergy in children who are considered to be “high risk.” In your experience, what do you believe to be the best evidence-based advice with regard to diet during pregnancy?

Ferdman: There is no generally accepted definition of what is “high risk” for developing food allergies. One definition is any child with a first-degree relative (parent or sibling) with a documented allergic disease. Others might single out specifically maternal allergy as a higher risk. Still others may confer a greater risk for children with multiple relatives having food allergies, or even a specific food allergy (eg, peanuts) compared with relatives having “any” allergic disease. A consistent definition is important because the majority of children with food allergies would not have been identified as “high risk,” and the effect of interventions on low-risk children may be different than the effect on high-risk infants.

The scientific evidence to support the role of maternal diet on food allergies in children is by no means strong, and is even conflicting. A recent review of the literature by the American Academy of Pediatrics Committee on Nutrition and Section on Allergy and Immunology concluded that there is “a lack of evidence that maternal dietary restrictions

during pregnancy play a significant role in the prevention of atopic disease in infants.”¹ The wording “a lack of evidence” supporting the role of maternal diet, rather than more straightforward wording such as “maternal diet does not play a role,” was purposefully used because although there have not been enough well-designed studies to prove that maternal diet during pregnancy influences the development of infant food allergies, so too have there not been enough studies to disprove it.

Given these uncertainties, it is difficult to make any definitive evidence-based recommendations, and most consensus guidelines agree that when counseling families it should be stressed that there is no conclusive data to support any dietary interventions during pregnancy.^{2,3} Also, there are reports of strict maternal allergen avoidance during pregnancy resulting in an increased incidence of food allergies in infants.⁴ Therefore, in my practice I generally do not recommend any dietary restrictions during pregnancy even in “high-risk” pregnant women or for “high-risk” foods such as peanuts, egg, and cow’s milk. Of course, if the pregnant woman is herself allergic to a particular food, then she must avoid that food for her own well-being.

While not strictly related to diet, I believe there is enough evidence to support the recommendation to supplement maternal diet with omega-3 polyunsaturated fatty acids (fish oil) and probiotics, especially late in pregnancy.⁵

Each issue, we ask different clinicians a set of questions about an aspect of their practice or a specific problem or disease condition they encounter. This month’s topic is food allergy prevention. Our participants are **Ronald Ferdman, MD, MEd;** **Jayne M. McClenahan, MS, RD, LMNT;** and **Jody Falco**. Full bios for each of the contributors can be found at the end of this article.

Though postnatal exposure to environmental tobacco smoke (ETS) is a well-known risk factor for the development of allergies and asthma, surprisingly little evidence exists regarding the risks of in utero exposure to ETS.⁶⁻⁸ Nevertheless, the potential effects on allergies becomes one of the myriad reasons to discourage smoking during pregnancy. Alcohol was shown to be a risk factor for the development of food allergies in adults.⁹ Consumption during pregnancy can theoretically increase allergy sensitization¹⁰ and has been shown to increase atopic dermatitis.¹¹ There is convincing evidence that gastric acid plays a protective role in food allergies,¹² and anti-acid medication use by mothers during pregnancy is correlated with the development of allergies in their children.¹³ Therefore, I recommend minimizing the use of anti-acid medications during pregnancy.

McClenahan: In my opinion, there is not enough evidence that specific food allergen avoidance during pregnancy decreases the risk or precludes the infant or child from developing an allergy or intolerance. For many years it seemed as if the use of probiotics during pregnancy played a role in the reduction of food

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allergy or food intolerance in infants. However, the most recent evidence reveals that this may not be the case. The most recent evidence demonstrates that supplementing the mother during pregnancy with probiotics provides little, if any, benefit in reducing food allergies or food hypersensitivities.¹ Some probiotics may be beneficial in reducing the incidence of eczema, although benefits are variable and appear to be correlated to specific strains.² Furthermore, although there appears to be some benefit for certain strains of probiotics in eczema reduction, eczema is only one of the clinical features of food allergy or food hypersensitivity. The same holds true for supplementation with omega 3 and omega 6 fatty acids as there is little benefit gained from using these fats to prevent the development of allergic disease in infants.³

With regard to my own clinical experience, we have had many mothers attempt to prevent intolerance to cow's milk and soy protein by dietary elimination of these proteins during the last trimester. They seem genuinely surprised when the infant still develops intolerance to cow's milk and/or soy protein.

