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Chronic Sinusitis

Chronic sinusitis is a persisting inflammatory condition of one or more sinuses. It is less common than acute sinusitis but appears to be getting more common in all age groups. Various treatments may be tried. Surgery to improve the drainage of the sinus is an option if other treatments fail, and usually works well.

What are the sinuses?

The sinuses are small, air-filled spaces inside the cheekbones and forehead. They make some mucus which drains into the nose through small channels.

What is sinusitis?

Sinusitis means inflammation of a sinus. Most bouts of sinusitis are caused by an infection. The cheekbone (maxillary) sinuses are the most commonly affected.

Acute sinusitis means that the infection develops quickly (over a few days) and lasts a short time. Many cases of acute sinusitis last a week or so but it is not unusual for it to last 2-3 weeks (that is, longer than most colds). Sometimes it lasts longer. Sinusitis is said to be acute if it lasts from 4-30 days and subacute if it lasts from 4-12 weeks. A mild bout of acute sinusitis is common and many people will have some degree of sinusitis with a cold. Severe acute sinusitis is uncommon. Most people only ever have one or two bouts of acute sinusitis in their life. However, some people have repeated (recurring) bouts of acute sinusitis. [See separate leaflet called Acute Sinusitis for more details.](#)

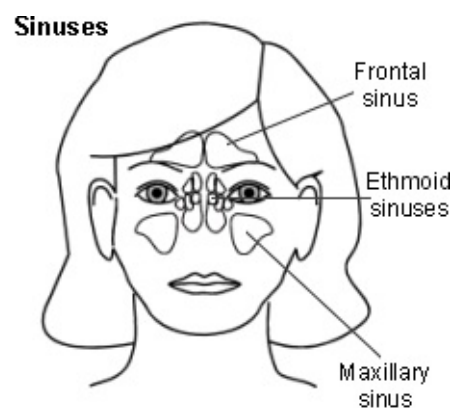
Chronic sinusitis means that a sinusitis becomes persistent and lasts for longer than 12 weeks. Chronic sinusitis is uncommon.

The rest of this leaflet is just about chronic sinusitis.

How do you get chronic sinusitis?

Most cases of chronic sinusitis develop following an acute sinusitis infection. Most cases of acute sinusitis go away within 2-3 weeks, often much sooner. In some cases the symptoms do not go and become persistent (chronic). The following are causes of acute sinusitis that may progress into a chronic sinusitis:

- **Cold or flu-like illnesses** - in most cases, acute sinusitis develops from a [cold](#) or [flu-like illness](#). Colds and flu are caused by germs called viruses which may spread to the sinuses. The infection may remain viral before clearing, causing a viral sinus infection. In a small number of cases, germs called bacteria add on to an infection that started with a virus. This can cause a bacterial sinus infection which can make the infection worse, last longer and may cause more damage or changes to the lining of the sinus.
- **Dental infections** - in some cases, infection spreads to a cheekbone (maxillary) sinus from an infected tooth.



- **Other risk factors for sinus infection** - in a few people, one or more factors are present that may cause their sinuses to be more prone to infection. Acute sinusitis may be more likely to progress into chronic sinusitis as there is an underlying problem. Such factors include:
 - Nasal allergy (allergic rhinitis). The allergy may cause swelling of the tissues on the inside lining of the nose and block the sinus drainage channels. This makes the sinuses more susceptible to infection. See separate leaflets called **Hay Fever** and **Persistent Rhinitis** which discuss allergic rhinitis in more detail.
 - Other causes of a blockage to the sinus drainage channels, such as:
 - Growths (**nasal polyps**).
 - Objects pushed into the nose (especially in children, such as peas or plastic beads).
 - Facial injury or surgery.
 - Certain congenital abnormalities. ('Congenital' means you are born with these abnormalities.)
- **Asthma.**
- **Cystic fibrosis.**
- A poor immune system - for example, people with **HIV**, people on **chemotherapy**, etc. A poor immune system makes you more prone to any infection. Fungal infections are rare causes of sinusitis and occur most commonly in people with a poor immune system.
- Inflammatory disorders such as **Wegener's granulomatosis** or **sarcoidosis**.
- **Pregnancy**, which makes you more prone to nasal inflammation (rhinitis).
- Primary ciliary dyskinesia/Kartagener's syndrome.
- Rare tumours of the nose.
- **Smoking.**
- **Diabetes.**
- **Sniffing substances** that irritate the lining of the nose (for example, cocaine).
- Previous injury to the nose or cheeks.

