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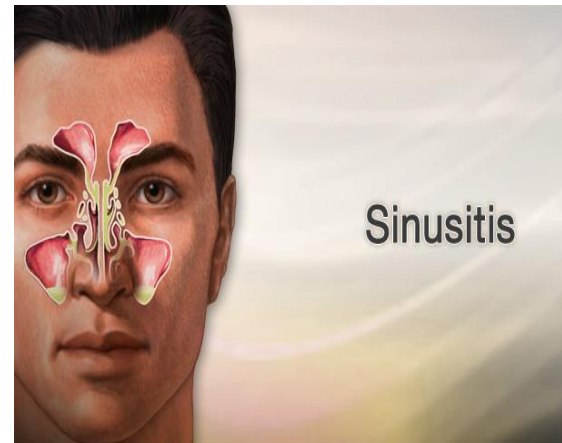
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Sinusitis

What is Sinus Infection?

Sinusitis is an inflammation of the tissues in your sinuses (spaces in your forehead, cheeks and nose usually filled with air). It causes facial pain, a stuffy or runny nose, and sometimes a fever and other symptoms. It's usually caused by the common cold, but other viruses, bacteria, fungi and allergies can also cause sinusitis. Sinusitis is an inflammation, or swelling, of the tissue lining your sinuses. Bacterial infections, viral infections and allergies can irritate them, causing them to get blocked and filled with fluid. This can cause pressure and pain in your face, nasal congestion (a stuffy nose) and other symptoms. Sinusitis is also sometimes called rhinosinusitis.



What are sinuses?

Sinuses are four paired cavities (spaces) in your head. Narrow passages connect them. Sinuses make mucus that drains out of the passages in your nose. This drainage helps keep your nose clean and free of bacteria, allergens and other germs (pathogens).

Types of sinusitis

We describe types of sinusitis based on how long it's been going on (acute, subacute, chronic or recurrent) and what's causing it (bacteria, virus or fungus).

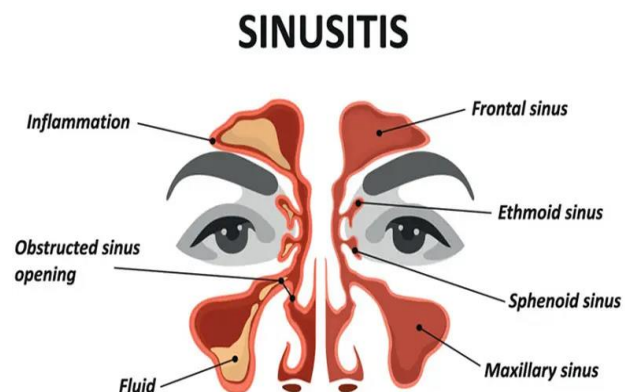
➤ Acute, subacute, chronic and recurrent sinusitis

- ✓ Acute sinusitis symptoms (nasal congestion, drainage, facial pain/pressure and decreased sense of smell) last less than four weeks. It's usually caused by viruses like common cold.
- ✓ Subacute sinusitis symptoms last four to 12 weeks.
- ✓ Chronic sinusitis symptoms last at least 12 weeks. Bacteria are usually the cause.

- Recurrent acute sinusitis symptoms come back four or more times in one year and last less than two weeks each time.

Bacterial and viral sinusitis

Viruses, like the ones that cause common cold, cause most cases of sinusitis. Bacteria can cause sinusitis, or they can infect you after a case of viral sinusitis. If you have a runny nose, stuffy nose and facial pain that don't go away after ten days, you might have bacterial sinusitis. Symptoms may seem to improve but then return and are worse than the initial symptoms. Antibiotics and decongestants usually work well on bacterial sinusitis.



Fungal sinusitis

Sinus infections caused by fungus are usually more serious than other forms of sinusitis. They're more likely to happen if you have a weakened immune system.

What causes sinus infections?