My advice would be for the mother to continue her current diet with respect to allergens, to eat as healthy a diet as possible, to take a prenatal vitamin, and to consume adequate calcium along with vitamin D, whether through diet or supplementation.

Falco: I don't know of any evidence-based research linking pregnancy and high-risk kids. According to the few studies I've read, there has been no significant connection. In my case, this was my first child, and while my husband was allergic to walnuts, I had no food allergies—and there were none in our extended family. Would I or my obstetrician have even thought about food allergies? No.

It's hard to believe that foods eaten while pregnant could cause the immune system to be so sensitive—to say nothing of the guilt factor associated with the idea that something I ate during pregnancy *caused* my son's allergies. Could that

really happen—and why hasn't it happened before this generation?

We are aware there is a general rise in food allergic children. You have to wonder why. Have the diets of the mothers changed so much in the past 10 years? If the rise in food allergies is higher for one food than another—for example, peanuts—then have that many more mothers eaten more peanut butter than previous generations. It sort of stretches the imagination.

Since food allergies are very idiosyncratic—one child has a dairy allergy and another peanut, another eggs—how would one explain why one child gets allergies and another doesn't when dairy and eggs are staples in almost everyone's diets. My son has added to the list of foods he is allergic to—he hasn't outgrown anything—which leads me to the conclusion that it's not pregnancy based.

I think research will find that there is no significant connection between mother's diet during pregnancy and child's food allergies but rather that in some individuals a threshold in the immune system has been set too “low” causing reactions to many food proteins.

Why do you think the evidence is so unclear?

Ferdman: I believe the evidence is unclear mostly because the development of food allergies is a complex and multifactorial process that involves more than just simply adjusting maternal and infant diets. There is a strong genetic component, but although several candidate genes have been implicated, no single “food allergy gene” has been identified. Almost certainly, multiple genes are involved, and the risk of developing food allergies is linked to gene polymorphisms (“natural variants”) rather than overt gene deficiencies.¹⁴ This genetic variation may explain, in part, some of the disparate results reported from studies from different countries.

But genes aren't the only factor. Even in identical (monozygotic) twins the rate of concordance of a specific food allergy is only 23% to 64%.^{15,16} It has been estimated

that approximately 51% to 82% of the development of food allergies can be explained by genetics, with the remainder due to environment, which would include maternal diet. Environmental influences include not only gastric acidity, probiotic supplementation,¹⁷ fish oil intake,¹⁸ and cigarette smoke exposure, but also disparate factors such as maternal vitamin D levels,¹⁹ (perhaps related to season of birth²⁰) and even maternal age²¹ and method of delivery.²² The level of peanut exposure from household environmental sources (tabletops, hands, dust) may be more sensitizing than oral consumption and may in fact be responsible for early onset peanut allergies in infants.²³ It may be possible to decrease peanut allergy by limiting household exposures while not restricting peanut from the diet.²⁴

Another issue is the lack of adequately controlled studies. Adherence to restricted study diets is typically assessed via recall or food diaries, which are unreliable. One study demonstrated that even in women strictly avoiding eggs, there was no difference in their serum ovalbumin levels compared with those not restricting their diet, implying that unintentional egg exposures are common.²⁵ The majority of published studies were not blinded at all, and very few were double blinded.²⁶ A myriad confounders make the performance of well-controlled studies extremely challenging.

McClenahan: I believe that the evidence is unclear because of a combination of factors. The complexities of the immune system itself in combination with genetic endowment from each parent make navigation through the process of developing and executing research difficult. Since each person's immune system is unique, researchers may encounter a gamut of reactions and severity of reactions that are difficult to specifically characterize. As new evidence emerges we are also finding that the immune system's interaction with intestinal bacteria likely plays a role in the development of allergy. Like the immune system, the gut flora is also unique and variable from person to person. Therefore, the flora of the gastrointestinal tract

adds an additional layer of complexity to the allergy picture. Immune stimulation following repeated viral infections may predispose people who do not have a family history of allergy. Combining these factors as well as other variables makes consensus difficult.

Falco: I think that perhaps we are in the beginning of a phenomenon and that patterns have yet to emerge. Researchers are busy working on safety issues, prevention, and education. Food producers are only complying with food labeling and more strict food handling procedures because of legal liabilities—and I don't think industry support for research will extend to the nature of food allergies.

