



The Doctor Is In

By Dr. David Hill

Sinusitis

“Airhead” is usually meant as an insult, at least when it’s not referring to a sour candy. But where our sinuses are concerned, it’s a good thing. When fluid and pus clog these normally air-filled spaces it’s enough to make anyone feel ditzzy, or worse.

What are the sinuses?

People often use the word “sinuses” for any illness that causes nasal congestion and runny nose (rhinorrhea). The sinuses are actually four pairs of spaces within the skull. At birth we only have two pairs of sinuses. The maxillary sinuses are just behind the cheek bones. The ethmoid sinuses are a group of smaller air cells located around the bridge of the nose. The sphenoid sinuses develop later, by around age three. They lie deep in the skull, behind the nose and under the brain. The last sinuses to develop are the frontal sinuses, located in the forehead. These usually appear by age six and don’t fully develop until the early teens.

How do the sinuses get infected?

The cells lining the sinuses sport little moving hairs called cilia. Other cells secrete mucous. The mucous provides a barrier between germs and our bodies, and the cilia beat together to form a sort of conveyor belt, carrying mucous from the sinuses into the nasal cavity via channels called ostia. Each ostium ends in a hole deep in the nose called a meatus. The ostia of the frontal, maxillary, and sphenoid sinuses come together in one spot, called the osteomeatal complex.

Anything that blocks this drainage can cause mucous and fluid to back up in the sinuses, allowing a bacterial infection to set in (acute bacterial sinusitis). The most common cause of blockage is a viral infection, the common cold. But anything that blocks the osteomeatal complex, from allergic rhinitis to damage from tobacco smoke to a lima bean, can cause acute bacterial sinusitis.

What are the symptoms of acute bacterial sinusitis?

The symptoms of sinusitis are essentially the same as those of the common cold. Runny nose, nasal congestion, cough, fever, and headache are all common. The average school-aged child gets six to eight colds a year. Five to ten percent of colds progress to acute sinusitis. It’s critical to distinguish between the two, because if we gave antibiotics to every child with a cold we’d have a

nightmare of antibiotic resistance and adverse reactions on our hands. (Many infectious disease specialists feel it is just this behavior that has led to the development of “super-bugs” like methicillin-resistant staph aureus).

So how can you tell the difference between a cold and acute sinusitis?

The single most reliable sign of bacterial sinusitis is duration of illness. A cold should last seven to ten days, with children starting to improve after the first week. Children whose symptoms are no better after ten days are much more likely to have acute sinusitis. Of course, kids can also have colds back-to-back, so it’s important to notice if the child got better during that time period.

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Fever also helps separate colds from acute sinusitis. The fever from a cold usually occurs at the beginning and shouldn’t last more than about three days. Fevers from colds also tend to be lower, less than 102.2 degrees (39 degrees Celsius). Children with fevers lasting four or more days, especially over 102.2 degrees, are more likely to have sinusitis.

Mucous color can be misleading. The typical cold includes a few days of thick, greenish discharge, usually around the third to sixth day. Likewise the presence of clear discharge doesn’t rule out a bacterial sinusitis.

Headaches can also be misleading. While adolescents and some older children may complain of headache, younger children lack frontal sinuses and rarely complain of headache with sinusitis. Children with frequent or severe headaches should see their doctors; their sinuses are rarely the cause.

Are there studies that can tell if a child has sinusitis?

The clinical history and physical exam remain the mainstays of diagnosis. X-rays of the sinuses can confirm the diagnosis, but they are reserved for children with complicated, chronic, or resis-

tant disease. Likewise, CT scans can be useful, but only a handful of children need them, usually those who may require surgery for an abscess or nasal obstruction. An experienced ear, nose, and throat specialist can aspirate fluid from the sinuses with a needle, but this is a tricky procedure normally reserved for severe, resistant cases.

How do you treat acute bacterial sinusitis?

Antibiotics remain the only consistently effective treatment. In children who are not penicillin-allergic and who haven’t had antibiotics in the last month, Amoxicillin is still the first choice. At a high dose (80 to 90 mg/kg/day) it works great against most of the bacteria that infect the sinuses. For resistant or recurrent cases amoxicillin/clavulanate (Augmentin) or cephalosporins (cefpodoxime, cefdinir, cefuroxime) are good choices. Children with serious penicillin allergies may use azithromycin or clindamycin.

Other types of medication, like decongestants (Sudafed), antihistamines (Benadryl), and nasal steroids (Flonase) haven’t been shown to help acute sinusitis. Children who get repeated cases due to allergies may benefit from having their allergies treated, but during the acute illness allergy medicines don’t seem to make much difference.

What if it keeps coming back?

In some children frequent infections may suggest a disorder of the immune system or a congenital disease like cystic fibrosis. Other children with recurrent or chronic sinusitis benefit from surgeries such as adenoidectomy or deviated septum repair.

Are there any complications of sinusitis?

Many cases of sinusitis get better with or without treatment. But while severe complications are rare in immunized, otherwise healthy children, they do occur. The infection can spread to nearby areas, endangering the brain, the eyes, or the bones of the skull. If your child has swelling of the face, severe head or facial pain, or a high fever (over 104 degrees) let his or her doctor know.

The good news is that while many children will get acute bacterial sinusitis, almost all of them will go back to being airheads.

Dr. David Hill is a board certified pediatrician with Cape Fear Pediatrics. He and his wife have three children.