Chronic sinusitis

Peer reviewed by **Dr Colin Tidy, MRCGP**
Last updated by **Dr Doug McKechnie, MRCGP**
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Chronic sinusitis is inflammation of the sinuses that lasts a long time, usually defined as 12 weeks or more. It is less common than acute sinusitis, but appears to be getting more common in all age groups. There are lots of treatments. Surgery to improve the drainage of the sinus is an option if other treatments fail, and usually works well.

At a glance

- Chronic sinusitis is inflammation of the sinuses lasting over 12 weeks.
- It can cause a blocked or runny nose, reduced sense of smell, and pain or pressure in the sinuses.
- Causes vary but can include infections, smoking, allergies, pollution, and structural issues.
- Treatment often involves steroid nasal sprays, saline rinses, and addressing underlying problems.
- If medical treatments do not help, surgery may be considered to improve sinus drainage.
- See a doctor if a child with sinusitis has swelling or redness around their eye or cheek.

This summary has been automatically generated from the article content to help readers quickly understand the key points.

What is chronic sinusitis?

Sinusitis means inflammation of the sinuses. The sinuses are air-filled spaces in the bones around the nose and the skull. There are four pairs of sinuses.

Chronic sinusitis means a sinusitis that is persistent, usually meaning that it has lasted for longer than 12 weeks.

Chronic sinusitis usually happens at the same time as chronic rhinitis (inflammation of the nose). The combination is called chronic rhinosinusitis.

Chronic sinusitis is common, affecting in 1 in 10 adults in the UK.

Chronic sinusitis is different from acute sinusitis. Acute sinusitis lasts for a much shorter time. Acute sinusitis is usually due to an infection - often a virus, but sometimes a bacterial infection. Chronic sinusitis usually has a more complicated set of causes.

How do you get chronic sinusitis?

Chronic sinusitis has a complicated set of causes. The main problem in chronic sinusitis is inflammation in the sinuses, and this can be caused by lots of things. The cause of chronic sinusitis differs from person to person, and there may be more than one cause present.

Inflammation causes the lining of the sinuses to become swollen, and to produce more mucus. The swelling may prevent mucus draining out from the sinuses.

Things that may be involved in chronic sinusitis include:

Viral or bacterial infections

It's thought that certain viral infections could be the initial trigger for chronic sinusitis, perhaps by starting a process of inflammation that never fully resolves even after the virus has gone. Viral infections can also cause symptom flare-ups in people with chronic sinusitis.

There might also be a link with bacterial infections, although this is complex, controversial, and not fully understood. It's possible that chronic (long-lasting) bacterial infection may cause some cases of chronic sinusitis. Some evidence suggests that bacteria can form a 'biofilm', which stops the immune system from clearing them, and also stops antibiotics from working

It's also possible that, instead of one specific bacterial infection, that there are imbalances in the microbiome - the population of 'good' bacteria living in the nose and sinuses - which contribute to chronic sinusitis.

Smoking

Smoking is a strong risk factor for chronic sinusitis. Cigarette smoke damages the lining of the nose and sinuses, causing inflammation. It also leads to increased mucus production.

Passive smoking (exposure to second-hand smoke) can also cause chronic sinusitis.

Stopping smoking helps to improve chronic sinusitis.

Pollution and other airborne irritants

Breathing in pollutants and other irritants, such as pesticides, dust, cleaning agents, and toxic gases can also cause inflammation in the nose and sinuses, leading to chronic sinusitis.

This can particularly affect people in certain jobs, or living in certain areas; for example, chronic sinusitis is more common in firefighters and farmers.

Allergies

Allergies are more common in people with chronic sinusitis. Allergies, such as to dust mites, animal fur, and mould, can cause chronic rhinitis, and may make chronic sinusitis symptoms worse.

Allergies are more closely linked to some types of chronic sinusitis, and less of a factor in others.

Fungal infections

Fungi are a type of living organism. They include yeasts and moulds. Low levels of fungi are normally found living in many places in the body, including the nose and the sinuses. It's possible that overgrowth or imbalance in fungi growth might contribute to chronic sinusitis, although this is probably only a factor in a small number of cases.

There are some uncommon types of chronic sinusitis where fungal infections are clearly involved, such as:

- Allergic fungal rhinosinusitis, a type of chronic sinusitis that involves an allergic reaction to fungi in the nose and sinuses.
- Fungal ball, where fungi build up in a sinus and form a large clump, or ball.

Structural problems

Sometimes, changes in the shape of the nasal passages and the sinuses can cause narrowings, and prevent nasal mucus from draining properly. This can contribute to chronic sinusitis. Examples include:

- A deviated nasal septum (although this is extremely common, and most people with a deviated septum don't get chronic sinusitis).
- Nasal polyps.

Dental problems

The maxillary sinuses sit just above the upper jaw and teeth. Dental problems can cause maxillary sinusitis, such as:

- Gum disease.
- Dental infections, including deep infections or abscesses.
- Complications from dental procedures.

Sinusitis caused by dental problems is called odontogenic sinusitis.