Unfortunately, it seems that it is difficult to get researchers to think about issues such as quality of life, the anxiety of being able to eat safely, the feelings of isolation, and the constant cooking and preparing of safe foods—which all have a daily impact on our lives. I don't know if there can be enough interest or time invested in the nature of food allergies. Private sector funding is present but again for prevention—such as vaccines or immunotherapy.

Which focus could researchers take? Where would funding come from? These are big questions with few easy answers.

Discuss your perspective on breastfeeding as a means of avoiding allergy in the high-risk infant.

Ferdman: Even for breast-feeding, there is not universal agreement that it prevents food allergies.²⁷ However, if there could be only one piece of advice I could give to try and prevent food allergies, then breast-feeding would be it. Similar to most guidelines, I recommend at least 4 to 6 months of breast-feeding. This is not to imply that mothers should not breast-feed beyond 6 months but rather that it has not been shown that breast-feeding beyond 6 months confers any additional benefit, in terms of prevention of food allergies, compared with breast-feeding for 4 to 6 months. There

are obviously other benefits to breast-feeding besides allergies that would influence continuation beyond 6 months.

Another factor to consider is whether or not to restrict maternal diet while breast-feeding. Though once again the evidence is contradictory, I believe that current data do not support the restriction of maternal diet while breast-feeding. There is ample data that maternal processing of food proteins and presentation through breast milk induces tolerance.²⁸ I do not routinely recommend that mothers restrict their diet while they breast-feed, even with high-risk foods. Similarly to the recommendations for pregnant women, I would advise that anti-acid medications be minimized while breast-feeding to avoid disrupting the natural acid digestion of food proteins that seems to promote a tolerogenic immune response to foods.²⁹

The timing of introduction and type of complementary foods may also influence the development of food allergies. I now recommend that infants be exclusively breast-fed for the first 3 months and start introducing complementary foods at 3 to 4 months of age. There is evidence that “overlapping”—that is, introducing complementary foods while continuing to breastfeed—may decrease the incidence of food allergies.³⁰ Also, it has been suggested that there may actually be a “window period” from between 3–4 months and 6–7 months of age where introduction of complementary foods induces tolerance, whereas introduction either before or after this period promotes allergic sensitization.³¹ There is also little evidence that delayed introduction of even high-risk foods is beneficial, and a recent study showed that early introduction of peanuts into the diet was actually protective.³² A caveat is that if an infant does develop a food allergy, then that food should be removed from the mother's diet while she is breast-feeding since enough intact protein can cross into breast milk to elicit an allergic reaction in the child.³³

McClenahan: Although I do believe that breast milk is the best source of nutrition for any infant, I do not believe that it has

been conclusively demonstrated that breast-feeding will prevent or preclude the infant from developing an allergy or intolerance. The most common recommendation with regard to breast-feeding and prevention and/or avoiding allergy is to employ breast-feeding exclusively for a minimum of 4 months along with delaying the introduction of complementary foods for 4 to 6 months.⁴

However, it has been demonstrated that if an infant is exhibiting symptoms consistent with a protein intolerance, allergy, or hypersensitivity to cow's milk and/or soy protein, removal of these offending proteins from the maternal diet is beneficial.⁵ In cases in which this type of maternal dietary restriction is unsuccessful, an extensively hydrolyzed formula or an elemental, amino acid–based formula should be used if any of the following symptoms of food allergy, intolerance, or hypersensitivity persist: moderate to severe eczema, chronic diarrhea, blood in the stools, iron deficiency anemia, gastroesophageal reflux disease, chronic vomiting, irritability, poor growth, feeding refusal, enterocolitis syndrome, protein losing enteropathy with hypoalbuminemia, or eosinophilic esophagogastroenteropathy.^{6,7}

Again, based on my own clinical experience, when the offending proteins are removed from the diet whether via removal from the breast-feeding mother's diet, or when they are removed because the infant has been placed on an extensively hydrolyzed or amino acid–based formula, the clinical manifestations of the intolerance subside nearly completely. We generally start solid foods at 4 months of age, or when the infant demonstrates developmental readiness. We continue the avoidance of the offending proteins throughout the first year of life. We milk challenge the majority of infants near their first birthday, and most infants successfully pass the challenge and are able to consume both milk and soy proteins.

