

# Patient education: Acute sinusitis (sinus infection) (Beyond the Basics)

## 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. 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 4 weeks, subacute sinusitis lasts from 4 to 12 weeks, while chronic sinusitis lasts for more than 12 weeks. Acute sinusitis is common.

## ACUTE SINUSITIS CAUSES

The most common cause of acute sinusitis is a viral infection associated with the common cold. This condition is also called viral sinusitis. 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 with acute sinusitis do not need antibiotics and would be putting themselves at risk for medication side effects and for developing antibiotic resistance by taking them for nonbacterial sinusitis. Most adults with normal immune systems can also clear bacterial infections without antibiotics.

## ACUTE SINUSITIS SYMPTOMS

Symptoms of acute sinusitis include:

- Thick, yellow to green discharge from the nose
- Nasal congestion or blockage
- Facial pain, pressure, or fullness

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 by 7 to 10 days.

## DO I HAVE VIRAL OR BACTERIAL SINUSITIS?

It is difficult to know if you have a viral or bacterial sinus infection initially. Studies show that duration of symptoms cannot always be used to distinguish between viral and bacterial sinusitis, even when lasting longer than 7 to 10 days.

If symptoms of sinusitis last **more** than 10 days, or if you have symptoms that initially improve but then worsen again within the first 7 days ("double-worsening"), you may have bacterial sinusitis.

## DO I NEED TO BE EXAMINED?

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):

- Persistent high fever ( $>102^{\circ}\text{F}$ )
- 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

You may also want to see a health care provider if you have symptoms that last more than 10 days or for symptoms that initially improve and worsen again.

## ACUTE SINUSITIS TREATMENT

Treatment for sinusitis involves symptom relief and may or may not include antibiotic therapy. You should speak with your health care provider about whether or not you need antibiotic therapy. Whether the sinusitis is bacterial or viral, it can often improve with nonantibiotic treatment, although bacterial sinusitis can also worsen and require antibiotic treatment.

**Symptomatic treatment** — Symptomatic treatment of a sinus infection aims to relieve symptoms. These treatments do not shorten the duration of illness.

**Pain relief** — Nonprescription 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 decrease pain associated with congestion and shorten the duration of symptoms. A variety of devices, including syringes, Neti pots, and bottle sprayers, may be used to perform nasal irrigation. Your doctor or pharmacist can recommend a nasal irrigation kit. These are available without a prescription.

**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 relieve symptoms in most people.

There are a number of nasal steroids available by prescription as well as a few that can be purchased without a prescription (over the counter). These drugs are all effective but differ in how frequently they must be used and how much they cost.

**Nasal anticholinergics** — Ipratropium bromide (delivered by a nasal spray) is available by prescription and can be very effective in decreasing the symptom of runny nose and other related symptoms (eg, post-nasal drainage, sore throat). These sprays, like all medications, can interact with other medications. So, it is important that your complete medication list be reviewed by your physician before you take this medication.

**Other treatments**

- Oral decongestants** – Oral decongestants (most commonly pseudoephedrine and phenylephrine) may be helpful if you have associated symptoms of ear pain or fullness.
- Nasal decongestant sprays** – 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 becomes congested constantly unless the medication is used repeatedly), possible addiction, and long-term consequences of frequent use, including persistent nasal dryness and crusting, which is very difficult to treat once it has developed.
- Oral antihistamines** – Oral antihistamines (such as diphenhydramine/Benadryl) are not proven to improve symptoms of sinusitis and can have unwanted side effects.
- Mucolytics** – Medications to thin secretions (such as guaifenesin) may help to clear mucus.

**Observation** — Observation (continuing to watch and wait) is an option for treatment for many patients. You should speak with your health care provider about whether or not this is the best option for you.

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. If symptoms worsen with observation, treatment with an antibiotic is usually started. (See '[Symptomatic treatment](#)' above.)

**Antibiotics** — Bacterial sinusitis does not always need to be treated with antibiotics, as many patients improve without antibiotics. You should speak with your health care provider about whether or not you need antibiotics. Patients who have worsening symptoms after being managed with watchful waiting are usually started on antibiotics. Treatments to relieve symptoms are also recommended during antibiotic treatment. (See '[Observation](#)' above and '[Symptomatic treatment](#)' 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 or if you live in an area where resistance to that particular antibiotic is high. 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 if you worsen after a course of antibiotics, you should be reexamined. You may need a different antibiotic or further evaluation with imaging or an exam of the inside of the sinuses.

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.