

Sinusitis

What is sinusitis?

Sinuses are air-filled cavities in the bones of your face. These cavities are lined with mucus membranes. Sinusitis is the condition in which these membranes swell and become inflamed or the cavity becomes filled with infected material. A number of different irritants can cause sinusitis. Sinusitis often occurs after a cold, but not always. Bacteria, viruses, allergies, and even fungus can cause sinusitis. If your nasal bones have been injured or are deformed, causing partial blockage of the sinus openings, you are more likely to get sinusitis.

Acute sinusitis is a short-term condition that responds well to antibiotics and decongestants; chronic sinusitis is characterized by at least four recurrences of acute sinusitis. Either medication or surgery is a possible treatment.

How common is sinusitis?

More than 37 million Americans suffer from at least one episode of acute sinusitis each year. The prevalence of sinusitis has soared in the last decade possibly due to increased pollution, urban sprawl, and increased resistance to antibiotics.

What are the signs and symptoms of acute sinusitis?

For acute sinusitis, symptoms include facial pain/pressure, nasal obstruction, nasal discharge, diminished sense of smell, and cough not due to asthma (in children). Additionally, sufferers of this disorder could incur fever, bad breath, fatigue, dental pain, and cough. There will be different areas of pain depending on which sinuses have become infected. The maxillary sinuses often produce pain beneath the eyes. Frontal sinusitis may cause pain in the middle of the forehead and above the eyes. Swelling, warmth, and tenderness over the sinus areas may be signs of infection. Facial swelling and redness are generally worse in the morning; as the patient remains upright, the symptoms gradually improve.

Acute sinusitis can last four weeks or more. This condition may be present when the patient has two or more symptoms and/or the presence of thick, green or yellow nasal discharge. Acute bacterial infection might be present when symptoms worsen after five days, persist after ten days, or the severity of symptoms is out of proportion to those normally associated with a viral infection.

Victims of chronic sinusitis may have the following symptoms for 12 weeks or more: facial pain/pressure, facial congestion/fullness, nasal obstruction/blockage, thick nasal discharge/discholorated post-nasal drainage, pus in the nasal cavity, and at times, fever. They may also have headache, bad breath, and fatigue.

At ENT specialist's office, the patient will receive a thorough ear, nose, and throat examination. During that physical examination, the physician will explore the facial features where swelling and erythema (redness of the skin) over the cheekbone exist. The physician may feel and press the sinuses for tenderness. Additionally, the physician may tap the teeth to help identify an inflamed paranasal sinus.

Other diagnostic tests may include a study of a mucous culture, endoscopy, x-rays, allergy testing, or CT scan of the sinuses.

What is nasal endoscopy?

An endoscope is a special fiber optic instrument for the examination of the interior of a canal or hollow viscus. It allows a visual examination of the nose and sinus drainage areas. Nasal endoscopy offers the physician specialist a reliable, visual view of all the accessible areas of the sinus drainage pathways. First, the patient's nasal cavity is anesthetized; a rigid or flexible endoscope is then placed in a position to view the nasal cavity. The procedure is utilized to observe signs of obstruction as well as detect nasal polyps hidden from routine nasal examination. During the endoscopic examination, the physician specialist also looks for pus as well as polyp formation and structural abnormalities that may cause recurrent sinusitis.

TREATMENT

Sinusitis is most often determined by clinical and endoscopic examination of nose.

Acute sinusitis is generally treated with ten to 14 days of antibiotic care. With treatment, the symptoms disappear, and antibiotics are no longer required for that episode. Oral and topical decongestants also may be prescribed to alleviate the symptoms. Antihistamines may be recommended for the treatment of allergies.

HOME CARE INSTRUCTIONS

Only take over-the-counter or prescription medicines for pain, discomfort, or fever as directed by your caregiver. Smoking is never condoned, but if one has the habit, it is important to refrain during treatment for sinus problems. Drink extra fluids. Fluids help thin the mucus so your sinuses can drain more easily. Warm moist air may alleviate sinus congestion. Experts recommend a vaporizer or steam from a pan of boiled water (removed from the heat). Humidifiers should be used only when a clean filter is in place to preclude spraying bacteria or fungal spores into the air. Warm compresses are useful in relieving pain in the nose and sinuses. Use saline nasal sprays to help moisten your sinuses.

How effective are non-prescription nose drops or sprays?

Use of nonprescription drops or sprays might help control symptoms. However, extended use of non-prescription decongestant nasal sprays could aggravate symptoms and should not be used beyond their label recommendation. Saline nasal sprays or drops are safe for continuous use.

When is sinus surgery necessary?