Falco: This is a question where I have a lot of concrete personal experience. When my exclusively breast-fed son was 2 weeks old he developed eczema. My

pediatrician suggested it may have been caused by food allergies and recommended I avoid the 8 common food allergens—dairy, peanuts, nuts, eggs, fish, shellfish, corn, and citrus—which I did. Like most moms, I was happy to do anything to help my baby. However, I did not have to avoid wheat—which our family does have to avoid now, so I understand now how hard that is. Plus, I hate black coffee!

I have said repeatedly that my pediatrician saved my son's life. Because he was knowledgeable about food allergies, his advice about avoidance was golden. He and I then researched together what were the best next steps, such as not introducing solid foods until 9 months and who would be my son's allergist. I remember that he and I both came up with the same name—Hugh Sampson—a pioneer in pediatric food allergy.

Back to the story: I avoided certain foods, and my son's eczema disappeared. My son was then followed as "high risk." He remains, at 17 years, anaphylactic to eggs, dairy, nuts, peanuts, sesame, fish, and shellfish, while merely "very allergic" to wheat, soy, many fruits, and latex.

So it seems my avoidance of certain foods did not prevent my son from developing these allergies but did provide a safe way to help avoid allergic reactions.

If exclusive breast-feeding is not possible, what type of formulas would you recommend?

Ferdman: Studies have failed to show a consistent protective effect of any one particular type of formula. However, the majority of studies and an increasing consensus of expert opinions lean toward choosing one of the hypoallergenic infant formulas—such as a partially hydrolyzed or extensively hydrolyzed cow's milk protein formula, or an amino acid–based formula.^{34,35} Although there may be some evidence that extensively hydrolyzed casein formula may be more effective than a whey formula, I do not believe

that there is enough evidence to strongly recommend one over the other. Similarly, even partially hydrolyzed formulas seem to confer some benefit, often at least as effective as extensively hydrolyzed products. I would avoid conventional intact cow's milk protein–based formulas. Also, I see no role for a soy protein–based formula in the prevention of food allergies in high-risk infants.³⁶

McClenahan: The type of formula I recommend depends on the allergy history of the parents, family, the medical history of the infant, the physical examination of the infant, and the severity of the symptoms. In the most severe cases an elemental, amino acid–based formula is used. At times we may use a hydrolyzed formula. In our clinical setting, we only work with infants who have an allergy, hypersensitivity, or intolerance. Therefore, the only formulas we use are elemental, amino acid–based formulas and the occasional hydrolysate.

Falco: When you are breast-feeding, you always knew the food was safe as opposed to trying new foods—It was a great feeling! Breast-feeding meant I had to avoid many foods—so I read a lot of labels throughout the whole year I breast-fed. It wasn't as onerous as it seems since you get into a pattern—I ate lots of fruits and vegetables and grilled meats. I always cooked fresh foods anyway, so that wasn't so difficult.

The hardest part for me was at about 9 months when breast milk alone was not enough food for my son. Our plan was to delay solid foods for as long as possible (which was the standard of care then—now I understand there has been a Finnish study* that disputes this strategy). By delaying solids we had to supplement with *Nursoy*, a formula that contained soy, to which he was allergic. Unfortunately, we had no other options at the time. He thrived on rice cereal with formula, breast-feeding, and bottles of *Nursoy* formula. In fact, he continued to have bottles until he was well into his second year (all his grandparents

commented on that, "He's too old, he won't eat regular food.").

Needless to say, at 17, he is 5'10" and has terrific eating habits.

Whether you recommend a specialized formula or not, discuss the challenges associated with breast-feeding as well as providing a formula. Please include any strategies that you have found to be helpful.

Ferdman: Food allergy tests often need to be confirmed by challenging or "dechallenging" with the suspected food and observing the child's symptoms.³⁷ Related to this, one challenge is to determine if a nursing child is receiving sufficient intact food protein through breast milk to cause a clinical allergic reaction. The amount of intact food protein secreted into breast milk is dependent on multiple maternal and food factors, many of which are clinically unpredictable. The time between the mother's meal and the subsequent appearance of the food protein in her breast milk is variable, as is the quantity and nature of the protein.³⁸ Therefore, it is often difficult to confirm a cause-and-effect relationship between maternal ingestion of a food and her baby's clinical allergic reaction because we can never be sure when or if that food has been ingested by the baby.

