The dramatic rise in all types of allergies over the past 20 to 30 years, including asthma, eczema, hay fever and food allergy, is striking. Not that long ago asthma occurred in 2-3 percent of children and it now occurs in nearly 8 percent. There is evidence that peanut allergy has doubled just in the last five years and a recent report from the Centers for Disease Control and Prevention estimates that all food allergies are on the rise, with six million children in the United States—including nearly 8 percent of young children—now having at least one food allergy. Even more striking increases have occurred in certain high risk populations—for example, asthma now occurs in 18 percent of children living in inner-city Baltimore and Dr. Robert Wood recently published a study showing that food allergy occurs in more than 10 percent of children in poor, urban areas. Some have dubbed this “the modern epidemic” and these numbers would certainly support such a claim. And these diseases are not just a nuisance—in fact, they are serious conditions that can dramatically limit a child’s life and even kill those with more severe disease.

As unfortunate as this is, we now have a unique opportunity to explore the causes and solutions to this enormous health concern.

The time is now to truly explore the causes and solutions to this global public health issue. Dr. Wood believes that while we are still at least four years away from a treatment for food allergies that can be brought to the general public, the dramatic progress that he has made over the last few years suggests that truly effective treatments will eventually be possible for even those with the most severe allergies.

BACKGROUND INFORMATION: Dr. Wood and his team of experts have extensive experience in clinical and laboratory research in asthma and allergy, including the development of novel allergy treatments, and they are therefore especially well equipped to take on this important challenge. Dr. Wood is currently the Principal Investigator of more than 20 different research studies, all of which are directed in one way or another at addressing the critical challenges of asthma and food allergies. Dr. Wood is leading cutting-edge research studies that are resulting in remarkable strides in improving the quality of life for patients. As evidence of this success, in the past two years alone, Dr. Wood has published more than 30 papers on asthma and food allergy. The following page includes a sample of these studies, as well as several very exciting trials that are in the planning stages.
1. IMMUNOTHERAPY FOR THE TREATMENT OF FOOD ALLERGY

In 2007, Dr. Wood initiated a study of oral immunotherapy (gradually increasing the exposure to the allergen by mouth) for children with severe, persistent milk allergy. This was the world’s first study of its kind and it produced dramatic results, showing that the average child could tolerate over 100 times more milk after the treatment, and that some appear to be completely cured. Since then, two additional milk studies have been completed; one comparing oral immunotherapy to sublingual (placing allergen extract under the tongue) treatment and the other designed to study the potential value of combining oral immunotherapy with an anti-allergy medication called Xolair. The results of this study were just published in November 2015. Additional studies have focused on both peanut and egg allergies, all with encouraging results.

Dr. Wood’s plate remains very full, with the following studies either underway or ready to start:

- A study of peanut immunotherapy in 1 to 3 year olds. Now that we know enough about the safety of these treatments from studies in adults and older children, this study will help to determine whether treatment could be more effective when started at an earlier age.
- A second study of the “peanut patch,” a treatment for peanut allergy delivering the allergen through the skin by wearing a small patch containing peanut.
- A study on the treatment of egg allergy, comparing oral immunotherapy to the ingestion of baked egg.
- The world’s first study of a “milk patch”
- A new study of peanut oral immunotherapy
- A new study of milk immunotherapy using a modified milk protein

2. THE NATURAL HISTORY OF CHILDHOOD FOOD ALLERGY

This is a series of studies conducted over the past 15 years—and will likely continue for next 10–20 years—on how food allergy behaves over time, what is outgrown and what is not, and why it has become so much more common in recent years.

3. THE CONSORTIUM FOR FOOD ALLERGY RESEARCH (CoFAR)

Five academic medical centers, including Hopkins Children’s, have been funded by the National Institutes of Health (NIH) for the past 10 years and charged with the task of exploring the rise in food allergy and developing THE CURE. Thus far, the CoFAR team has completed studies on oral immunotherapy for egg allergy (published in the New England Journal of Medicine), sublingual immunotherapy for peanut allergy, and treatment of peanut allergy with modified, recombinant peanut proteins—a “peanut vaccine.” The team also has ongoing studies on the treatment of peanut allergy, a study comparing different treatments for egg allergy, a study on natural progression of food allergy from infancy through age 10, as well a study on an allergic disease called eosinophilic esophagitis.

4. THE INNER-CITY ASTHMA CONSORTIUM (ICAC)

Eight academic medical centers, including Hopkins Children’s, and funded by the NIH, are seeking to unravel the causes of and develop new treatments for asthma in inner-city children. In fact, Dr. Wood is the only doctor in the U.S. to be a principal investigator on both CoFAR and ICAC studies. Current studies in this consortium include:

- A birth cohort study of inner-city asthma
- Studies of immunotherapy for cockroach and mouse allergy, the first studies of their kind in the world
- Studies on other novel treatments for severe asthma

WHAT’S ON THE HORIZON?

We are already planning our research docket for 2016 and 2017. If funding permits, we are very excited about several major studies under development:

- A study using a combination of Chinese herbs and peanut immunotherapy
- A study of an allergy shot using a modified peanut protein
- A study of a new vehicle to deliver sublingual immunotherapy

While some of these studies have NIH funding, it is critical to recognize that many could never happen without your support. Thank you! If we can raise sufficient philanthropic funds moving forward, our dream of developing a true cure for food allergy can be realized.

How You Can Help

For more information on how to help fund these programs and/or the work of Dr. Wood and his team, please contact Jen Doyle in the Johns Hopkins Children’s Center Development Office at 410-361-6399 or jdoyle20@jhmi.edu.

To make a charitable donation in support of Dr. Wood’s research, please make checks payable to the Johns Hopkins Children’s Center and mail to:

Johns Hopkins Children’s Center Development Office
750 E. Pratt Street, Suite 1700
Baltimore, MD 21202

Please include a note with your donation stating that your gift is in support of Dr. Wood.

Thank you!