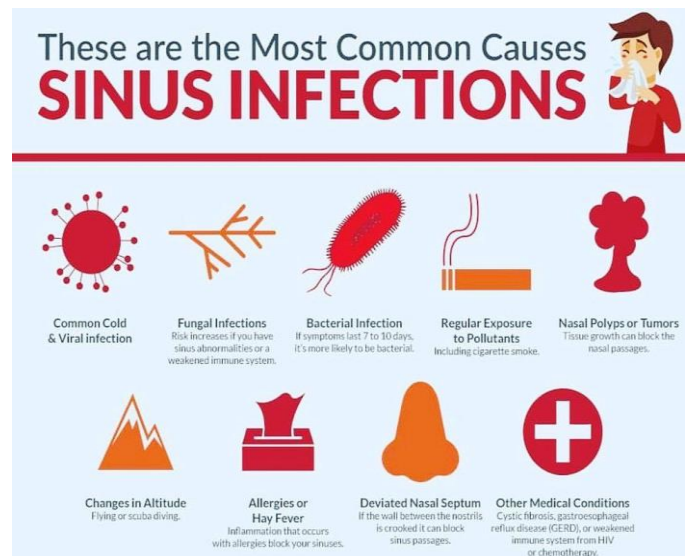
Viruses, bacteria, fungi and allergens can cause sinusitis. Specific triggers for sinusitis include:

1. Common cold.
2. Flu (influenza).
3. Streptococcus pneumoniae bacteria.
4. Haemophilus influenza bacteria.
5. Moraxella catarrhalis bacteria.
6. Nasal and seasonal allergies.

What are the risk factors for sinusitis?

Some people are more likely to get sinusitis than others. Risk factors include:

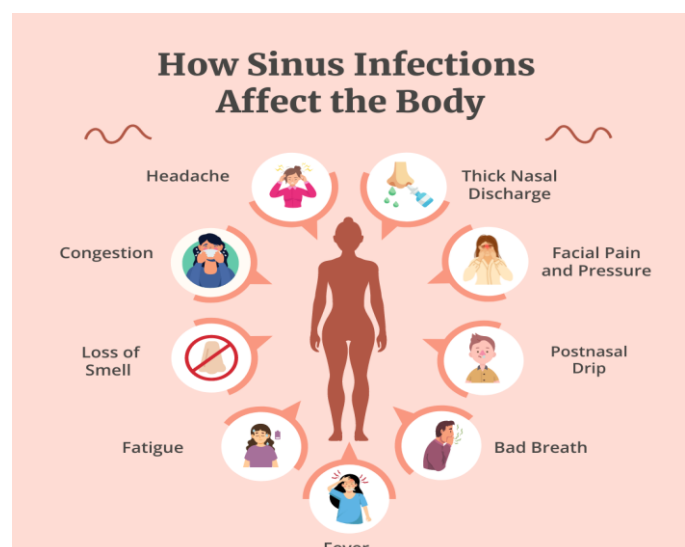
1. Nasal allergies.
2. Asthma.
3. Nasal polyps (growths).
4. Deviated septum. Your septum is a line of tissue that divides your nose. A deviated septum isn't straight, narrowing the passage on one side of your nose. This can cause a blockage.
5. A weakened immune system. This can be from illnesses like HIV or cancer, or from certain medications.
6. Smoking.



What are the signs and symptoms of sinusitis?

Common symptoms of a sinus infection include:

1. Postnasal drip (mucus dripping down your throat).
2. Runny nose with thick yellow or green mucus.
3. Stuffy nose.
4. Facial pressure (particularly around your nose, eyes and forehead). This might get worse when you move your head around or bend over.
5. Pressure or pain in your teeth.
6. Ear pressure or pain.
7. Fever.
8. Bad breath (halitosis) or a bad taste in your mouth.



9. Cough.
10. Headache.
11. Tiredness.

How is a sinus infection diagnosed?

Healthcare providers diagnose sinusitis based on your symptoms and health history. A provider will check your ears, nose and throat for swelling, draining or blockage. They might use an endoscope (a small, lighted instrument) to look inside your nose. A primary care provider may also refer you to a specialist, like an otolaryngologist (also called an ENT — an ear, nose and throat specialist).

Specific tests to diagnose sinusitis

Specific tests your provider might order to diagnose sinus infection include:

- Nasal endoscopy.
- Nasal swabs. Your provider may use a soft-tipped stick to get a fluid sample from your nose. They'll test it for viruses or other germs that might be causing your symptoms.
- Imaging. In some cases, your provider might order a computed tomography (CT) scan to better understand what's happening inside your sinuses.
- Allergy testing. If you have chronic sinusitis, your provider may test you for allergies that could be triggering it.
- Biopsy. Rarely, a provider may take a tissue sample from your nose for testing.

