

SINUS

Medication treatment:

There are many different over-the-counter (OTC) medications available to relieve the common complaints of sinus pain and pressure, allergy problems, and nasal congestion. Most of these medications are combination products that associate either a pain reliever such as acetaminophen with a decongestant or an antihistamine. Knowledge of these products and of the probable cause of symptoms will help the consumer to decide which product is best suited to relieve the common symptoms associated with nasal or sinus inflammation. OTC nasal medications are designed to reduce symptoms produced by the inflammation of nasal membranes and sinuses. The goals of OTC medications are to:

- reopen to nasal passages
- reduce nasal congestion
- relieve pain and pressure symptoms
- reduce potential for complications.

Nasal saline sprays

Nasal saline is an invaluable addition to the list of over-the-counter medications. It is ideal for all types of nasal problems. The added moisture produced by the saline reduces thick secretions and assists in the removal of infectious agents. There is no risk of becoming "addicted" to nasal saline. It should be applied as a mist to the nose up to six times per day. Nasal saline can also be made at home: contact your otolaryngologist for details.

Nasal decongestant sprays

Afrin nasal spray, Neo-Synephrine, Otrivin, Dristan nasal spray, and other brands decongest the swollen nasal membranes. They clear nasal passages almost immediately and are useful in treating the initial stages of a common cold or viral infection. Nasal decongestant sprays are safe to use, especially appropriate for preventing eustachian tube problems when flying, and to halt progression of sinus infections following colds. However, they should only be utilized for 3-5 days because prolonged use leads to rebound congestion or "getting hooked on nasal sprays." The patient with nasal swelling caused by seasonal allergy problems should use a cromolyn sodium nasal spray. The spray must be used frequently (four times a day) during allergy season to prevent the release of histamine from the tissues, which starts the allergic reaction. It works best before symptoms become established by stabilizing the nasal membranes and has few side effects.

Decongestant medications

Pressure and congestion are common symptoms of nasal passage swelling. Decongestant medications are OTC products that relieve nasal swelling, pressure, and congestion but do not treat the cause of the inflammation. They reduce blood flow to the nasal membranes leading to improved airflow, less breathing through the mouth, decreased pressure in the sinuses and head, and subsequently less discomfort. Decongestants do not relieve drippy noses. Their side effects may include light-headedness or giddiness and increased blood pressure and heart rate (patients with high blood pressure or heart problems should consult a physician before use). In addition, other medications may interact with oral decongestants causing side effects. Both of these are available as single products or in combination with a pain reliever or an antihistamine. They are labeled as "non-drowsy" due to a side effect of stimulation of the nervous system.

Decongestant-combination products

Some medications are combined to reduce the number of pills. Tylenol® Sinus or Advil Cold and Sinus® exemplify products that join a pain reliever (acetaminophen or ibuprofen) with a decongestant (pseudoephedrine). These products relieve both sinus and cold/flu symptom, and yet retain all the attributes of the individual drug including side effects.

Antihistamine medications

Antihistamines combat allergic problems leading to nasal congestion. OTC antihistamines such as diphenhydramine (Benadryl®), or clemastine (Tavist®) may be used for relieving allergic symptoms of itching, sneezing, and nasal congestion. They relieve the drainage associated with the allergic inflammation but not obstruction or congestion. Antihistamines have a potential for sedation causing grogginess and dryness after use. Newer non-sedating antihistamines are available.

Antihistamine-decongestant combination products

Antihistamines and decongestant products are often combined to relieve multiple symptoms of congestion and drainage and reduce the side effects of both products. Antihistamines produce sedation; decongestants are added to make them "non-drowsy." The combined allergy product then relieves congestion and a runny nose.

Antibiotics Acute sinusitis is one of many medical disorders that can be caused by a bacterial infection. However, it is important to remember that colds, allergies, and environmental irritants, which are more common than bacterial sinusitis, can also cause sinus problems. Antibiotics are effective only against sinus problems caused by a bacterial infection. The following symptoms may indicate the presence of a bacterial infection in your sinuses

- Pain in your cheeks or upper back teeth
- A lot of bright yellow or green drainage from your nose for more than 10 days
- No relief from decongestants
- Symptoms that get worse instead of better after your cold is gone.
-

Most patients with a clinical diagnosis of acute sinusitis caused by a bacterial infection improve without antibiotic treatment. Your physician will initially offer appropriate doses of analgesics (pain-relievers), antipyretics (fever reducers), and decongestants. However if symptoms persist, a treatment consisting of antibiotics may be recommended.