Other medical conditions

Sometimes, chronic sinusitis can develop as a result of another medical condition. Examples include:

- Cystic fibrosis, a genetic condition which causes thick mucus that is difficult to clear from the lungs, sinuses, and elsewhere.
- Granulomatosis with polyangiitis, a rare condition causing inflammation of

- Primary ciliary dyskinesia, a rare inherited condition which prevents the body from moving and clearing mucus from the nasal passages, sinuses, airways, and elsewhere.
- A severely weakened immune system, which can make people more vulnerable to rare infections, some of which can cause chronic sinusitis.

Other risk factors for chronic sinusitis

Chronic sinusitis also has links to other conditions.

These don't directly cause sinusitis, but likely share underlying causes with it. They may also make sinusitis worse, and vice versa. Examples include:

- Asthma. Chronic sinusitis is much more common in people with asthma. The link is probably something to do with the airways, from the lungs to the nose, being more sensitive to infections, allergens, and other irritants. The combination of inflammation in the lower and upper airways has been called "unified airways disease".
- Chronic obstructive pulmonary disease (COPD). Similar to asthma, people with COPD can have problems with inflammation affecting their upper airways, as well as the lungs.
- Non-steroidal anti-inflammatory drug (NSAID) sensitivity. Some people have a combination of asthma, chronic rhinosinusitis with nasal polyps, and develop reactions when they take NSAIDs (such as aspirin or ibuprofen). These reactions can include worsening asthma symptoms, as well as worsening rhinosinusitis symptoms.

Chronic sinusitis symptoms

Common symptoms of chronic sinusitis include:

- **A blocked or congested nose**.
- **A runny nose**. The discharge may be green/yellow.
- **A reduced, or absent, sense of smell**.
- **Pain or a pressure feeling** over the affected sinuses.

Other symptoms that can occur include:

- Ear pain.
- Bad breath.
- Dental pain.
- A cough.
- Feeling tired and exhausted.

These symptoms are similar to acute sinusitis, but, in chronic sinusitis, they last for longer (12 weeks or more). In chronic sinusitis, symptoms can wax and wane over time - improving or worsening at different times.

Acute sinusitis can cause headaches, but the link between chronic sinusitis and headaches is controversial. Many people diagnosed with 'sinus headaches' actually have migraines or tension headaches.

For more about the symptoms of acute sinusitis, see the acute sinusitis leaflet for details.

What tests are used for chronic sinusitis?

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 (ENT) specialist. ENT specialists may recommend further tests to look for underlying causes, and plan treatment options, such as:

- A fiberoptic nasoendoscopy, to look inside the nasal passages.
- A CT scan of the sinuses.
- Skin prick tests to look for allergies.

Chronic sinusitis treatment

Can chronic sinusitis go away on its own?

This is unlikely. Most people who have had sinus problems for more than 12 weeks have an underlying cause which will need treatment.

How long does it take for chronic sinusitis to go away?

This depends on the underlying cause of chronic sinusitis. For example, people with blocked sinus drainage channels may improve rapidly after surgery, whereas those with a fungal infection may need lengthy courses of antifungal medicines before they notice any improvement.

How do you treat chronic sinusitis without antibiotics?

Non-antibiotic treatments are effective for treating chronic sinusitis, and chronic sinusitis is usually treated without antibiotics anyway. See "Medical treatments" below, for more.

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.

There are a number of different treatments for allergy, including tablets and immunotherapy. See also the leaflet on Persistent rhinitis.

Avoiding things that may make your chronic sinusitis worse

If you have chronic sinusitis and you smoke, stopping smoking can make 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 main medical treatments for chronic sinusitis are:

- Nasal steroid treatment, such as with steroid nasal sprays or steroid drops. Nasal steroids are very useful for reducing inflammation in the nose and sinuses. They should be used for at least 6 to 12 weeks, and can be continued long-term if needed.
- Nasal saline rinses. These use saline (salty water) to rinse out mucus, infection, allergens, and other irritants from the nose and sinuses. They can be bought from a pharmacy (eg, NeilMed®), or made at home from boiled water, bicarbonate of soda, and salt. Nasal saline rinses are best used alongside nasal steroid treatment.

Other treatments that are sometimes used include:

- Decongestants, such as nasal decongestant sprays. These provide very rapid relief from nasal congestion, but are harmful if used for a long time (more than 7 days), because this can actually make nasal congestion worse. They are occasionally useful, but for short-term use only.
- Antihistamine tablets, if an allergy is suspected.
- A prolonged course of antibiotics (3-4 weeks). This is sometimes prescribed by ENT specialists. However, there is lots of debate about how well they work, and no clear consensus on when to use them in chronic sinusitis.

- Oral steroids. These are occasionally used, for example to shrink nasal polyps, or for very severe symptoms where nasal steroids haven't worked. However, they are much more likely to cause harm than nasal steroids are, and so should only be used very carefully. See the oral steroids leaflet for more details.

