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Patient information: Acute sinusitis (sinus infection) (Beyond the Basics)

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Disclosures

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ACUTE SINUSITIS OVERVIEW — Rhinosinusitis, or more commonly sinusitis, is the medical term for inflammation (swelling) of the lining of the sinuses and nose. The sinuses are the hollow areas within the facial bones that are connected to the nasal openings ([figure 1](#)). The sinuses are lined with mucous membranes, similar to the inside of the nose.

There are two main types of sinusitis: acute and chronic. Acute sinusitis is inflammation that lasts for less than four weeks while chronic sinusitis lasts for more than 12 weeks. Acute sinusitis is common, affecting approximately one million people per year in the United States.

This article will discuss the causes, symptoms, and treatment of acute sinusitis in adults. Information about the common cold is also available separately. (See "[Patient information: The common cold in adults \(Beyond the Basics\)](#)".)

ACUTE SINUSITIS CAUSES — The most common cause of acute sinusitis is a viral infection associated with the common cold. Bacterial sinusitis occurs much less commonly, in only 0.5 to 2 percent of cases, usually as a complication of viral sinusitis.

Because antibiotics are effective only against bacterial, and not viral, infections, most people do not need antibiotics for acute sinusitis. (See "[Acute sinusitis and rhinosinusitis in adults: Clinical manifestations and diagnosis](#)".)

ACUTE SINUSITIS SYMPTOMS — Symptoms of acute sinusitis include:

- Nasal congestion or blockage
- Thick, yellow to green discharge from the nose
- Pain in the teeth
- Pain or pressure in the face that is worse when bending forwards

Other acute sinusitis symptoms can include fever (temperature greater than 100.4°F or 38°C), fatigue, cough, difficulty or inability to smell, ear pressure or fullness, headache, and bad breath.

In most cases, these symptoms develop over the course of one day and begin to improve within seven to 10 days.

DO I NEED TO BE EXAMINED? — It is difficult to know if you have a viral or bacterial sinus infection initially. However, most people with a viral infection improve without treatment within seven to 10 days after symptoms begin. Bacterial sinusitis also sometimes improves without treatment, although it can also worsen and require treatment.

If one or more of the following bothersome symptoms last **more** than seven days, an examination by a healthcare

provider is recommended:

- Thick, yellow to green discharge from the nose
- Face or tooth pain, especially if it is only on one side
- Tenderness over the maxillary sinuses (located on the left and right side of the nose, inside the cheekbones)
- Symptoms that initially improve and then worsen

When to seek immediate help — If you have one or more of the following symptoms, you should seek medical attention immediately (even if symptoms have been present for less than seven days):

- High fever (>102.5° F or 39.2° C)
- Sudden, severe pain in the face or head
- Double vision or difficulty seeing
- Confusion or difficulty thinking clearly
- Swelling or redness around one or both eyes
- Stiff neck, shortness of breath

ACUTE SINUSITIS TREATMENT — Initial treatment of a sinus infection aims to relieve symptoms since almost everyone will improve within the first 7 to 10 days. Experts recommend avoiding antibiotics during this time unless there is clear evidence of a severe bacterial infection. (See '[Moderate or severe symptoms](#)' below.)

Initial treatment

Pain relief — Non-prescription pain medications, such as [acetaminophen](#) (eg, Tylenol®) or [ibuprofen](#) (eg, Motrin®, Advil®) are recommended for pain.

Nasal irrigation — Flushing the nose and sinuses with a saline solution several times per day can help to decrease pain caused by congestion. Instructions for nasal irrigation are provided in the table ([table 1](#)).

Nasal decongestants — Nasal decongestant sprays, including [oxymetazoline](#) (Afrin®) and [phenylephrine](#) (Neo-synephrine®) can be used to temporarily treat congestion. However, these sprays should not be used for more than two to three days due to the risk of rebound congestion (when the nose is congested constantly unless the medication is used repeatedly).

Other treatments — Other treatments for congestion, such as oral antihistamines (such as [diphenhydramine](#)/Benadryl®) or zinc supplements are not proven to improve symptoms of sinusitis and can have unwanted side effects. Medications to thin secretions (such as [guaifenesin](#)) may help to clear mucus.

Second-line treatment — If symptoms have not improved in seven to ten days, you should arrange for medical evaluation. You may need further treatment.

Nasal steroids — Nasal steroids (steroids delivered by a nasal spray) can help to reduce swelling inside the nose, usually within two to three days. These drugs have few side effects and dramatically relieve symptoms in most people.