Treatment of sinusitis

1. Self-help steps can help ease sinusitis symptoms:

- ✓ Rest. Rest helps the body fight infection and speed recovery.
- ✓ Drink fluids. Keep drinking plenty of fluids.
- ✓ Use a warm compress. A warm compress on the nose and forehead might help ease pressure in the sinuses.
- ✓ Keep sinuses moist.
- ✓ Put a towel over your head while breathing in the vapor from a bowl of hot water. Or take a hot shower, breathing in the warm, moist air. This will help ease pain and help mucus drain.



2. Medications:

- **Nasal corticosteroids:** These nasal sprays help prevent and treat swelling. Some are available without a prescription. Examples include fluticasone (Flonase Allergy Relief, Xhance), budesonide (Rhinocort Allergy), mometasone (Nasonex 24HR Allergy) and beclomethasone (Beconase AQ, Qnasl, others).
- **Saline nasal rinses:** Use a specially designed squeeze bottle (NeilMed Sinus Rinse, others) or neti pot. This home remedy, called nasal lavage, can help clear sinuses. Saline nasal sprays also are available.
- **Corticosteroids shots or pills:** These medicines ease severe sinusitis, especially for those who have nasal polyps. The shots and pills can cause serious side effects when used long term. So, they're used only to treat severe symptoms.

- **Allergy medicines:** Using allergy medicines might lessen allergy symptoms of sinusitis caused by allergies.
- **Aspirin desensitization treatment:** This is for people who react to aspirin and the reaction causes sinusitis and nasal polyps. Under medical supervision, people receive larger and larger doses of aspirin to increase their ability to take it.
- **Medicine to treat nasal polyps and chronic sinusitis:** for nasal polyps and chronic sinusitis, a shot of dupilumab (Dupixent), omalizumab (Xolair) or mepolizumab (Nucala) might reduce the size of the nasal polyps and lessen stuffiness.
- **Antibiotics:** sometimes needed to treat sinusitis caused by bacteria. A possible bacterial infection might need to be treated with an antibiotic and sometimes with other medicines.
- **Immunotherapy:** For sinusitis caused or made worse by allergies, allergy shots might help. This is known as immunotherapy.



What happens if sinusitis is left untreated?

Sinusitis doesn't necessarily need to be treated; it often goes away on its own. Very rarely, untreated sinus infections can lead to life-threatening infections. This happens if bacteria or fungi spread to your brain, eyes or nearby bone.

Can sinusitis be prevented?

Depending on the cause, there are a few ways to reduce your risk of getting sinus infections, including:

- Rinsing your nose with saline (salt water) as directed by your provider.
- Taking steps to prevent allergies. This includes medications, allergy shots and avoiding your known allergy triggers (like dust, pollen or smoke).
- Using steroid nasal sprays if your provider recommends them.
- Establishing good handwashing and other habits that reduce your risk of getting sick with infectious diseases.
- Avoiding smoke. There are ways to help you quit smoking, if you do.

References

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3. <https://www.mayoclinic.org/diseases-conditions/acute-sinusitis/symptoms-causes/syc-20351671>
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Drug Abuse

What is drug abuse

Using drugs can affect your health, relationships, jobs and education. You or someone close to you may have a problem with drugs. Recognizing the problem is an important first step in seeking help and treatment. Drug dependence or addiction can be treated. If you are struggling with drug abuse, it's important to seek help and support. You do not have to deal with it on your own. Drug abuse means inappropriate use of drugs, this can be happened when it is used for a different purpose than it is meant for taken in excessive amounts. Substances such as alcohol can be used in harmful ways. However, drug abuse usually refers to the use of illicit drugs.



What are illicit drugs?

When a drug is not used as intended, it is known as an illicit drug. Some types of illicit drugs include illegal drugs, such as:

- **Speed and ice (crystal meth):** It is an illegal methamphetamine, a member of the amphetamine family of drugs. It is very addictive and is linked to chronic physical and mental health problems. Ice is a central nervous system stimulant that affects the messages sent between your body and your brain. It is purer and more powerful than other types of methamphetamines, such as Speed. It comes as little crystals that look like ice, or as a white-to-brownish, crystal-like powder. It has a strong smell and bitter taste. It can be injected, smoked, snorted and swallowed.
- **Heroin:** It is an addictive drug that is illegal. It is made from the opium poppy. Heroin belongs to the family of drugs called opioids, along with prescription medicines such as morphine, codeine, pethidine and methadone. Opioids work in the brain to relieve pain and make people feel relaxed and contented. However, they can cause unwanted effects, such as breathing problems. Heroin comes as a fine white powder, off-white granules and tiny brown 'rocks'. Heroin is usually injected into a vein, but it can be smoked or snorted as well.
- **gamma hydroxybutyrate (GHB):** It is an illegal drug commonly found around the dance and party scene. It's known as a 'date rape' drug, because it is hard to detect if it is slipped into a drink at a party. GHB was originally developed to be used as an anesthetic. It is a central nervous system depressant. This means that it slows down brain activity and produces feelings of relaxation and drowsiness. GHB usually comes as a liquid. It can be bitter or salty tasting and is odorless or has a slight odor. It can also come as a powder or in crystal form. GHB typically doesn't have any color but it can make a transparent drink cloudy. Sometimes, it can be colored bright blue. It can be swallowed, injected or inserted anally (into your back passage).



