Is My Child Allergic to Penicillin?

Penicillin is the most commonly used antibiotic in children.

Most children labeled with a penicillin allergy are not truly allergic; however, the label leads to use of alternative antibiotics that have been associated with increased risk of treatment failures, resistant bacteria, serious adverse events, and Clostridium difficile infection (https://jamanetwork.com/journals/jama/fullarticle/2720732). Penicillin antibiotics belong to a large group of chemically related drugs called beta-lactam antibiotics, used to treat a variety of bacterial infections.

How Common Is Penicillin Allergy Among Children?
Ten percent of US children have been diagnosed as having a penicillin allergy. The most common penicillin allergy in childhood is an amoxicillin allergy. Most penicillin allergies in childhood are diagnosed before age 3 years. Most children with a penicillin allergy history are found not to be truly allergic when they are formally tested. Children can develop rashes when they have infections, and this can lead to a penicillin allergy misdiagnosis.

How Does a Penicillin Allergy Affect Antibiotic Choices in Children?
Many common childhood infections such as ear infections, strep throat, and skin infections are best treated with penicillin. When a penicillin allergy is reported, alternative antibiotics are prescribed. The alternative antibiotics may have more adverse events than the penicillin antibiotics and may not be as effective. Overuse of alternative antibiotics can lead to antibiotic resistance.

How Is Penicillin Allergy Evaluated?
Parents will be asked about their child’s penicillin allergy history, including the symptoms and signs of the reaction. Children with low-risk symptoms such as headache, nausea, vomiting, itching, or family history of allergy can receive a trial of penicillin again. In some children, the first penicillin dose may be given under observation. Direct amoxicillin challenge with observation, often in a medical clinic, has been shown to be safe for children with low-risk histories.

For children with higher-risk reaction histories such as hives, rash, swelling, or shortness of breath, penicillin skin testing can be used to evaluate the allergy. The first step of the test is pricking the skin with a small amount of penicillin reagent. The second step is using a small needle to place the reagents right underneath the skin. If these test results are negative, it is unlikely that the child has a penicillin allergy. To confirm that no allergy is present, an oral dose of a penicillin (usually amoxicillin) is given under observation.

For more information:
American Academy of Allergy, Asthma & Immunology: http://www.aaaai.org/conditions-and-treatments/library/allergy-library/penicillin-allergy-faq
For a related patient page, see http://www.aaaai.org/conditions-and-treatments/library/allergy-library/penicillin-allergy-faq

When Should Children Be Evaluated for Penicillin Allergy?
Children can be safely evaluated as infants and toddlers when there is an immediate need to do so. For example, penicillin allergy evaluation is indicated when there are recurrent ear infections and a penicillin allergy. Generally, physicians feel most comfortable testing for penicillin allergy in children older than 3 years. Penicillin skin testing is generally best tolerated after age 10 years. If your child has a penicillin allergy, ask their physician how they can be evaluated.

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