As a corollary, another challenge with breast-feeding involves the control of maternal diet. For ubiquitous foods, such as cow's milk, wheat, hen's eggs, and soy, avoidance makes mom's diet very difficult. If the child is known or suspected to be allergic to multiple foods, then mom's diet may be restrictive to the point of being nutritionally deficient for her. Whereas a baby with multiple food allergies can receive a nutritionally adequate diet from one of several hypoallergenic formulas (extensively hydrolyzed or amino acid based), such a diet is not feasible in

*Nwaru BI, Erkkola M, Ahonen S, et al. Age at introduction of solid foods during first year and allergic sensitization at age 5 years. *Pediatrics*. 2010;125:50-59.

mothers. Additionally, it is difficult to assure maternal compliance with a restricted diet. A hypoallergenic formula, on the other hand, gives complete control over the diet.

I find it best to ask the family to temporarily stop breast-feeding and change to a hypoallergenic formula. The mother can pump to maintain her supply and freeze her breast milk. If the child's symptoms do not improve on a hypoallergenic diet, this is good proof that foods are not playing a significant role in the child's disease, and breast-feeding can be resumed. There is more support for dietary restrictions if the child's medical condition does improve.

In terms of providing a specialized formula, the biggest obstacle I routinely encounter is cost. Amino acid and extensively hydrolyzed formulas are at least twice the price of conventional formulas, often even more. I find that third-party payers will be more likely to cover the cost of these formulas if they are prescribed as a "medical food." This often requires additional documentation, both in terms of paperwork and confirmatory allergy testing.

McClenahan: The number one challenge I face is in the situation where an infant has been exclusively breast-fed from the breast and has not ever taken breast milk from a bottle. The oral mechanism of expressing breast milk from the breast is different from expressing breast milk or formula from the bottle. Infants who have not used a bottle often have difficulty transitioning to bottle feeding, which results in increased air swallowing, increased gassiness, and burping. It usually takes the infant 2 to 3 weeks to adjust to bottle feeding, and the aftereffect from the trapped air does not make the postprandial period very pleasant for the infant. This problem usually develops when the breast-feeding mother returns to work. In situations such as this, allowing the infant to adapt to both breast-feeding and bottle feeding early on will eliminate this problem. I recommend bottle feeding the infant with breast milk at least once daily. It is best to begin this routine within the first week, or so, after birth.

Another challenging situation is the exclusively breast-fed infant who does not improve with the exclusion of milk, soy, and/or the other major allergens from the maternal diet. In these situations, we undertake a 2-week trial on an elemental, amino acid-based formula; allow the symptoms to clear or abate; and then rechallenge with breast milk. It is possible for an infant to develop an intolerance or hypersensitivity to human breast milk proteins.^{8,9} If the infant redevelops symptoms with the reintroduction of breast milk, then unfortunately breast-feedings have to be discontinued.

Day care settings for infants of working parents may also present a challenge. When we are working with a breast-fed infant who is allergic or intolerant to cow's milk and soy protein, we have placed the mother on a diet free of milk and soy. If the infant is not breast-fed, the infant is receiving an elemental or hydrolysate formula. If the infant is in a day care or is being cared for in a home setting where other infants or children are present, it is imperative to instruct the caregiver to feed the infant with the allergy or intolerance first. In situations where the infant is old enough to have some mobility such as crawling or walking, infants may crawl over and take a bottle from another infant. Obviously it is not much of a problem for an infant who is not allergic to get the allergic infant's formula or breast milk, whereas it can be very problematic for an infant who is allergic to get a hold of formula or breast milk that contains the offending proteins.

Falco: Since my son is 17 years old now, I am no longer up-to-date on this information.

Would you recommend organic formula and/or organic baby food as an additional strategy to prevent food allergy?

Ferdman: To my knowledge there have been no studies that have shown any effect of organic versus nonorganic foods on the development of food allergies.

That being said, both prenatal^{39,40} and early childhood⁴¹ exposure to certain pesticides and herbicides have been associated with increased risk of wheeze, increased IgE, and a Th1/Th2 cytokine balance favoring the development of allergies. Therefore, it is at least feasible that the risk of the development of food allergies may also be affected, but this has not yet been shown.