There are a number of nasal steroids available by prescription. These drugs are all effective, but differ in how frequently they must be used and how much they cost.

You may need to use a nasal decongestant for a few days before starting a nasal steroid to reduce nasal swelling; this will allow the nasal steroid to reach more areas of the nasal passages. (See '[Nasal decongestants](#)' above.)

Do I need an antibiotic? — If bothersome symptoms of sinusitis persist for 10 or more days, it is possible that you have bacterial sinusitis. The need for antibiotics depends upon the severity of your symptoms.

Mild symptoms — There are two possible treatment options if you have **mild** sinusitis symptoms: treat with antibiotics or continue to watch and wait for one week.

Watching and waiting is a reasonable option because up to 75 percent of people with bacterial sinusitis improve within one month without antibiotics. During the watch and wait period, treatments to improve symptoms are recommended.

(See ['Initial treatment'](#) above.)

If symptoms worsen or do not improve after watching and waiting, treatment with an antibiotic is usually recommended. Treatments to relieve symptoms are recommended while using antibiotics. (See ['Initial treatment'](#) above and ['Nasal steroids'](#) above.)

Moderate or severe symptoms — Most healthcare providers will prescribe an antibiotic for moderate to severe symptoms (temperature >38.3° C or 101° F and/or severe pain that interferes with usual activities).

Treatments to relieve symptoms are also recommended during antibiotic treatment. (See ['Initial treatment'](#) above and ['Nasal decongestants'](#) above.)

One of the least expensive and most effective antibiotics for sinusitis is [amoxicillin](#). An alternate antibiotic will be prescribed if you are allergic to penicillin. Regardless of which antibiotic is prescribed, it is important to follow the dosing instructions carefully and to finish the entire course of treatment. Taking the medication less often than prescribed or stopping the medication early can lead to complications, such as a recurrent infection.

What if I do not improve with treatment? — If you do not improve or worsen after a course of antibiotics, you should be re-examined. Further testing may be recommended, such as x-ray or CT scan imaging, or an exam of the inside of the sinuses. (See ["Acute sinusitis and rhinosinusitis in adults: Clinical manifestations and diagnosis"](#) and ["Acute sinusitis and rhinosinusitis in adults: Treatment"](#).)

In some cases, symptoms of sinusitis improve but then recur. This is usually because the infection was not completely eliminated by the antibiotic. An alternate antibiotic, extended antibiotic treatment, and/or further testing may be recommended, depending upon your individual situation.

WHERE TO GET MORE INFORMATION — Your healthcare provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our web site (www.uptodate.com/patients). Related topics for patients, as well as selected articles written for healthcare professionals, are also available. Some of the most relevant are listed below.

Patient level information — UpToDate offers two types of patient education materials.

The Basics — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

[Patient information: Sinusitis in adults \(The Basics\)](#)

[Patient information: Chronic sinusitis \(The Basics\)](#)

[Patient information: Rinsing out your nose with salt water \(The Basics\)](#)

Beyond the Basics — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

[Patient information: The common cold in adults \(Beyond the Basics\)](#)

Professional level information — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

[Acute sinusitis and rhinosinusitis in adults: Clinical manifestations and diagnosis](#)

[Clinical manifestations, pathophysiology, and diagnosis of chronic rhinosinusitis](#)

[Fungal rhinosinusitis](#)

[Management of chronic rhinosinusitis](#)

[Microbiology and antibiotic management of chronic rhinosinusitis](#)

[Acute sinusitis and rhinosinusitis in adults: Treatment](#)

The following organizations also provide reliable health information.

- National Library of Medicine

(www.nlm.nih.gov/medlineplus/healthtopics.html)

- National Institute of Allergy and Infectious Diseases

(www3.niaid.nih.gov/topics/sinusitis/)