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 or tablets are sometimes used. You can buy these from pharmacies. They may briefly relieve a blocked nose. As described above, don't use decongestant spray or drops for more than 7 days at a time. If they are used for longer than this, they may cause a worse rebound congestion in the nose.
- Home remedies such as warm face packs held over the sinuses may help to ease pain.
- A saline nasal solution or a neti pot 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

The best treatment for chronic sinusitis varies from person to person. Surgery is used mainly if the condition does not improve with medical treatments. The main purpose of surgery is to improve the drainage of the affected sinus.

Functional endoscopic sinus surgery (FESS)

This is a commonly-performed surgical procedure. 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. They 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.

Balloon catheter dilation

This is another surgical technique. It's also called a balloon sinuplasty. 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.

Other surgeries

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

How dangerous is sinus surgery?

Sinus surgery is a relatively safe procedure, but all operations carry a risk. Rare complications of sinus surgery include infection and bleeding.

Can surgery cure chronic sinusitis?

Doctors are reluctant to talk about cures because this implies a guarantee that the condition will completely go away and never come back after treatment. Instead, scientific studies concentrate on 'outcome' measures'.

These studies focus particularly on symptoms and whether or not they improve after treatment. In the case of chronic sinusitis, for example, such symptoms would include sense of smell, nasal obstruction and any associated condition such as asthma. In one large study, 8 out of 10 people said their symptoms improved after sinus surgery.

Surgery doesn't always help symptoms. Sometimes, symptoms improve after surgery, but then worsen again in the future; another surgical procedure might then be required.

Is chronic sinusitis dangerous?

Living with untreated chronic sinusitis can be unpleasant with 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.

Can you die from chronic sinusitis?

You cannot die from chronic sinusitis itself. However, complications of chronic sinusitis - such as spread of the infection to the brain causing meningitis - can be fatal. It is very rare for this to happen.

Can chronic sinusitis cause cancer?

Chronic sinusitis cannot cause cancer. However, cancer can develop in a sinus and early symptoms can mimic those of chronic sinusitis.

Frequently asked questions

What is the difference between chronic sinusitis and acute sinusitis?

Acute sinusitis is typically short-lived and often caused by an infection, usually viral but sometimes bacterial. In contrast, chronic sinusitis persists for a longer duration, usually more than 12 weeks, and has a more complex set of causes.

Why do I keep getting sinus infections?

Chronic sinusitis can be caused by various factors including viral or bacterial infections, smoking, exposure to pollution or irritants, allergies, fungal infections, structural problems, and dental issues. It can also be linked to other medical conditions like cystic fibrosis or a weakened immune system. The specific reason for recurrent infections can differ from person to person.

Is chronic sinusitis dangerous?

While living with untreated chronic sinusitis can be unpleasant due to persistent symptoms, serious complications are uncommon. Very rarely, a sinus infection might spread to nearby areas like around an eye, into bones, into the bloodstream, or even into the brain. Children are more susceptible to these rare complications than adults.

Can I prevent chronic sinusitis?

Preventing chronic sinusitis often involves addressing potential contributing factors. Avoiding smoking and passive smoke, practicing good dental hygiene, and managing allergies effectively can help. If you're exposed to pollutants or irritants through your job or environment, taking protective measures might also be beneficial.

What are the common symptoms of chronic sinusitis?

Common symptoms include a blocked or congested nose, a runny nose with potentially green/yellow discharge, a reduced or absent sense of smell, and pain or pressure over the affected sinuses. Other symptoms can include ear pain, bad breath, dental pain, a cough, and feeling tired. These symptoms last for 12 weeks or longer, though they can vary in intensity over time.

These questions and answers have been generated from the information in this article.

Further reading and references

- Sinusitis (https://cks.nice.org.uk/sinusitis); NICE CKS, May 2024 (UK access only)
- Fokkens WJ, Lund VJ, Hopkins C, et al (http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Abstract&list_uids=32077450); European Position Paper on Rhinosinusitis and Nasal Polyps 2020. Rhinology. 2020 Feb 20;58(Suppl S29):1-464. doi: 10.4193/Rhin20.600.

- Jones NS (http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&dopt=Abstract&list_uids=19344297); Sinus headaches: avoiding over- and mis-diagnosis. Expert Rev Neurother. 2009 Apr;9(4):439-44. doi: 10.1586/ern.09.8.

About the author View full bio

Dr Doug McKechnie, MRCGP

Medical Writer

MA, MBBS, MSc, DRCOG, MRCP(UK), MRCGP(2021), FHEA

Dr Doug McKechnie is an NHS GP working in London. He works full-time clinically and is also the Deputy Lead for the Clinical and Professional Practice module at University College London Medical School.

About the reviewer View full bio

Dr Colin Tidy, MRCGP

General Practitioner, Medical Author

MBBS, MRCGP, MRCP (Paediatrics), DCH

Dr Colin Tidy is an NHS Doctor, based in Oxfordshire.

Article history

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Last updated by

Dr Doug McKechnie, MRCGP

Peer reviewed by

Dr Colin Tidy, MRCGP

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