



## Chronic rhinosinusitis in children

### QUICK FACTS

- **Chronic rhinosinusitis is a chronic disease** that requires long-term treatment.
- The main effective treatments are **saline rinses and nasal steroid sprays**.
- There is **no evidence saying that antibiotics help children with CRS**.
- Some children may need an operation to remove their adenoids to help control their symptoms.
- Some older children with certain conditions may need endoscopic sinus surgery.

### ABOUT THE CONDITION

Nasal symptoms in children can come and go, or sometimes they can be there all the time.

### Repeating nasal symptoms

A runny or blocked nose, mouth-breathing and speaking through the nose are all common in children of nursery or early school age. Usually, the children do not seem bothered by their symptoms and they usually get better on their own.

Nasal symptoms that come and go like this are usually caused by infections like the **common cold**. Colds are caused by a virus. Your child may have a temperature, be flushed and not quite themselves. It is important to remember that children can experience around ten colds per year. Your child's symptoms will last for a week or two.

**Antibiotics are NOT needed for viral infections.**

As a parent, you can help your child by giving them saline sprays or drops and helping them blow their nose. (Saline is salt water, which can help break up mucus.) For babies, nasal aspirators can be useful. These gently suck mucus (snot) out of the nose. If your child is flushed and has a temperature, normal paracetamol can help.

### Continuing nasal symptoms

Symptoms that don't go away usually have a different cause. They are less likely to be due to an infection. Long-lasting symptoms might mean there is a problem with your child's adenoids or sinuses, or that your child has a nasal allergy. This leaflet briefly looks at adenoids and allergies but is mostly about sinus problems.

# Adenoids

Adenoids are lumps of soft tissue at the back of the nose. They are part of the immune system, along with the tonsils. **Swollen adenoids** can cause a long-lasting blocked or runny nose. The adenoids usually shrink as your child grows and no treatment is needed. Inflamed adenoids (known as **adenoiditis**) are usually caused by infection from a virus. In most cases, mild discomfort is the main symptom. Saline sprays or drops and nose blowing can help.

On rare occasions, swollen adenoids can cause snoring, uneven breathing at night or problems with the ears. If any of these happen, your child may need more help. *You may wish to read the [ENT UK patient information on adenoids](#).*

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## Allergies

Nasal blockage and a runny nose may be caused by the lining of the nose becoming inflamed, which is known as **rhinitis**. This is often because of an allergy (**allergic rhinitis**). The nasal lining becomes swollen, blocking the flow of air and producing extra mucus. If your child has allergic rhinitis, other symptoms may include an itchy nose or eyes, sneezing a lot, and red, watery eyes. About one in five children get allergic rhinitis. The chance is higher if a parent has the condition.

Hay fever (an allergy to pollen) is a common form of allergic rhinitis and is often seen in spring and summer. Other airborne causes of allergy include cat or dog saliva and dandruff, house dust mites and mould. If your child has symptoms all through the year, an allergy to house dust mites, moulds or pets is more likely.

Rhinitis can be managed with self-care but may also need treatments from your GP or an ear, nose and throat (ENT) doctor. This may include antihistamine medication (either a nose spray or a pill) or a steroid nose spray. *You may wish to read the [ENT UK patient information on rhinitis](#).*

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## Rhinosinusitis in children

The sinuses are small air pockets that sit behind the forehead, between the eyes, in the cheekbones and behind the nose. The sinuses have the same kind of lining as your nose. They can produce mucus and can become inflamed.

An inflamed lining of the sinuses is called **sinusitis**. When the nose and sinuses are both inflamed, this is called **rhinosinusitis**. Rhinosinusitis can be **acute**, which means it doesn't last very long, or **chronic**, which means it lasts for over 12 weeks. *You may wish to read the [ENT UK patient information on sinusitis](#).*

Both acute and chronic rhinosinusitis are uncommon in children. To be diagnosed with rhinosinusitis, your child must have at least two symptoms. One of the symptoms must be **a blocked nose or discoloured mucus** coming out of the nose. Your child may also experience **a continuing cough or a feeling of pressure or pain in the face or cheeks**. Facial pain without a blocked nose and discoloured mucus is unlikely to be because of the sinuses.