- **Cocaine:** It is an illegal, highly addictive drug made from the leaves of the South American coca bush. It is a central nervous system stimulant, which causes high levels of dopamine to be released. Dopamine is a brain chemical associated with pleasure and reward. Cocaine is a white powder with a bitter, numbing taste. It is typically snorted through the nose, but it can also be injected, rubbed into the gums and added to food and drinks. It comes in 3 main forms: cocaine hydrochloride, freebase and crack. Cocaine hydrochloride is a white powder usually mixed or 'cut' with other substances. Freebase is a white powder and crack cocaine is generally found in the form of larger crystals. Freebase and crack are usually smoked.
- **Ketamine:** It is a medicine used by doctors and vets as a pain killer and a sedative. It stops your brain from interpreting pain messages. It's being studied as a medicine for depression. It's also used illegally for its hallucinogenic 'high' effect. If bought illegally, it comes as a white powder that can be made into tablets or dissolved into a clear liquid. Ketamine can be swallowed, snorted, injected, inserted anally (up your bottom) and smoked with cannabis or tobacco.



Real Enquiries

At the “Drug Information Center” we respond to enquiries from the professional health team as well as from others. Here’s one of the enquiries received at the center

Inquiry: "I would like to have information about the role of hydroxyurea in sickle cell anemia and thalassemia in pediatrics.

Summary of the answer:

Hydroxyurea has been shown to increase fetal hemoglobin synthesis in patients with beta thalassemia, sickle cell disease, and some individuals with no hemoglobinopathy. The effect of HU appears to be somewhat predictable in terms of the HbF levels achieved in an individual patient, but the effect is dose-related and reversible within individual patients. HU has achieved increasing clinical usage in sickle cell anemia, where it has been shown to reduce the frequency and severity of acute chest syndrome and painful crises. A large number of studies have demonstrated the benefit of using hydroxyurea to minimize severe clinical events of sickle cell anemia in infants, children, and adults.

Sources

1. Uptodate.com
2. Dynamed.com
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Test Your Knowledge

- 1. Primidone used in the treatment of generalized tonic-clonic seizures is metabolized to**
A. phenytoin
B. phenobarbital
C. ethosuximide
D. amitriptyline
E. none of the above
- 2. Vincristine has been commonly associated with which of the following adverse events?**
A. Neurotoxicity
B. Duodenal ulcers
C. Blood clotting
D. None of the above
- 3. Dolasetron, a 5-HT₃ antagonist is a (an)**
A. β -adrenergic blocker
B. antiemetic
C. glucocorticoid
D. local anesthetic
E. sunscreen
- 4. Minocycline hydrochloride is a member of which class of anti-infectives?**
A. Cephalosporin
B. Penicillin
C. Aminoglycoside
D. Tetracycline
E. Sulfonamide

Answers:

1. (B) 2. (A) 3. (B) 4. (D)

Ask the expert

The address is missed below

Does curcumin reduce the severity and frequency of inflammation in individuals with cancer?

Curcumin is a polyphenol found in the spice turmeric that is used as a natural. It exhibits various physiological activities, including anti-inflammatory, antioxidant and anticancer activities.

Evidence:

1. Clinical Studies: The US Food and Drug Administration has approved curcumin as a compound that is “generally recognized as safe” and a clinical trial reported that it was well tolerated and safe.¹¹ Trials in humans have reported beneficial effects of curcumin and it appears to have a role in treating lifestyle-related diseases associated with inflammation

2. It inhibits nuclear factor kappa-B (NF-kappaB) and myeloid differentiation protein 2-Toll-like receptor 4 co-receptor pathways, activates peroxisome proliferator-activated receptor-gamma (PPAR-gamma) and inhibits the production of proinflammatory cytokines, such as tumor necrosis factor-alpha (TNF-alpha) and interleukin (IL)-1beta.