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Sinusitis

A bad cold is often mistaken for sinusitis (sinus disease). Many symptoms are the same, including headache or facial pain, runny nose and nasal congestion. Unlike a cold, sinus disease may be caused by bacterial infections. It often requires treatment with antibiotics (drugs that kill the germs causing the infection).

Sinus disease is a major health problem. It afflicts 31 million people in the United States. Americans spend more than \$1 billion each year on over-the-counter medications to treat it. Sinus disease is responsible for 16 million doctor visits and \$150 million spent on prescription medications. People who have allergies, asthma, structural blockages in the nose or sinuses, or people with weak immune systems are at greater risk.

What is sinusitis?

Sinusitis is an inflammation of the sinuses. It is often caused by bacterial (germ) infection. Sometimes, viruses and fungi (molds) cause it. People with weak immune systems are more likely to develop bacterial or fungal sinus disease. Some people with allergies can have “allergic fungal sinusitis.” Acute sinus disease lasts three to eight weeks. Sinus disease lasting longer than eight weeks is considered chronic.

The sinuses are air-filled cavities. They are located:

- Within the bony structure of the cheeks
- Behind the forehead and eyebrows
- On either side of the bridge of the nose
- Behind the nose directly in front of the brain

An infection of the sinus cavity close to the brain can be life threatening, if not treated. In rare cases, it can spread to the brain.

Normal sinuses are lined with a thin layer of mucus that traps dust, germs and other particles in the air. Tiny hair-like projections in the sinuses sweep the mucus (and whatever is trapped in it) towards openings that lead to the back of the throat. From there, it slides down to the stomach. This continual process is a normal body function.

Sinus disease stops the normal flow of mucus from the sinuses to the back of the throat. The tiny hair-like “sweepers” become blocked when infections or allergies cause tiny nasal tissues to swell. The swelling traps mucus in the sinuses.

Some people have bodily defects that contribute to sinus disease. The most common of these defects are:

- Deformity of the bony partition between the two nasal passages
- Nasal polyps (benign nasal growths that contain mucus)
- A narrowing of the sinus openings

People with these defects often suffer from chronic sinus disease.

What are symptoms of sinusitis?

Common symptoms of sinusitis include:

- Postnasal drip
- Discolored nasal discharge (greenish in color)
- Nasal stuffiness or congestion
- Tenderness of the face (particularly under the eyes or at the bridge of the nose)
- Frontal headaches
- Pain in the teeth
- Coughing
- Fever
- Fatigue
- Bad breath

Sinus disease is often confused with rhinitis, a medical term used to describe the symptoms that accompany nasal inflammation and irritation. Rhinitis only involves the nasal passages. It could be caused by a cold or allergies.

Allergies can play an important role in chronic (long-lasting) or seasonal rhinitis episodes. Nasal and sinus passages become swollen, congested, and inflamed in an attempt to flush out offending inhaled particles that trigger allergies. Pollens are seasonal allergens. Molds, dust mites and pet dander can cause symptoms year-round.

Asthma also has been linked to chronic sinus disease. Some people with a chronic nasal inflammation and irritation and/or asthma can develop a type of chronic sinus disease that is not caused by infection. Appropriate treatment of sinus disease often improves asthma symptoms.

How is sinusitis diagnosed?

Diagnosis depends on symptoms and requires an examination of the throat, nose and sinuses. Your doctor will look for:

- Redness

- Swelling of the nasal tissues
- Tenderness of the face
- Discolored (greenish) nasal discharge
- Bad Breath

If sinus disease lasts longer than eight weeks, or if standard antibiotic treatment is not working, a sinus CT scan may help your doctor diagnose the problem. An allergist or an otolaryngologist (a doctor specializing in the ear, nose and throat) may examine your nose or sinus openings. The exam uses a long, thin, flexible tube with a tiny camera and a light at one end that is inserted through the nose. It is not painful. Your doctor may give you a light anesthetic nasal spray to make you more comfortable.

Mucus cultures: If your sinus disease is chronic or has not improved after several rounds of antibiotics, a mucus culture may help to determine what is causing the infection. Most mucus samples are taken from the nose. However, it is sometimes necessary to get mucus (or pus) directly from the sinuses.

Knowing what kind of bacteria is causing the infection can lead to more effective antibiotic therapy. A fungus could also cause your sinus disease. Confirming the presence of fungus is important. Fungal sinusitis needs to be treated with antifungal agents, rather than antibiotics. In addition, some forms of fungal sinus disease—allergic fungal sinusitis, for example—do not respond to antifungal agents and often require the use of oral steroids.

Your doctor may consider ordering a sinus CT. This test can help to define the extent of the infection. Your doctor may also send you to a specialist in allergy and immunology. The specialist will check for underlying factors such as allergies, asthma, structural defects, or a weakness of the immune system.

Biopsies: A danger of more serious types of fungal sinus disease is that the fungus could penetrate into nearby bone. Only a bone biopsy can determine if this has happened. Biopsies involving sinus tissue are taken with flexible instruments inserted through the nose.

Biopsies of the sinus tissue are also used to test for immotile cilia syndrome, a rare disorder that can cause people to suffer from recurrent infections, including chronic sinusitis, bronchitis and pneumonia.

How is sinusitis treated?

Antibiotics: Antibiotics are standard treatments for bacterial sinusitis. Antibiotics are usually taken from 3 to 28 days, depending on the type of antibiotic. Because the sinuses are deep-seated in the bones, and blood supply is limited, longer treatments may be prescribed for people with longer lasting or severe cases.

Overuse and abuse of antibiotics have been causing a major increase in antibiotic resistance. Therefore, patients with sinus symptoms should consider taking an antibiotic only if symptoms (including discolored nasal discharge) persist beyond 7-10 days.

Antibiotics help eliminate sinus disease by attacking the bacteria that cause it, but until the drugs take effect, they do not do much to alleviate symptoms. Some over-the-counter medications can help provide relief.

Nasal decongestant sprays: Topical nasal decongestants can be helpful if used for no more than three to four days. These medications shrink swollen nasal passages, facilitating the flow of drainage from the sinuses. Overuse of topical nasal decongestants can result in a dependent condition in which the nasal passages swell shut, called rebound phenomenon.

Antihistamines: Antihistamines block inflammation caused by an allergic reaction so they can help to fight symptoms of allergies that can lead to swollen nasal and sinus passages.

Nasal decongestants and antihistamines: Over-the-counter combination drugs should be used with caution. Some of these drugs contain drying agents that can thicken mucus. Only use them when prescribed by your doctor.

Topical nasal corticosteroids: These prescription nasal sprays prevent and reverse inflammation and swelling in the nasal passages and sinus openings, addressing the biggest problem associated with sinusitis. Topical nasal corticosteroid sprays are also effective in shrinking and preventing the return of nasal polyps. These sprays at the normal dose are not absorbed into the blood stream and could be used over long periods of time without developing “addiction.”

Nasal saline washes: Nasal rinses can help clear thickened secretions from the nasal passages.

Surgery: If drug therapies have failed, surgery may be recommended as a last resort. It is usually performed by an otolaryngologist. Anatomical defects are the most common target of surgery. Your surgeon can fix defects in the bone separating the nasal passages, remove nasal polyps, and open up closed passages. Sinus surgery is performed under either local or general anesthesia, and patients often can go home on the same day.

What to do if you think you have sinusitis?

If you think you have sinus disease, see your doctor for proper diagnosis. In most cases, sinus disease is easy to treat. By stopping a sinus infection early, you avoid later symptoms and complications.