When two or more of these symptoms continue for **more than 12 weeks**, with no signs of easing, this is known as **chronic rhinosinusitis (CRS)**. It is important to remember that a child can have several colds or short sinus infections, with complete recovery in between. This is not the same as having chronic

rhinosinusitis. *For more information about acute rhinosinusitis, you may wish to read the [ENT UK patient information on sinusitis](#).*

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## When should I take my child to see the GP?

If your child has rhinosinusitis symptoms for 12 weeks or more, you could try some over-the-counter self-care treatments. If these do not help, you may want to take your child to see the GP or nurse specialist at your local practice. When the inside of your child's nose is checked, the lining of the nose may be swollen or inflamed and covered in green or yellow mucus. There may be less air flowing through the nose.

You should ask to see your GP today if:

- your child has a temperature over 38°C (taken with a thermometer)

and

- your child's symptoms get worse (after they started to feel better) and their symptoms have been present for over ten days

and/or

- They have severe pain on the side of their face, and a blocked nose or yellow or green mucus from the nostril on the side.

Sometimes, but not often, **polyps** are seen. These are painless soft growths within the nose. *You may wish to read the [ENT UK patient information on nasal polyps](#).*

Polyps in children are rare and can be linked to other conditions you might not know about. Your child may need specialist tests if polyps are found.

The GP will want to know more about your child's health and whether they have any conditions linked to CRS. The most common of these is asthma. **Allergic rhinitis** is also sometimes seen with childhood CRS.

Your GP may feel that your child's symptoms are more likely to be caused by enlarged adenoids, rather than sinus issues. If this is the case, the GP may refer you directly to ENT for further assessment.

Your child **must** see a doctor (either your GP or in A&E) **straight away** if:

- **their eyelid is swollen and red, especially if they cannot open their eye**
- **their eye sticks out on one side**
- **their forehead becomes swollen**
- **their eyesight becomes blurry, they say they cannot see red colours, or they say they are seeing double.**

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## What treatment will my child need for CRS?

CRS is a **chronic disease**, which means it will be there for a long time, a bit like asthma. This means that the aim of treatment is to **control** your child's symptoms. Treatment should **improve your child's blocked nose** and **reduce the amount of mucus**. But it is important to help your child take their medication every day, even if their symptoms settle down.

## Self-care – things you can do

Self-care treatments that have been shown to help include **saline nasal sprays or rinses**.

You can get saline sprays (such as Sterimar) or devices (such as Neilmed Sinus Rinse) for children in pharmacies or on prescription from your GP.

If your child has an allergy or something else that makes their CRS symptoms worse, it is important to try to avoid or reduce their contact with the thing they are allergic to. You may have read that milk or dairy intolerance can cause CRS. However, international research has not found any link.

Passive smoking makes symptoms worse in children with CRS. If you smoke, quitting or cutting down will not only improve your own health but can also help with your child's nasal and sinus problems.

You could try these self-care treatments for six to eight weeks and if your child's symptoms are not getting better, seek further medical advice. Although nasal steroid sprays are good at treating CRS, you cannot buy them over the counter for children in the UK and you will need a prescription from your GP. Using **decongestants in CRS** is not advised.

## GP treatments

If self-care treatments are unhelpful, your GP may prescribe a nasal steroid spray. CRS is not usually caused by infection, so antibiotics are not usually prescribed. A long course of antibiotics can be used in adults with CRS but is not helpful for children with CRS.

You may be worried about giving your child a steroid nasal spray. However, **daily nasal steroid sprays are recommended** in children with CRS, and experts believe they work well and are safe. A low dose of steroids is sprayed directly into the nose, which means very little gets into the bloodstream or causes side effects. You should also keep giving your child saline nasal sprays or rinses.

If the steroid spray makes your child's symptoms better, it is important to keep using it for the long term. As it is a chronic condition, CRS needs long-term treatment. Your child's symptoms are likely to return if they stop using steroid sprays and saline sprays or rinses.