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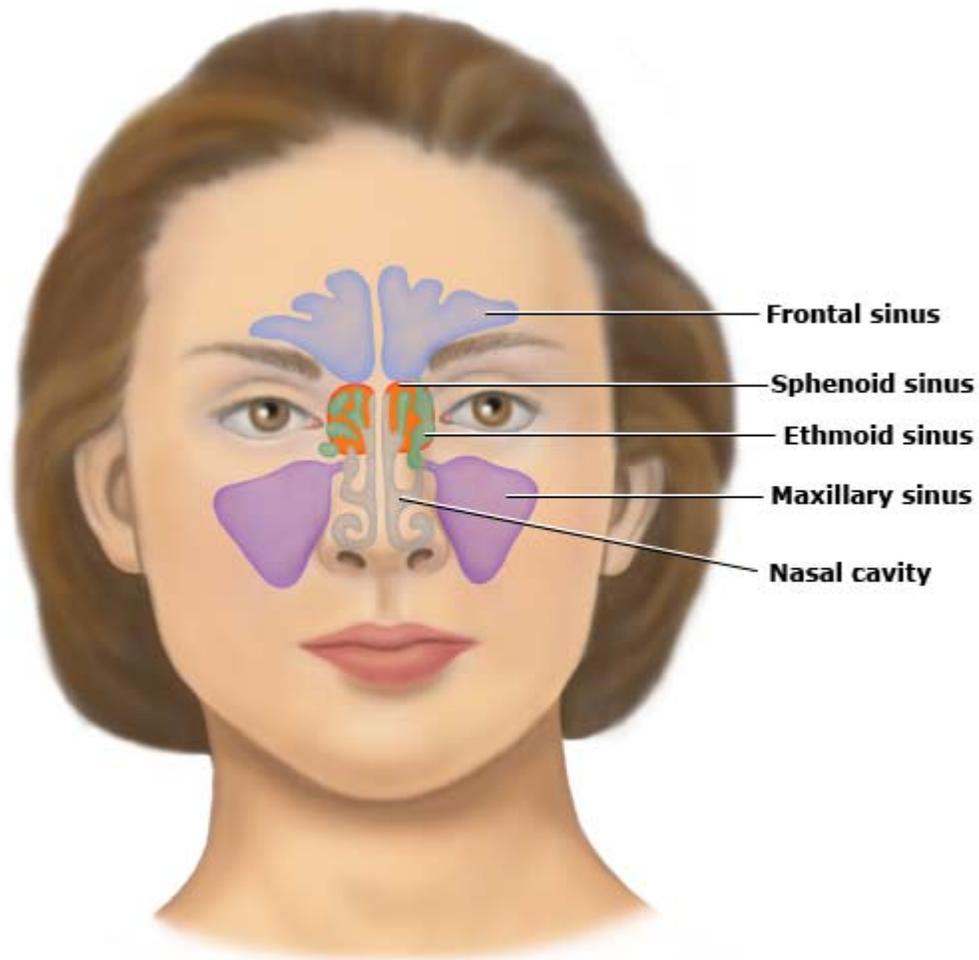
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GRAPHICS

Sinuses of the face



This drawing shows the sinuses of the face.

How to perform nasal irrigation

Buffered normal saline nasal irrigation
The benefits
1. Saline (saltwater) washes the mucus and irritants from your nose.
2. The sinus passages are moisturized.
3. Studies have also shown that a nasal irrigation improves cell function (the cells that move the mucus work better).
The recipe
Use a one-quart glass jar that is thoroughly cleansed.
You may use a large medical syringe (30 cc), water pick with an irrigation tip (preferred method), squeeze bottle, or Neti pot. Do not use a baby bulb syringe. The syringe or pick should be sterilized frequently or replaced every two to three weeks to avoid contamination and infection.
Fill with water that has been distilled, previously boiled, or otherwise sterilized. Plain tap water is not recommended because it is not necessarily sterile.
Add 1 to 1½ heaping teaspoons of pickling/canning salt. Do NOT use table salt because it contains a large number of additives.
Add 1 teaspoon baking soda (pure bicarbonate).
Mix ingredients together and store at room temperature. Discard after one week.
You may also make up a solution from premixed packets that are commercially-prepared specifically for nasal irrigation.
The instructions
Irrigate your nose with saline one to two times per day.
<ul style="list-style-type: none"> • If you have been told to use nasal medication, you should always use your saline solution first. The nasal medication is much more effective when sprayed onto clean nasal membranes, and the spray will reach deeper into the nose.
<ul style="list-style-type: none"> • Pour the amount of fluid you plan to use into a clean bowl. DO NOT put your used syringe back into the storage container because it contaminates your solution.
<ul style="list-style-type: none"> • You may warm the solution slightly in the microwave, but be sure that the solution is NOT HOT.
<ul style="list-style-type: none"> • Bend over the sink (some people do this in the shower) and squirt the solution into each side of your nose, aiming the stream toward the back of your head, NOT the top of your head. The solution should flow into one nostril and out the other, but it will not harm you if you swallow a little.
<ul style="list-style-type: none"> • Some people experience a little burning sensation the first few times they use buffered saline solution, but this usually goes away after they adapt to it.

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