Mucus is developed by the body to act as a lubricant. In the sinus cavities, the lubricant is moved across mucous membrane linings toward the opening of each sinus by millions of cilia (a mobile extension of a cell). Inflammation from allergy causes membrane swelling and the sinus opening to narrow, thereby blocking mucus movement. If antibiotics are not effective, sinus surgery can correct the problem.

What does the surgical procedure entail?

The basic endoscopic surgical procedure is performed under local or general anesthesia. The patient returns to normal activities within four days; full recovery takes about four weeks.

What does sinus surgery accomplish?

The surgery should enlarge the natural opening to the sinuses, leaving as many cilia in place as possible. ENT surgeons have found endoscopic surgery to be highly effective in restoring normal function to the sinuses. The procedure removes areas of obstruction, resulting in the normal flow of mucus.

What are the consequences of not treating infected sinuses?

Not seeking treatment for sinusitis will result in unnecessary pain and discomfort. In rare circumstances, orbital cellulitis, meningitis or brain abscess and infection of the bone or bone marrow can occur.

What can I do to help prevent sinusitis?

To prevent sinusitis you must prevent the causes of sinusitis. Treat your colds and allergies promptly. If you have congestion often, recognizing your symptoms early and using decongestants may minimize your discomfort and prevent infections.

Humidify your home if the air is particularly dry.

If you have frequent, repeated sinus infections, consider having an allergy evaluation. If symptoms persist despite treatment for any allergies you may have, you might need an exam by an ear, nose, and throat doctor (otolaryngologist) to rule out physical (anatomic) obstruction by a polyp or deformed bone.

Fungal Sinusitis

What Is A Fungus? Fungi are plant-like organisms that lack chlorophyll. Since they do not have chlorophyll, fungi must absorb food from dead organic matter. Fungi share with bacteria the important ability to break down complex organic substances of almost every type (cellulose) and are essential to the recycling of carbon and other elements in the cycle of life. Fungi are supposed to "eat" only dead things, but sometimes they start eating when the organism is still alive. This is the cause of fungal infections; the treatment selected has to eradicate the fungus to be effective.

In the past 30 years, there has been a significant increase in the number of recorded fungal infections. This can be attributed to increased public awareness, new immunosuppressive therapies (medications such as cyclosporine that "fool" the body's immune system to prevent organ rejection) and overuse of antibiotics (anti-infectives).

When the body's immune system is suppressed, fungi find an opportunity to invade the body and a number of side effects occur. Because these organisms do not require light for food production, they can live in a damp and dark environment. The sinuses, consisting of moist, dark cavities, are a natural home to the invading fungi. When this occurs, fungal sinusitis results.

There Are Four Types Of Fungal Sinusitis:

Mycetoma Fungal Sinusitis produces clumps of spores, a "fungal ball," within a sinus cavity, most frequently the maxillary sinuses. The patient usually maintains an effective immune system, but may have experienced trauma or injury to the affected sinus(es). Generally, the fungus does not cause a significant inflammatory response, but sinus discomfort occurs. The noninvasive nature of this disorder requires a treatment consisting of simple scraping of the infected sinus. An anti-fungal therapy is generally not prescribed.

Allergic Fungal Sinusitis (AFS) is now believed to be an allergic reaction to environmental fungi that is finely dispersed into the air. This condition usually occurs in patients with an immunocompetent host (possessing the ability to mount a normal immune response). Patients diagnosed with AFS have a history of allergic rhinitis, and the onset of AFS development is difficult to determine. Thick fungal debris and mucin (a secretion containing carbohydrate-rich glycoproteins) are developed in the sinus cavities and must be surgically removed so that the inciting allergen is no longer present. Recurrence is not uncommon once the disease is removed. Anti-inflammatory medical therapy and immunotherapy are typically prescribed to prevent AFS recurrence.

Chronic Indolent Sinusitis is an invasive form of fungal sinusitis in patients without an identifiable immune deficiency. This form is generally found outside the US, most commonly in the Sudan and northern India. The disease progresses from months to years and presents symptoms that include chronic headache and progressive facial swelling that can cause visual impairment. Microscopically, chronic indolent sinusitis is characterized by a granulomatous inflammatory infiltrate (nodular shaped inflammatory lesions). A decreased immune system can place patients at risk for this invasive disease.

Fulminant Sinusitis is usually seen in the immunocompromised patient (an individual whose immunologic mechanism is deficient either because of an immunodeficiency disorder or because it has been rendered so by immunosuppressive agents). The disease leads to progressive destruction of the sinuses and can invade the bony cavities containing the eyeball and brain.

The recommended therapies for both chronic indolent and fulminant sinusitis are aggressive surgical removal of the fungal material and intravenous anti-fungal therapy.