THE wind STUDY

Newsletter Summer 2016

CONTACT US!

Do you have questions about the WIND Study? Did you recently move, or change your phone number or e-mail? Please let us know so we can stay in touch. Call or e-mail us anytime.

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"I just wanted to tell you how much I appreciate this study. I know how much studies like this matter, and I think that if we were part of something like this when my oldest son was little, we may have been able to better pinpoint my younger son's asthma. We really appreciate the work and the research you guys do."

- WIND Study Parent

WIND STUDY RESEARCH UPDATE: THE HUMAN MICROBIOME

In the last several years, the human microbiome has become a hot topic in research. The microbiome of a person consists of all the microscopic organisms living inside the human body. Studies have shown that the microbiome plays an important role in keeping us healthy, and that disruption to the microbiome can cause sickness. Scientists are now trying to figure out the most effective ways to use these invisible organisms to our advantage so that we may be able to prevent disease in the future.

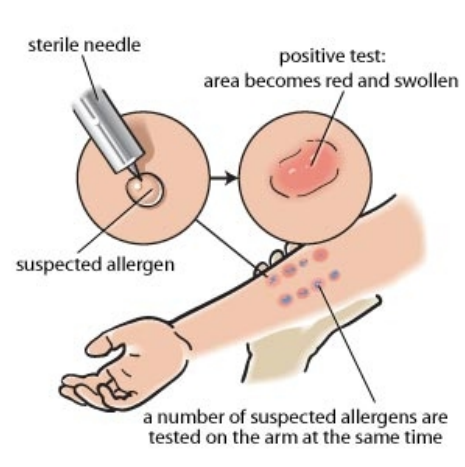
Many researchers specifically focus on the microbiome of the gut because it plays a key role in digestion, metabolism, and overall immune system development and function. In our gut alone, there are around 100 trillion bacteria. These bacteria communicate not only with each other, but also with those that live in other organs and bodily systems, so they are important to study. Because of their effects on the immune system, they can influence the body far from the gut…

We recently published a research paper that explains how the gut microbiome might be associated with bronchiolitis in infants. Our paper focuses on tests that we did with stool samples provided by 40 children when they were in the hospital with bronchiolitis and enrolled into the WIND Study, as well as 115 different children who were healthy when samples were collected. We found that there are four distinct groups of fecal microbiota in infants, and that one of these groups was associated with a higher likelihood of bronchiolitis. While this does not reveal the whole picture of how bronchiolitis might be caused, it helps us understand more of the biology behind bronchiolitis.

These findings were published in the journal *Pediatrics*. If you ever want a copy of one of our WIND Study papers, please write to us and we'll send a PDF version to you! You will hear more about the microbiome and the WIND Study in the months ahead.

IN DEPTH: SKIN PRICK TESTS

Many of us are familiar with the term "allergies" and have probably experienced an allergic reaction at some point in our lives. Ranging from red itchy eyes and runny nose to hives and difficulty breathing, allergic reactions come in a variety of forms, and can be caused by many different things. Things that trigger allergic reactions, known as "allergens," are generally harmless substances that a person's body attacks. Children are not always born allergic to these substances – allergies can develop at any stage in life. It is also possible for people to outgrow their allergies. While doctors are not certain about how allergies develop or disappear, they can run tests to identify which substances are causing allergies. Identifying allergens enables doctors to prescribe medications that manage symptoms of allergic reactions.



A common test that doctors use to determine allergens is the "skin prick test," in which the patient is exposed to a small amount of the potential allergen through a small prick on the surface of the skin. If a patient is allergic to a substance, then the tested area will become red and swollen like a mosquito bite within 15-20 minutes. Skin prick tests can be especially useful because, in the process of testing for suspected allergens, skin prick tests may also discover unknown allergies. Doctors may also perform an intradermal test, in which they inject the allergen under the skin using a thin needle. Similar to skin prick tests, intradermal tests can analyze for multiple different allergens at once. Another option is blood testing, which tests for immunoglobulin E (IgE) antibodies that trigger allergy symptoms. Intradermal and blood testing can be slightly more painful than a skin prick test, but they provide more accurate results. For this reason, these tests can be useful if a skin prick test is negative but a clinician still thinks the patient might have an allergy.

Some parents are concerned about having their child tested for allergies because of the pain associated with testing or the idea that there might be a risk of a severe reaction. It is worth remembering, though, that skin prick tests are very shallow, so there is no risk of the patient even bleeding. While intradermal tests go underneath the skin, the needle is very small and the test itself is no more painful than a pinch. Positive reactions to an allergen, such as the mosquito bite-like bumps mentioned earlier, can be itchy, but are otherwise harmless. Finally, the risk of a severe reaction occurring is very low, and almost nonexistent in skin prick tests. Consult your child's primary care provider regarding whether or not skin testing for allergies might be right for your child.

SUMMER ACTIVITIES

Here are a few inexpensive activities for you to try this summer.

FIREWORKS PAINTING: This activity is a great way to recycle the cardboard tubes from rolls of toilet paper and paper towels. First, partially cut the tube into a fan shape as pictured. Your child can create different size cardboard fans by cutting the cardboard tubes into different lengths. Have your child dip the cardboard fan into the color paint of their choosing, and then instruct him or her to use it as a stencil to create a colorful fireworks display on their construction paper canvas.

DIY POKÉBALLS: Join the Pokémon craze with these easy-to-make Pokéballs! All you will need are a couple of Styrofoam balls and several permanent markers, or paint if you prefer. While you and your child can stick with the traditional Pokéball design, you can certainly create your own as well. Just be careful when you try to catch any Pokémon – they might try to break free!

STRAW ROCKETS: Explore the deepest reaches of space with these straw rockets! First, print out the attached templates for the rockets here. Then, have your child design their rockets in the colors of their choosing and cut them out with scissors. Tape one end of a large straw to the back of the rocket, and then insert a thinner straw into the other end of this larger one. Finally, instruct your child to give the thin straw a big puff of air, and watch as their rocket launches into the sky!