

Making a Difference in Lives of Children: Peanut Allergy Research at ACHRI

It was a few months after Megan's first birthday when her mother received a call from daycare with a message that Megan's face and body were swelling. They weren't sure of the cause. "Maybe it was an insect bite," they thought. Weeks later Megan ate a dime-sized piece of a cookie made with peanuts, and she began to swell within ten minutes. It was then that Megan's mom suspected that her baby was allergic to peanuts. A subsequent diagnosis of peanut allergy confirmed her suspicion.

Today Megan is a bright, beautiful young lady. She boasts "I'm nine and a half," and "I want to be a doctor some day." Megan is no stranger to doctors, hospitals, or clinical research. She has visited the Pediatric Clinical Research Unit many times over the last several years through her participation in not one, but two clinical research studies conducted under the direction of Stacie M. Jones, MD, and the physicians and staff in Division of Allergy and Immunology. Megan says the studies are a lot of fun and that she likes visiting Arkansas Children's Hospital.

Megan's mother says her child, who is always careful to avoid accidental exposure to peanuts, began asking at an early age questions like "can you read the label?" or "can you call my mom before I eat that?" When asked what she hopes to gain from participation in the study, Megan's mom says, "My goal is that Megan can someday have a tolerance for trace amounts of peanuts, at least to have a buffer." At all times they now carry an EpiPen, a portable epinephrine injection that treats anaphylaxis that may occur in the event of an accidental exposure to peanuts.

Allergy to peanuts or tree nuts affects about two percent of the US population, and that number is rising. As the most common cause of life threatening allergic reactions, peanut allergy accounts for 80% of fatal or near fatal reactions each year. At present there is no cure, and inadvertent exposure to peanuts is great.

Research holds the promise that some day viable treatments will be available for children like Megan. Over 20 years ago, A. Wesley Burks, MD, pioneered some of the earliest food allergy research initiatives on the Arkansas Children's Hospital campus, and today, under the direction of Dr. Jones, the food allergy research program thrives. The program encompasses the breadth of food allergy research – from basic research to elucidate the fundamental aspects of the disease to clinical trials that test potential treatment strategies. Extensive basic research and research with animal models is needed to discover and close the gaps of scientific investigation. Clinical research builds upon knowledge gained in the laboratory. Not every clinical trial will yield an effective therapeutic, but none the less, valuable information is gained from these trials. The gained information often points to new direction for future study. Many gaps remain in the scientific investigation, but the gaps will eventually close.



Megan is all smiles at a recent follow-up visit for a peanut allergy clinical trial that she is participating in.

ACHRI food allergy researchers are not on a solo mission. They capitalize on sound relationships with leaders in the field of food allergy research so as not to “re-invent the wheel” on our campus, a strategy that saves precious time and money. One collaboration of significance results from their participation in the NIH-funded Food Allergy Research Consortium that will receive over \$17 million over five years among 5 research centers nationally - \$1.4 million at ACHRI during the 5-year period. These collaborations provide sharing of resources, significantly greater patient populations, and opportunities for greater funding. Additional funding for food allergy research at ACHRI is provided through the Robbins Family Foundation and the Food Allergy and Anaphylaxis Network.

Children like Megan inspire us to keep searching for new knowledge, new treatments, and a brighter, healthier future for all children. ACHRI is very proud to have such a dedicated team of clinician investigators, research nurses, study coordinators, and basic and applied scientists working on our campus.



Established in 1989, Arkansas Children's Hospital Research Institute provides an on-site research environment for faculty of the University of Arkansas for Medical Sciences working on the Arkansas Children's Hospital campus. Over 120 pediatric researchers with expertise and experience that span the breadth of medical disciplines comprise ACHRI's roster of investigators who work to fulfill its mission to improve children's health, development, and well-being through high quality research. For more information, visit <http://achri.archildrens.org>.