

ADULT SINUSITIS

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INTRODUCTION

“Sinusitis”, “rhinosinusitis” and “sinus infection” are terms that are commonly used by patients, healthcare providers, and the media. However, accurately diagnosing sinusitis is often more complicated than people realize. A number of factors are considered before making a diagnosis of sinusitis. These include a patient’s symptoms, the time course of the symptoms, and (sometimes) the results of additional tests.

We have included some explanations below to help you understand sinusitis. We also discuss some other conditions that can mimic sinusitis.

SYMPTOMS

Sinusitis, or rhinosinusitis, results from inflammation of the lining of the [nasal passages](#) and [paranasal sinuses](#). The paranasal sinuses are air spaces that fill your cheeks, forehead, and areas between your eyes. While the bones of the face and forehead may feel solid, they are actually hollow. The hollow spaces are the sinuses. (See Figure) The anatomy of the sinuses and inflammation that occurs with sinusitis can help us to understand many of the symptoms that occur with sinusitis and similar conditions. Sinus “inflammation” refers to irritation and swelling in the sinuses..

Some symptoms are very common with sinusitis. Other symptoms occur less frequently. In addition, many symptoms that occur with sinusitis or sinus infections may also be seen with other nasal and sinus conditions. For example, viral [upper respiratory infections](#) (the common cold) or nasal [allergies](#) can lead to similar symptoms. This may cause confusion for the patient, and sometimes it may take a longer time to determine if you are experiencing sinusitis or another condition. Your Otolaryngologist (ENT physician) can help you identify the correct diagnosis and determine the best treatment for your condition.

COMMON SINUSITIS SYMPTOMS

- Nasal obstruction or nasal congestion
- Thick & discolored drainage
- Decreased smell or taste
- Facial pressure, discomfort or fullness

LESS COMMON SINUSITIS SYMPTOMS

- Headache
- Fatigue
- Bad breath

- Fever
- Upper tooth pain
- Cough
- Ear pressure

Since many of these symptoms may overlap with other nasal and sinus conditions, the timing, specific combination of symptoms, and other tests can often help to find the correct diagnosis for your problem. These items are discussed in the following sections.

TIME COURSE

One to two weeks: Inflammation of the paranasal sinuses that is present for less than a week or two is usually due to a **viral infection**, also known as a viral [upper respiratory infection](#), or the common cold. Some symptoms commonly occur with viral upper respiratory infections but NOT with bacterial sinus infections. These include fever, fatigue, sore throat, and muscle aches. Because a viral URI, or the common cold, is usually caused by a virus, antibiotics are not recommended. Antibiotics will not speed the recovery from a viral URI, since antibiotics do not stop viruses from growing. In the case of viral URI, typical recommendations include rest, drinking plenty of fluids, and treating symptoms with appropriate over-the-counter medications as directed by your physician. We are exposed to airborne viruses frequently, and healthy adults may get a few viral infections per year. People exposed to young children often have more viral upper respiratory infections because children average about 6 episodes of URI's a year until their immune system gets stronger.

If your symptoms do not improve as you reach 10 to 14 days, you may be suffering from acute bacterial sinusitis.

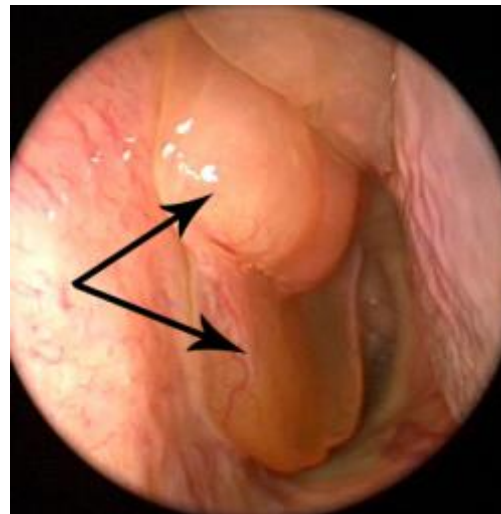
More than Two Weeks: Symptoms present for more than 2 weeks without improvement may be due to an acute sinus infection. This often occurs following a cold or a particularly bad allergy season (in a patient with environmental allergies). It is important to make this diagnosis because antibiotics, if chosen correctly, will speed recovery from symptoms.

