CONDITION

Ethmoiditis

Ethmoiditis is inflammation of the small air-filled sinuses between the eyes.

WHAT IT IS
Inflammation of the ethmoid sinuses between the eyes

BODY SYSTEM
Nose, sinuses, and airways

MAIN SYMPTOMS
Blocked nose, nasal discharge, facial pressure, reduced smell

WHAT CAUSES IT
Usually viral infection; sometimes bacteria or ongoing inflammation

HOW IT IS DIAGNOSED
Symptoms and examination; CT for suspected complications

MAIN TREATMENT
Symptom relief; antibiotics for bacterial infection

CAN IT BE CURED?
Yes - most acute episodes resolve

IS IT AN EMERGENCY?
Sometimes - eye swelling or vision changes need emergency care

LONG-TERM OUTLOOK
Most recover; recurrent or chronic inflammation may persist

Overview

Ethmoiditis means inflammation of the ethmoid sinuses. These are several small, air-filled spaces in the bone between your eyes and behind the upper part of your nose. Ethmoiditis is usually considered a form of sinusitis, also called rhinosinusitis.

The inflammation often begins during a viral infection such as a cold. Swollen tissue can block normal sinus drainage, causing pressure and mucus to build up. Bacteria sometimes grow in this trapped mucus, leading to acute bacterial sinusitis. Longer-lasting inflammation may be linked to allergies, nasal polyps, or other conditions affecting drainage.

Most episodes improve without lasting harm. However, the ethmoid sinuses are separated from the eye sockets by a very thin layer of bone. Rarely, an infection can spread around an eye or farther into the head. New eye swelling, vision changes, or severe neurological symptoms need urgent assessment.

Ethmoiditis can occur at any age. Eye-related complications are an important concern in children because their sinus and eye structures are close together.

Symptoms

Ethmoiditis often causes the same symptoms as other types of sinusitis. It is not usually possible to identify the affected sinus from symptoms alone.

Possible symptoms include:

Pain may become worse when you bend forward. However, this pattern does not confirm ethmoiditis.

A viral infection often starts to improve within several days. Symptoms that persist without improvement, become severe, or improve and then clearly worsen can suggest bacterial sinusitis. Mucus colour alone cannot show whether an infection is bacterial.

Swelling at the inner corner of an eye or around an eyelid is not a routine sinus symptom. It may indicate that inflammation has spread beyond the sinus and needs prompt medical assessment.

- A blocked or stuffy nose
- Thick or discoloured nasal discharge
- Mucus draining down the throat
- Pressure or pain between the eyes, at the nose, or in the forehead
- Reduced sense of smell
- Headache
- Cough, particularly in children
- Fever
- Tiredness or feeling generally unwell
- Bad breath

Causes and risk factors

Most short-term cases start with a respiratory virus. The virus causes the lining of the nose and sinuses to swell. This can narrow the small drainage openings connecting the ethmoid sinuses to the nose.

Bacterial ethmoiditis is less common. It may develop when blocked sinuses do not drain properly. Common respiratory bacteria can then multiply within the sinus.

Ethmoid inflammation lasting 12 weeks or longer is part of chronic rhinosinusitis. Chronic inflammation is not simply an infection that has failed to clear. It may involve several factors, including allergy, nasal polyps, altered immune responses, and problems with mucus drainage.

Factors that can increase the chance of recurrent or persistent sinus problems include:

Having one of these factors does not mean you will develop ethmoiditis.

Invasive fungal sinusitis is a rare but serious form of sinus infection. It mainly affects people with severely weakened immune systems or poorly controlled diabetes and requires emergency specialist care.

- Frequent respiratory infections
- Allergic rhinitis, often called nasal allergy
- Nasal polyps
- A narrowed or unusual nasal structure
- Exposure to tobacco smoke or other airway irritants
- A weakened immune system
- Conditions affecting mucus movement, such as cystic fibrosis
- Previous nasal or sinus surgery

Diagnosis

A healthcare professional usually diagnoses uncomplicated acute sinusitis from your symptoms, their duration, and an examination. They may look inside your nose for swelling, discharge, polyps, or another cause of blockage. The area around your eyes may also be checked.

There is no simple home test that confirms ethmoiditis. Facial pain, fever, and coloured mucus can occur with both viral and bacterial infections.

Imaging is not usually needed for a straightforward episode. A computed tomography, or CT, scan gives detailed pictures of the sinuses and surrounding structures. It may be used when:

Magnetic resonance imaging, or MRI, may be used if infection could have spread into the eye socket, blood vessels, or brain.

An ear, nose, and throat specialist may perform nasal endoscopy. This involves passing a thin

camera into the nose after local numbing medicine. A sample taken from inside the nose is not always reliable because normal nasal bacteria can contaminate it. Direct sinus samples are reserved for selected severe or treatment-resistant cases.

- An eye or brain complication is suspected
- Symptoms are unusually severe
- Sinusitis keeps returning
- Symptoms have become chronic
- Surgery is being considered
- The diagnosis is uncertain

Treatment and management

Treatment is based on how long symptoms have lasted, how severe they are, and whether a bacterial infection or complication is likely.

For an uncomplicated short-term illness, supportive care may include rest, fluids, and suitable pain relief. Saline nasal sprays or rinses can help loosen mucus. For rinsing, use distilled, sterile, or previously boiled and cooled water rather than untreated tap water.