**Sometimes steroid sprays may be working well, but then your child's symptoms get worse again. This is called an *acute exacerbation* of CRS.**

- An acute exacerbation can be caused by a cold. If so, the self-care advice in this leaflet should be followed.
- It can sometimes be caused by allergic rhinitis getting worse – for example, hay fever can get worse in the pollen season. Taking an antihistamine may help.
- In children with asthma and CRS, viral infections often have a greater effect on nose and sinus symptoms.
- Stress can also play a role in making CRS worse.
- Your child should continue using saline rinses and their steroid nasal spray as prescribed.

Your child may have a bacterial infection if they have:

- a high temperature
- discoloured, leaking mucus
- pain on one side of the face.

Your child's GP may prescribe a short course of antibiotics, a short course of stronger steroid drops, or both.

## ENT treatments

Your GP may refer your child to an ENT specialist if their CRS symptoms haven't gone away after six to twelve weeks of using a nasal steroid spray. The ENT specialist will want to know the story so far, what treatments have been used, and to examine your child. If your child is old enough, the ENT specialist may use a special flexible camera called an **endoscope**. This can be used to look at the inside of the nose and the area behind the nose where the adenoids are found.

If the nose and sinus openings look normal but the adenoids are very big, the specialist may offer to remove them. This is called [adenoidectomy](#). Enlarged adenoids often produce symptoms that are like CRS. Removing them makes these symptoms go away.

If looking at your child's nose makes the ENT specialist think that your child has CRS, they will treat the nose and sinuses with more medical therapy. The specialist will check that your child has been taking a nasal steroid spray and using saline rinses every day. They may want to try a different spray or a short course of higher-dose steroid drops. Although **oral steroid** medications can work well with adult CRS patients, they are not used very much with children, because of side effects and worried about safety.

The specialist may look at how you get the steroid spray into your child's nose and sinuses, to make sure you are doing it correctly.

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## How to use a steroid spray correctly in children:

In a younger child, you may find it easier with two adults, if possible. One adult sits the child on their lap, facing outwards, and holds them gently in an upright position. They support the child's head against their chest or shoulder while the other adult delivers the spray (figure 1).



*Figure 1. Giving a young child a nasal spray.*



*Figure 2. Using a spray correctly.*

- Get your child to blow their nose if they can. If possible, use a nasal aspirator on younger children if there is thick mucus.
- Use saline rinses or spray to clear mucus.
- If the child is using the spray themselves, get them to use their right hand to spray the left nostril and the left hand to spray the right nostril. The nozzle should aim away from the middle part of the nose (see figure 2).
- If you are helping your child, aim the nozzle away from the middle part of the nose.
- There is no need to close the opposite nostril.
- Doing it this way makes a nosebleed less likely and helps spread the spray around the nose and sinuses.

The ENT specialist will ask you and your child about the child's general health. As mentioned before, CRS sometimes goes hand in hand with less common health problems. The specialist may arrange blood tests or other kinds of tests, and will talk to you about them if they are needed. They may wish to check your child's immune system, for example, especially if the medication has not worked well.

## What is the benefit of having surgery?

Surgery for children with CRS is needed very rarely. If your child's symptoms have not cleared up after six to twelve weeks of medical treatment, the ENT specialist may wish to arrange a special scan of your child's sinuses, called a CT scan.

In most children who have surgery for CRS, the adenoids are taken out. This operation is called an [adenoidectomy](#). It is successful in controlling symptoms in five or six out of ten cases. In children who have **asthma**, or who had a CT scan showing more serious sinus problems, a sinus rinse may also be done during the operation.

An operation called **endoscopic sinus surgery** (ESS) can widen the passageways into the sinuses. This would help your child to get steroid drops or sprays into the sinuses more easily. This surgery is very rarely needed. It is performed with an **adenoidectomy and sinus washout**, and only used on **older children, when medication has not worked**. It is also used in **older children with large polyps blocking their nose and sinuses**, or with conditions such as **cystic fibrosis**. In these more difficult cases, ESS has been shown to **work well** and be **safe**. *You may wish to read the [ENT UK patient information on endoscopic sinus surgery](#) for more details.*

- Surgery does not cure CRS.
  - The main aim of surgery is to widen the passageways into the sinuses and make it easier to get nose drops and sprays into the nose and sinuses.
  - Your child's symptoms will probably return if they stop using steroid sprays and saline rinses after surgery.
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