More than a Few Months: If your symptoms have been going on for longer than several months, typically a bacterial infection is NOT the cause of the inflammation. In longstanding cases of sinusitis, also known as chronic sinusitis, non-infectious conditions are often the cause. For example, patients with chronic sinusitis may have nasal polyps or chronic swelling of the sinus lining. These types of problems may accompany asthma. It is common for patients with chronic sinusitis to have symptoms that become worse or better sometimes, but patients typically have some degree of symptoms at all times.

OTHER TESTS USED TO DIAGNOSE SINUSITIS

Nasal Endoscopy: When visiting your Otolaryngologist (ENT), it may be recommended that you undergo a "[nasal endoscopy](#)". This is a procedure performed in the physician's office. No sedation or general anesthesia is needed for the procedure. Typically, a spray will be applied to your nose to make the endoscopy more comfortable for you. The spray usually contains a decongestant and a topical anesthetic medication. The decongestant helps to shrink the nasal lining to allow the scope to pass more easily and the anesthetic numbs your nasal lining.

The scope used for a nasal endoscopy is a lighted tube that allows the structures in the nose and sinuses to be seen more easily than by simply looking into the front of the nostrils. Nasal endoscopes can help your Otolaryngologist see the anatomy of your nose, the degree of swelling of the nasal/sinus lining, mucus drainage coming from the sinus cavities, and nasal polyps (See Figure, dark arrows point to nasal polyps) or other findings. In addition, the nasal endoscopy procedure allows your physician to take cultures from any mucus drainage that is seen. Cultures taken during nasal endoscopy can help your physician choose the best antibiotic to treat your sinus infection. Cultures taken at random from the front of the nose or from blowing the nose are not reliable and should not be used to guide antibiotic choices. If necessary, biopsies and other procedures can also be performed during nasal endoscopy in the Otolaryngologist's office.



RADIOLOGIC STUDIES

X-Rays: X-rays were used in the past to image the sinuses, but plain X-rays are no longer routinely performed to help in diagnosing sinusitis. In current medical practice, a CT (CAT) scan is the study of choice for imaging the sinuses.

CT scan: Usually, radiologic studies are not performed for the initial diagnosis or treatment of sinus infections. However, your physician may recommend a CT scan of the sinuses in certain cases. After treatment of chronic sinusitis with nasal washes, nasal steroid sprays and antibiotics or other medications, it is common for a physician to obtain a CT scan of the sinuses, if you are still having symptoms. This CT scan helps the physician determine if the medicines cleared the sinus infection, or if any additional treatment is recommended. In addition, if the diagnosis of sinusitis is unclear or does not fit typical symptoms, a CT may be ordered to help guide your treatment. Since so many things can mimic a sinus infection, a sinus CT scan that shows no sinusitis is valuable. A "negative" or "clear" sinus CT scan allows the physician to consider other causes of symptoms besides sinusitis. Finally, if more serious complications of a sinus infection are suspected, such as spread to the orbits (eye sockets) or brain, a CT scan may be obtained for diagnosis.

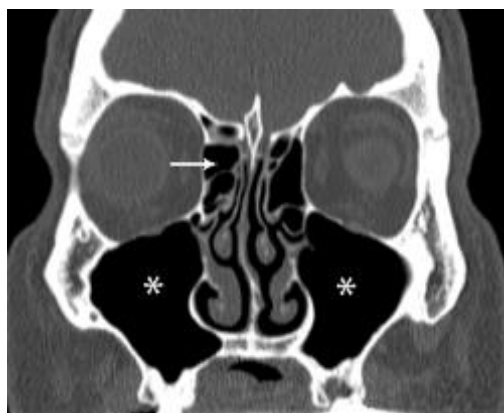
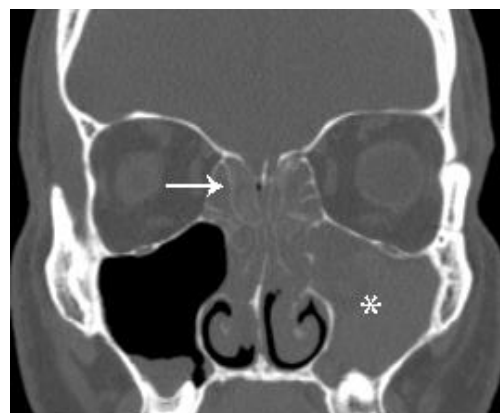


