Allergy Testing for Children

An allergy is the body's immune system responding to allergens. Allergens are things such as molds, pollens, animal dander, etc. in the environment. These can cause an allergic reaction. Children with allergies react to these things in their everyday surroundings which usually do not cause reactions in children without allergies. About one in every five adults and children have allergies to something. Sometimes this produces an allergic asthma. About 80 % of children with asthma have allergies. Food allergies occur in 8 % of children younger than 6 years of age.

HOW DO ALLERGIES AFFECT CHILDREN AND HOW DO THEY GET THEM?

- Children seem to be more open to attack (*vulnerable*) to allergies than adults. Allergies to food, house dust mites, animal dander and pollen are most common. These allergies show up as allergic hay fever (*rhinitis*), asthma, and eczema (*atopic dermatitis*). Also, frequent ear infections may be related to allergies.
- If both parents have allergies, their children have a 75 % chance of having allergies. If one parent is allergic, or if relatives on one side of the family have allergies, then the children have about a 50 % chance of developing allergies.
- Breast-feeding infant children may help prevent them from developing food allergies and eczema.

SYMPTOMS OF ALLERGY IN A CHILD

Symptoms develop as the body releases special antibodies called IgE (Immunoglobin E). These are the key players in allergic reactions. These special antibodies can trigger the release of chemicals. These chemicals can cause the physical symptoms and changes associated with allergies such as:

- Hives.
- Runny nose.
- Itching or swelling of the lips, tongue or throat.
- Upset stomach.
- Cramps, bloating or diarrhea.
- Wheezing.
- Difficulty breathing.
- Anaphylactic shock, a life-threatening reaction of the body which requires emergency care.

TESTS USED TO DIAGNOSE ALLERGIES

Keep in mind that allergy tests are not the sole basis for diagnosing or treating an allergy. Caregivers make an allergy diagnosis based on several factors:

- History of the child's experiences and family history of allergy/asthma.
- Physical exam of the child to detect signs of allergy.
- Allergy testing for sensitivity to specific allergen.
- Allergy tests help your caregiver confirm allergies your child may have. When an allergy test pinpoints a reaction to a specific allergen(s), your caregiver also can use this information to develop "immunotherapy"- allergy shots - specifically for your child, if appropriate.

SKIN TESTS FOR ALLERGIES

- Skin prick tests are the most common tests for allergy. Small amounts of suspect allergy triggers are introduced through the skin of the arm or back by pricking or puncturing the skin with a needle or similar device. If your child is allergic to a substance, you will see a raised, red itchy bump. It is also called a "wheal". Reactions usually appear within 15 minutes. This positive result indicates that the IgE antibody is present when your child comes in contact with the specific allergen. The size of the wheal is important. The bigger it is, the more sensitive your child is to that particular substance. This test is the least time consuming and least expensive. Your child may have to discontinue certain medications several days prior to testing. This is especially true for antihistamines.
- There are four kinds of skin tests:
  - Scratch.
  - Puncture.
  - Prick.
  - Intradermal.
- Your allergist may use one or more skin tests to analyze your child's response to various substances. Keep

in mind that you may see a false-positive or a false-negative skin test. Results often depend on how well the test is performed.

- Skin prick, puncture and intradermal tests may be difficult with young children afraid of needles. There is some possibility of a life-threatening anaphylactic response if a person is extremely sensitive to a substance. Your caregiver will be prepared to react swiftly to this kind of response.

BLOOD TEST FOR ALLERGIES

- The RAST (radioallergosorbent test) and related blood tests use radioactive or enzyme markers to detect levels of IgE antibodies. These tests are useful when a skin test is difficult due to:
  - A widespread skin rash.
  - Anxiety about skin pricks.
  - The child`s potential for a sudden and severe allergic response to test allergens.
- Skin tests and these blood tests are fairly equal in their ability to diagnose sensitivity to specific allergens. Both kinds of tests are considered to be about 90 % accurate.

ELIMINATION DIET

- An elimination diet is often used to help isolate sensitivity to specific foods. Your caregiver sets up a diet without foods that you suspect may affect your child. The main culprits for more than 80 % of people who have food allergies are usually not included on the starting diet. These foods are:
  - Milk.
  - Soybeans.
  - Eggs.
  - Wheat.
  - Peanuts.
  - Nuts.
  - Shellfish.
  - Corn.
- Your child will stay on the prescribed diet for 4 to 7 days. If the symptoms do not lessen, additional foods are eliminated until the allergy symptoms stop. Once the symptoms disappear, new foods are added to the basic diet, one at a time, until symptoms reappear.
- The chief drawback to an elimination diet is making sure your child is eating "pure" foods. Common food allergens are "hidden ingredients" in hundreds of packaged or processed foods. In order for an elimination diet to be successful, check ingredients for foods you give your child to eat. If your child is a fussy or picky eater, an elimination diet can be difficult. Your caregiver can make helpful suggestions.
- Fasting is a radical way to identify food allergies. Although very useful for finding problem foods, this kind of elimination diet is hard to do with children. Fasting is best done under medical supervision. Often it is used for "extreme" cases where a child is suspected to have allergies to many types of food.

ARE THERE OTHER ALLERGY TESTS?

The tests described above are considered the most effective and usual way to help diagnose allergies to specific substances. You also may hear of other allergy tests. **These tests may work, but as yet, they are unproven or not universally accepted allergy testing methods. Some of these tests are:**

- Cytotoxicity blood test.
- Electroacupuncture biofeedback.
- Urine autoinjection.
- Skin titration.
- Sublingual provocative testing.
- Candidiasis allergy theory.
- Basophil histamine release.

If your caregiver suggests one of these tests, consider getting a second opinion about allergy testing for your child.

WHAT KIND OF DOCTOR DOES ALLERGY TESTING?

- Allergy testing usually is done by an allergist. An allergist specializes in diagnosing and treating allergies. Some allergists specialize in treating children. To find a board-certified allergist or pediatric allergist near you, contact:

- American Academy of Allergy, Asthma & Immunology at 1-800-822-ASMA or http://www.aaaai.org
- American College of Allergy, Asthma & Immunology at 1-800-842-7777 or http://www.acaai.org

WHAT CAN PARENTS DO IF THEIR CHILD HAS A POSITIVE ALLERGY TEST?

A positive allergy test helps your caregiver figure out the best treatment plan for your child. He/she may prescribe specific medicine for the allergy(s). He/she may suggest ways to cut down or eliminate substances in your child's environment that can trigger an allergic response. Many allergies are mild to moderate. Most allergies are easily managed with the right treatment plan.

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FOR FURTHER INFORMATION:

- Web site: www3.niaid.nih.gov

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