Surgical treatment:

The most common corrective surgery approach for treatment of acute or chronic sinus inflammation is endoscopic sinus surgery or navigated sinus surgery, or a combination of both. Both techniques are much less invasive than older conventional surgical methods. Nevertheless, the extent of sinus disease varies from person to person. Surgery may therefore be a relatively minimal procedure or an extensive and prolonged operation.

Even with a long regimen of antibiotics, chronic sinusitis symptoms can be difficult to treat. In general, however, treating chronic sinusitis, such as with antibiotics and decongestants, is similar to treating acute sinusitis. When antibiotic treatment fails and infections are recurrent and/or non-responsive to the medication, allergy testing, desensitization, and/or surgery may be recommended as the most effective means for treating chronic sinusitis. When this occurs, surgery to enlarge the openings that drain the sinuses is an option. Research studies suggest that the vast majority of people who undergo surgery have fewer symptoms and better quality of life.

A recommendation for sinus surgery in the early 20th century would easily alarm the patient. In that era, the surgeon would have to perform an invasive procedure, reaching the sinuses by entering through the cheek area, often resulting in scarring and possible disfigurement. Today, these concerns have been eradicated with the latest advances in medicine. A trained surgeon can now treat sinusitis with minimal discomfort, a brief convalescence, and few complications. A clinical history of the patient will be created before any surgery is performed. A careful diagnostic workup is necessary to identify the underlying cause of acute or chronic sinusitis, which is often found in the anterior ethmoid area, where the maxillary and frontal sinuses connect with the nose. This may necessitate a sinus computed tomography (CT) scan (without contrast), nasal physiology (rhinomanometry and nasal cytology), smell testing, and selected blood tests to determine an operative strategy.

Functional endoscopic sinus surgery (FESS)

Developed in the 1950s, the nasal endoscope has revolutionized sinusitis surgery. In the past, the surgical strategy was to remove all sinus mucosa from the major sinuses. The use of an endoscope is linked to the theory that the best way to obtain normal healthy sinuses is to open the natural pathways to the sinuses. Once an improved drainage system is achieved, the diseased sinus mucosa has an opportunity to return to normal. FESS involves the insertion of the endoscope, a very thin fiber-optic tube, into the nose for a direct visual examination of the openings into the sinuses. With state of the art micro-telescopes and instruments, abnormal and obstructive tissues are then removed. In the majority of cases, the surgical procedure is performed entirely through the nostrils, leaving no external scars. There is little swelling and only mild discomfort. The advantage of the procedure is that the surgery is less extensive,

there is often less removal of normal tissues, and can frequently be performed on an outpatient basis. After the operation, the patient will sometimes have nasal packing. Ten days after the procedure, nasal irrigation may be recommended to prevent crusting.

Image-guided surgery

The sinuses are physically close to the brain, the eye, and major arteries, always areas of concern when a fiber optic tube is inserted into the sinus region. The growing use of a new technology, image-guided endoscopic surgery, is alleviating that concern. This type of surgery may be recommended for severe forms of chronic sinusitis, in cases when previous sinus surgery has altered anatomical landmarks, or where a patient's sinus anatomy is very unusual, making typical surgery difficult. Image-guidance is a near-three-dimensional mapping system that combines computed tomography (CT) scans and real-time information about the exact position of surgical instruments using infrared signals. In this way, surgeons can navigate their surgical instruments through complex sinus passages and provide surgical relief more precisely.

Caldwell Luc operation

Another option is the Caldwell-Luc operation, which relieves chronic sinusitis by improving the drainage of the maxillary sinus, one of the cavities beneath the eye. The maxillary sinus is entered through the upper jaw above one of the second molar teeth. A "window" is created to connect the maxillary sinus with the nose, thus improving drainage. The operation is named after the American physician George Caldwell and French laryngologist Henry Luc, and is most often performed when a malignancy is present in the sinus cavity.