A corticosteroid nasal spray may reduce inflammation, especially when allergy or chronic rhinosinusitis is involved. It usually needs regular use and does not give immediate relief. A pharmacist or healthcare professional can explain safe technique and whether a product is suitable for you.

Decongestant sprays may provide brief relief but can make congestion rebound if used for too long. Oral decongestants are not suitable for everyone, including some people with heart or blood pressure conditions. Follow the product information and seek professional advice if you are unsure.

Antibiotics like amoxicillin or doxycycline do not treat viral sinusitis. They may be recommended when bacterial infection is considered likely, symptoms are severe, the risk of complications is higher, or an infection has spread. The choice of antibiotic is influenced by age, allergies, pregnancy, local resistance patterns, and recent antibiotic use.

Hospital treatment may be needed for an orbital or intracranial complication. Treatment can include antibiotics through a vein and close monitoring by eye, ear, nose and throat, or neurological specialists.

Surgery is not routine for a single uncomplicated episode. Drainage may be necessary for an

abscess or an infection that is threatening vision. Planned endoscopic sinus surgery may be considered for chronic or recurrent disease that remains troublesome despite appropriate medical treatment.

Complications

Complications are uncommon, but ethmoiditis deserves particular attention because of its location beside the eyes.

Infection may spread into the eyelid or tissues around the eye. This can cause orbital cellulitis, meaning infection inside the eye socket, or an abscess, which is a collection of pus. These problems can affect eye movement or vision.

Less often, infection can spread inside the skull. Possible complications include meningitis, a brain abscess, or a clot in a large vein behind the eyes called the cavernous sinus. Infection of nearby bone can also occur.

Longer-term problems include repeated episodes, ongoing nasal blockage, reduced smell, and chronic rhinosinusitis. These are generally managed through routine specialist assessment rather than emergency care unless new warning signs develop.

Prevention

Not every episode can be prevented. The ethmoid sinuses are normal body structures, and common respiratory viruses cannot always be avoided.

You may reduce some triggers by washing your hands regularly, avoiding tobacco smoke, and managing known nasal allergies. Recommended vaccination against respiratory infections may reduce illnesses that can lead to sinus symptoms, although it does not prevent every case of ethmoiditis.

If you use a nasal rinse, keep the device clean and use sterile, distilled, or boiled and cooled water. Do not share nasal devices.

Preventive antibiotics are not normally used for ordinary recurrent sinus symptoms. Repeated episodes may need assessment for allergy, polyps, structural narrowing, or an immune or mucus-clearance condition.

Living with it and what to expect

A short-term viral episode often begins improving within one to two weeks, although congestion or cough can last longer. Recovery time is not identical for everyone. Bacterial infection may improve after suitable treatment, but symptoms do not always disappear immediately.

Return to your usual activities as your energy and symptoms allow. Drinking fluids and using saline may make congestion easier to manage. If symptoms are worsening rather than gradually settling, arrange a review.

Repeated or chronic ethmoid inflammation can affect sleep, concentration, smell, and comfort over months or years. Symptoms may come and go rather than remaining constant. Treatment often focuses on controlling inflammation, improving drainage, and managing contributing conditions. Some people need specialist follow-up or surgery, while others control symptoms with nasal treatment alone.

A reduced sense of smell may recover as swelling settles, but persistent inflammation can cause longer-lasting changes. New loss of vision is different and requires emergency care.

When to get medical help

Arrange routine medical advice if symptoms:

Seek urgent same-day assessment for swelling or redness around an eye, significant eyelid swelling, pain when moving the eye, or a high fever with worsening facial symptoms.

Go to emergency care immediately for:

These symptoms do not prove that a complication is present, but they need prompt examination.

- Last more than about 10 days without improvement
- Improve and then clearly worsen
- Are severe or keep returning
- Continue for 12 weeks or longer
- Affect sleep or everyday activities
- Occur while your immune system is weakened
- Blurred, reduced, or double vision
- An eye that appears pushed forward
- Difficulty moving an eye

- Severe headache with vomiting, confusion, or unusual drowsiness
- Neck stiffness, a seizure, fainting, or new weakness
- Rapidly increasing facial or eye swelling

Common questions

Is ethmoiditis the same as sinusitis?

Ethmoiditis is sinusitis affecting the ethmoid sinuses between the eyes. Several sinus groups may be inflamed at the same time, so healthcare professionals often use the broader term rhinosinusitis.

Is ethmoiditis contagious?

The sinus inflammation itself is not contagious. A virus that caused it may spread through coughs, sneezes, hands, or shared surfaces. Bacterial sinusitis is not usually passed directly from one person to another.

Do I need antibiotics for ethmoiditis?

Not always. Most short-term sinus infections are viral, and antibiotics do not help them. Antibiotics may be used when the pattern suggests bacterial infection or when there is a higher risk of complications.

How long does ethmoiditis last?

Many acute cases improve over one to two weeks, though some symptoms can last longer. Symptoms present for at least 12 weeks are considered chronic rhinosinusitis and need a different assessment and management approach.

Can ethmoiditis affect my eyes?

It can, but this is uncommon. The ethmoid sinuses sit next to the eye sockets. Eyelid swelling, pain with eye movement, double vision, reduced vision, or a bulging eye require urgent or emergency assessment.

Can ethmoiditis come back?

Yes. Recurrence may happen after new viral infections or because of allergy, polyps, structural narrowing, or chronic sinus inflammation. Repeated episodes should be reviewed to look for contributing factors.

Sources

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