Some advocate that genetically modified (GMO) foods should not be considered organic. With this in mind, there are concerns for the potential effect of GMO foods on allergies. A genetic modification of a food may inadvertently introduce a known allergen from another source into an unrelated food. An example is the transfer of the 2S albumin protein gene from Brazil nut into soy bean plant.⁴² Patients allergic to Brazil nut but not to soy bean showed an IgE response to the modified soy bean. If this product had made it to the market, it could have resulted in a large number of people, including infants on soy formulas, being unknowingly exposed to a potent tree nut allergen. Another scenario would be the creation of a neo-allergen in the GMO food causing de novo sensitization in the population. Genetically modified foods with a higher protein content, and more specifically, with proteins that are digestion resistant, may have increased risk of allergenicity.⁴³ To date, however, there is no direct evidence that GMO foods have caused increased food allergies in humans.

McClenahan: No. There is no evidence to show that organic formula or food contains less allergens. Furthermore, organic products are usually more expensive.

Falco: I don't know if organic food or formula would be a plus. If allergic reactions are caused by food proteins, are organic proteins "safer" in some way? I know whether an organic egg or a nonorganic egg is cracked in front of my son, he sneezes uncontrollably.

I sometimes feel there is some environmental factor that may have an influence on the dramatic rise in food allergies. When I was a kid in the late 1960s,

everyone ate peanut butter and no one went into anaphylaxis. So are the proteins in foods being changed or compromised in some way—or is it that our bodies/immune systems are going through a change and reacting to foods as they never did before. Chicken or the egg? . . . No pun intended.

If you were given adequate funds, what research would you like to design that would provide more answers?

Ferdman: Instead of proposing a specific study, I would rather expand on the design factors I would like to see in future food allergy prevention studies.

Since the incidence of food allergies is actually relatively low, any ideal study would have to enroll a large amount of subjects to reach adequate statistical power. It has also been apparent that some study interventions have different degrees of, or even opposite effects on, “low-risk” infants compared with “high-risk” infants. An ideal study would need to enroll both groups and control for risk levels to assure that any recommendations can be generalized to any child, or at least which recommendations apply to which group. An ideal study would have to follow the cohort for several years—at least until 5 years old—to assure that any effects are not just transient. Choosing a genetically homogenous patient population would be helpful to control for any effect of genetic variation on the development of food allergy. But it would be necessary to repeat the study in subjects from diverse genetic backgrounds to assure that the results can be generalized.

Any study should be prospective as I feel there is little use for retrospective studies for food allergies. An ideal study would best be not only blinded but also double blinded—though this may not be feasible in all types of studies. At a minimum, strict real-time diet diaries should be used (ideally electronic), and retrospective diet recall should never be used to estimate diet content.

All known or suspected confounders would need to be controlled for—including household cutaneous exposure to foods, smoking and alcohol intake, dietary supplements, micronutrient levels, anti-acid medication use, and environmental aeroallergen exposure, among others. These data should not be collected by subject recall and diary alone. Objective measures (household visits and testing, direct observations, pharmacy records, etc) should be used to confirm them. Since the composition of breast milk is variable and unpredictable, for studies on the effects of breast-feeding, ideally I would like to see data on monitoring and testing of breast milk composition.

Last, outcomes would need to be clearly and definitively proven. All children suspected of having developed a food allergy during the study should be challenged with the food in the standard double-blind, placebo-controlled manner instead of relying only on allergy testing or family reports of allergic reactions.

McClenahan: If I had unlimited funds, I would like to hire a team of stellar physicians and researchers including but not limited to pediatric and adult specialists—in fields including gastroenterology, allergy, immunology, pulmonology, as well as pediatric and adult medical nutrition therapists—to further define the intestinal processing and absorption of allergens and the subsequent immune response to allergens.

Falco: This is a great question, and I have 2 studies I'd like to see.

1. To investigate the immune system and when/how the threshold for “danger” is established. That is, when and how does the developing immune system identify a food protein as a danger/allergen. I don't have any idea how this study would be done, but I would like to know the answer.
2. I'd also like see a study conducted on whether a highly sensitive immune system—as in a food allergic child—can function in a protective way,

somehow, against everyday illnesses. That is, does a highly allergic child get fewer colds, or strep throat or flu? ■

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Future Roundtable Topics

The editor is looking for contributors from all disciplines on the topics listed below. If you have any interest in participating, please contact the editor via e-mail at lheller@chla.usc.edu.

- Wound Care in Pediatrics
- Enteral Feeding in the Pediatric Homecare
- Multidisciplinary Management of the Home TPN Patient
- Breastfeeding the Child With Cardiac Defect
- Nutrition and the Medical Home for Children
- Treatment Options for Pancreatitis
- Appetite Suppressants for Children
- Treatment Options for Hyperlipidemia in Children