

allergist

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I might be allergic to Penicillin. Why should I get tested?

Why can't I just avoid taking all penicillin drugs?

If you've been told at some point that you have a penicillin allergy, you may want to know why you should be tested by an allergist to make sure. Why can't you just take a different drug – one that doesn't contain penicillin? While you are concerned with your personal health, and the best treatment for you and your family, you probably also understand that preventing drug resistance in the United States is an important societal problem. It is also critical to recognize that the best treatment for many of the most common infections is a penicillin medication.

Acute sinusitis (Sinus Infection):

About one in seven people in the United States has a sinus infection every year. While most are caused by a virus, up to 2 percent of people develop a secondary bacterial infection. Many patients seen by a primary care physician for an acute sinus infection are given an antibiotic, even though they may not have a bacterial infection. A lot of patients request an antibiotic, believing that they will recover more quickly – even if they have a viral infection. Because taking nose cultures or doing blood tests are not accurate diagnostic tools for a sinus infection, doctors try to select the best medication based on the most common causes of infections.

Medications for sinus infection: Recommended and Not Recommended

- **Amoxicillin/clavulanate potassium (Augmentin):** A type of penicillin used for both children and adults, and the preferred treatment for an acute sinus infection that requires antibiotics.
- **Cephalosporins (Keflex or Ceftin):** Considered second line medications for the treatment of an acute sinus infection, due to the resistance of *S. Pneumoniae* to these drugs.
- **Azithromycin (Zithromax):** Also known as "the macrolides," these are not recommended for the treatment of a sinus infection because they may fail to work up to 40 percent of the time if the infection is caused by *S. Pneumoniae*. Not only will the use of an ineffective antibiotic likely fail to cure the infection, but it also encourages the growth of more resistant bacteria in the community at large.
- **Fluoroquinolones (Levaquin or Cipro):** Not recommended, as these are the drugs used for serious infections, and if they are overused, we will start to see the development of resistance to this group of antibiotics by organisms causing sinusitis.

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Alternatives for penicillin-allergic adults:

One alternative antibiotic for penicillin-allergic adults is doxycycline, but it should not be used for children. Likewise, fluoroquinolones are not recommended for routine use in children younger than 18 due to the possible development of joint problems. Neither doxycycline nor fluoroquinolones should be taken during pregnancy.

Acute otitis media (Ear infection):

Ear infections are the most common diagnosis for children visiting a medical clinic, and the most common reason for being given an antibiotic. While an ear infection can occur at any age, it is most common in infancy. Between 60-80 percent of children will have one ear infection by age one, and 80-90 percent will have at least one ear infection by age three. Not all ear infections require an antibiotic, but when one is needed, the treatment must address the most common causes of the disease. *S. Pneumoniae*, responsible for 50 percent of ear infections and *H. Influenzae*, responsible for 45 percent, are the same organisms as those responsible for sinus infections.

Medications for ear infections:

In children who require antibiotics for an ear infection, amoxicillins are the preferred drugs. The macrolides, clarithromycin (Biaxin) or azithromycin (Zithromax), don't work against most *H. Influenzae* or about one-third of *S. Pneumoniae* infections.

Other diseases:

Augmentin is also considered a first line drug for Chronic Obstructive Pulmonary Disease (COPD) related lung infections, bacterial pneumonias, skin abscesses, diabetic foot infections, pharyngeal Group A Streptococci chronic carrier state, animal and human bites, and kidney infections.

From the ACAAI 2015 Drug Allergy and Anaphylaxis Committee



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