If you develop chronic sinusitis after an acute sinus infection, you may continue to get symptoms even though the infection has gone. (This is why treating chronic sinusitis with a normal course of antibiotics does not often work.) After being initially triggered by an infection, the persisting symptoms may be due to a combination of factors. For example:

- Poor drainage of the affected sinus - the sinus drainage channel may become fully or partially blocked.
- A build-up of mucus in the sinus.
- Inflammatory changes to the lining of the sinus that result from infection.
- A flare-up of infection from time to time as a result of these changes.

Sometimes, a persisting allergy can cause inflammation in a sinus and swelling or blockage of the drainage channel.

What are the symptoms of chronic sinusitis?

The most prominent symptom is usually a blocked nose (nasal obstruction). One or more of the following may also occur:

- **Arunny nose**. The discharge may be green/yellow.
- **A reduced sense of smell**.
- **Pain** over the affected sinus. However, pain is often not a main feature of chronic sinusitis (unlike acute sinusitis). In many cases, it is more of a feeling of facial fullness or mild discomfort rather than pain.

The severity of your symptoms may wax and wane. They may be worst during an initial acute sinusitis. They may then ease off and not be as severe, leaving a background level of symptoms. (For example, you may just have nasal stuffiness rather than a fully blocked nose, as well as some mild facial discomfort.) You may then develop another episode of acute sinusitis making symptoms worse again. For a diagnosis of chronic sinusitis, symptoms must have been present for longer than 12 weeks.

Other symptoms that sometimes occur include:

- Headache
- Bad breath
- Toothache
- Cough
- A feeling of pressure or fullness in the ears
- Tiredness

In children, symptoms may include:

- Irritability
- Snoring
- Mouth breathing
- Feeding difficulty
- Nasal speech

Do I need any tests?

Your doctor can usually diagnose chronic sinusitis based on your symptoms. They may ask questions to determine if there could be an underlying problem causing your chronic sinusitis. For example, asthma, nasal allergy (allergic rhinitis), chronic dental infection, etc. Your doctor may also examine your nose to check for any obvious abnormalities or deviation of the bones in your nose and to look for any other problems, such as growths (nasal polyps).

If you develop chronic sinusitis that is not easy to treat with straightforward measures, your doctor may suggest that you be referred to an Ear, Nose and Throat specialist. The specialist may do various tests to see if there is an underlying cause which makes you more prone to develop sinusitis (mentioned above). For example, a scan of the sinuses or a detailed look into the nasal cavity.

What are the treatments for chronic sinusitis?

Treatment of any underlying problem

If you have an underlying problem that may have caused or contributed to your chronic sinusitis, treating this will usually help your symptoms. For example, this may mean treatment for nasal allergy (allergic rhinitis), treatment of a dental infection, treatment of asthma, treatment of a fungal infection, etc.

Avoidance of things that may make your symptoms worse

If you have chronic sinusitis and you are a smoker, you may find that if you **stop smoking** your symptoms improve. This may especially be the case if you have allergies as well. You should also practise good **dental hygiene** if you are prone to chronic sinusitis, as it can be caused by a dental infection.