Figure Legend: Ethmoid sinus (white arrow). Maxillary sinus (asterisk)



MRI scan: MRI scans are not typically ordered for sinusitis.

Limitations of radiologic studies: While CT scans can be helpful in diagnosing sinus problems and

helping to guide treatment, any radiologic study is simply a picture taken at one time. Symptoms can change over time, and this may lead your physician to recommend additional studies at a later time. A sinus CT carries a small risk from radiation exposure and should only be obtained if (1) the results will change your treatment, (2) sinus surgery is being considered, or (3) if the sinusitis is causing a complication (see complications section below). In addition, the sinus abnormalities seen on CT scan in cases of viral [upper respiratory infection](#) (URI) are no different than those seen for bacterial sinusitis. For this reason, the diagnosis and treatment of these early stage infections are typically based on symptoms and time course, rather than imaging studies.

OTHER DISEASES THAT MAY MIMIC SINUSITIS

Viral Upper Respiratory Infection (URI) or Common Cold: While many of the symptoms of a viral cold are the same as bacterial sinusitis, these conditions are treated differently. See the section above entitled TIME COURSE – ONE TO TWO WEEKS.

Environmental Allergies: The symptoms of environmental allergies and sinusitis overlap to some degree. Additionally, some patients may have both allergies and sinusitis. Some symptoms that are more common with environmental allergies (and less common with sinusitis) include sneezing, clear nasal drainage, itchy nose or throat, itchy watery eyes, itchy skin, and eczema. In addition, allergy symptoms tend to fluctuate with the seasons or with a change in your environment, such as going from indoors to outdoors. Most people with allergies will notice specific triggers for their symptoms like increases in the pollen count or coming into contact with a cat or dog.

Headaches: “[Sinus headache](#)” is a common term, but can be misleading. Facial pain/pressure or headache that occurs without nasal congestion or discolored drainage is only rarely associated with true sinusitis. There are many causes of headaches and facial pain. These include migraine headaches, tension headaches, temporomandibular joint (TMJ or jaw joint) problems, and dental issues, as well as rarer causes of headaches like tumors. Your physician can help you determine the best evaluation and treatment for your headache.

Acid Reflux: Acid reflux (stomach acid coming up to irritate the esophagus or throat) may contribute to a number of symptoms that are commonly associated with sinusitis. These include thick phlegm in the throat, post-nasal drainage, chronic throat clearing, and intermittent voice changes. Acid reflux is treated differently than sinusitis, so it is important to make the appropriate diagnosis and begin appropriate treatment for your condition.

MORE SERIOUS CONCERNS RELATED TO SINUS INFECTIONS

In rare cases, sinus infections may spread outside the sinus cavities. The orbits (eye sockets) and brain are located close to the sinus cavities and may be involved with sinus infections in very rare cases. If you experience any of the symptoms below in association with a sinus infection, you should seek medical attention immediately.

- Severe, unrelenting headache
- Stiff neck
- Confusion
- High fever
- Double vision (or other vision changes)
- Swelling or redness of the eye or eyelids

EVERY PATIENT IS DIFFERENT

We have discussed the most common symptoms, time course, and diagnostic tests for sinusitis. However, please remember that every patient is different. In certain cases, sinus infections do not follow the typical course or symptom presentation. If you are uncertain about your particular sinus problem, please consult with your physician.



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