



## Antibiotics and Sinusitis

An antibiotic is a soluble substance derived from a mold or bacterium that inhibits the growth of other microorganisms.

The first antibiotic was Penicillin, discovered by Alexander Fleming in 1929, but it was not until World War II that the effectiveness of antibiotics was acknowledged, and large-scale fermentation processes were developed for their production.

Acute sinusitis is one of many medical disorders that can be caused by a bacterial infection. However, it is important to remember that colds, allergies, and environmental irritants, which are more common than bacterial sinusitis, can also cause sinus problems. Antibiotics are effective only against sinus problems caused by a bacterial infection.

The following symptoms may indicate the presence of a bacterial infection in your sinuses:

- Pain in your cheeks or upper back teeth
- A lot of bright yellow or green drainage from your nose for more than 10 days
- No relief from decongestants, and/or
- Symptoms that get worse instead of better after your cold is gone.

Most patients with a clinical diagnosis of acute sinusitis caused by a bacterial infection improve without antibiotic treatment. The specialist will initially offer appropriate doses of analgesics (pain-relievers), antipyretics (fever reducers), and decongestants. However if symptoms persist, a treatment consisting of antibiotics may be recommended.

### *Antibiotic Treatment for Sinusitis*

Antibiotics are labeled as narrow-spectrum drugs when they work against only a few types of bacteria. On the other hand, broad-spectrum antibiotics are more effective by attacking a wide range of bacteria, but are more likely to promote antibiotic resistance. For that reason, your ear, nose, and throat specialist will most likely prescribe narrow-spectrum antibiotics, which often cost less. He/she may recommend broad-spectrum antibiotics for infections that do not respond to treatment with narrow-spectrum drugs.

### *Acute Sinusitis*

In most cases, antibiotics are prescribed for patients with specific findings of persistent purulent nasal discharge and facial pain or tenderness who are not improving after seven days or those with severe symptoms of rhinosinusitis, regardless of duration. On the basis of clinical trials, amoxicillin, doxycycline, or trimethoprim-sulfamethoxazole are preferred antibiotics.

## ***Chronic Sinusitis***

Even with a long regimen of antibiotics, chronic sinusitis symptoms can be difficult to treat. In general, however, treating chronic sinusitis, such as with antibiotics and decongestants, is similar to treating acute sinusitis. When antibiotic treatment fails, allergy testing, desensitization, and/or surgery may be recommended as the most effective means for treating chronic sinusitis.

Research studies suggest that the vast majority of people who undergo surgery have fewer symptoms and better quality of life.

## ***Pediatric Sinusitis***

Antibiotics that are unlikely to be effective in children who do not improve with amoxicillin include trimethoprim-sulfamethoxazole (Bactrim) and erythromycin-sulfisoxazole (Pediazole), because many bacteria are resistant to these older antibiotics. For children who do not respond to two courses of traditional antibiotics, the dose and length of antibiotic treatment is often expanded, or treatment with intravenous cefotaxime or ceftriaxone and/or a referral to an ENT specialist is recommended.



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