Scuba divers with nasal or sinus problems should be aware of the possible serious consequences of sinus barotrauma. (This is damage to your sinuses resulting from pressure differences when diving.) Recurrent barotrauma to sinuses can cause knock-on complications, such as serious infection and damage to nerves in the face and eye. If you have had chronic sinusitis and wish to dive, you should seek advice from your doctor.

Flying in an aeroplane may cause an increase in pain if there is blockage of the sinus drainage channel. With the change in air pressure in an aeroplane, the pressure does not equalise between the sinus and outside, due to the blockage. Pain tends to be worse when the aeroplane is descending to land.

Medical treatments

The sort of medicines that may be considered include the following:

- Steroids applied to the nasal lining using sprays (such as **beclometasone nasal spray**) or drops are recommended for all types of chronic sinusitis. This is because they help to reduce inflammation. A long course may be advised - for example, for three-months. Occasionally, if symptoms are severe, a course of steroid tablets by mouth may be suggested. However, these are more likely to produce side-effects. **See separate leaflet called Oral Steroids for more details.**
- Prolonged courses of antibiotics (3-4 weeks) are sometimes helpful but are best prescribed after full assessment by an Ear, Nose and Throat specialist .
- Antifungal medicines are needed if you have a fungal infection of a sinus (rare).

If you have a flare-up of more acute sinusitis symptoms on top of your background symptoms, one or more of the following may be helpful:

- **Painkillers**, such as **paracetamol** or **ibuprofen**, will usually ease any pain. Sometimes **stronger painkillers**, such as **codeine**, are needed for a short time.
- **Decongestant nasal sprays or drops** are sometimes used. You can buy these from pharmacies. They may briefly relieve a blocked nose. You should not use a decongestant spray or drops for more than 5-7 days at a time. If they are used for longer than this, they may cause a worse rebound congestion in the nose.
- Warm face packs held over the sinuses may help to ease pain.
- A saline nasal solution may help to relieve congestion and blockage within the nose.
- A short course of antibiotics may sometimes be advised by your doctor if they suspect germs (bacteria) have caused an infection.

Surgical treatments

Surgery is used mainly if the condition does not improve with the above medical treatments. The main purpose of surgery is to improve the drainage of the affected sinus.

The most common operation is called functional endoscopic sinus surgery (FESS). This involves a surgeon inserting an endoscope into the nose. The endoscope used for this procedure is a thin rigid instrument that contains lenses. The endoscope allows a detailed magnified view of inside the nose. The surgeon can see the opening of the sinus drainage channels. He or she can then remove any tissues that are blocking the drainage of the affected sinus. This can improve sinus drainage and ventilation and help to restore normal function to the sinus. This operation causes little damage (is minimally invasive). It usually has a high success rate in relieving symptoms of chronic sinusitis.

A more recently developed operation is called balloon catheter dilation of paranasal sinus ostia. This involves a surgeon pushing a small balloon through a flexible tube in the nostril, into the blocked sinus. The balloon is inflated which pushes wide the blocked area. The balloon is then deflated and removed. Following this procedure there is a good chance that the sinus drainage channel is widened and the sinus can drain properly.

Surgery may also sometimes be needed to remove nasal growths (polyps) or to correct problems with deviated bones inside the nose.

Are there any complications from chronic sinusitis?

Living with untreated chronic sinusitis can be unpleasant with the persistent symptoms but serious complications are uncommon. A sinus infection may (rarely) spread to nearby areas, such as around an eye, into adjoining bones, into the blood, or into the brain. Children are more prone than adults are to complications. Swelling or redness of an eyelid or cheek in a child with sinusitis should be reported to a doctor urgently.

Further reading & references

- **Guidelines for the management of rhinosinusitis and nasal polyposis**; British Society for Allergy and Clinical Immunology (2007)
- **Balloon catheter dilation of paranasal sinus ostia for chronic sinusitis**; NICE Interventional Procedure Guideline (September 2008)
- **Sinusitis**; NICE CKS, October 2013 (UK access only)

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