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Text  
References  
Graphics  
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**Patient information: Sore throat in children (Beyond the Basics)****Author**

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**SORE THROAT OVERVIEW** — Sore throat is a common problem during childhood, and is usually the result of a bacterial or viral infection. Although sore throat usually resolves without complications, it sometimes requires treatment with an antibiotic. There are some less common causes of sore throat that are serious or even life-threatening.

This topic will discuss the most common causes and treatments of sore throat in children, as well as the warning signs of more serious conditions. Strep throat in adults is discussed separately. (See "[Patient information: Sore throat in adults \(Beyond the Basics\)](#)".)

**SORE THROAT CAUSES** — The most likely cause of a child's sore throat depends upon the child's age, the season, and the geographic area. While viruses are the most common cause of sore throat, bacteria are another common cause. Bacteria and viruses are spread from one person to another through hand contact. Hands get contaminated when the sick individual touches their nose or mouth and then touches another person directly (hand-to-hand contact) or indirectly (hand-to-object, such as doorknob, telephone, toys).

It is difficult to determine the cause of sore throat based upon symptoms alone; an examination and laboratory test are recommended in most cases. (See '[Sore throat diagnosis](#)' below.)

**Viruses** — There are many viruses that can cause pain and swelling of the throat. The most common include viruses that cause sore throat as part of an upper respiratory infection, such as the common cold. Other viruses that cause sore throat include influenza, enterovirus, adenovirus, and Epstein-Barr virus (the cause of mononucleosis).

**Symptoms** — Symptoms that may occur with a viral infection can include a runny nose and congestion, irritation or redness of the eyes, cough, hoarseness, soreness in the roof of the mouth, a skin rash, or diarrhea. In addition, children with viral infections may have a fever and may feel miserable. A high fever does not necessarily mean that the child has a bacterial infection.

**Group A streptococcus** — Group A streptococcus (GAS) is the name of the bacterium that causes strep throat. Although other bacteria can cause a sore throat, GAS is the most common bacterial cause; up to 30 percent of children with a sore throat in the winter will have GAS. Strep throat usually occurs during the winter and early spring, and is most common in school-age children and their younger siblings.

**Symptoms** — Symptoms of strep throat in children older than three years often develop suddenly and include fever (temperature  $\geq 100.4^{\circ}\text{F}$  or  $38^{\circ}\text{C}$ ), headache, abdominal pain, nausea, and vomiting. Other symptoms can include swollen glands in the neck, white patches of pus in the back or sides of the throat, small red spots on the roof of the mouth, and swelling of the uvula ([figure 1](#)).

Strep throat is uncommon in children younger than age two to three years. However, GAS infection can occur in younger children, and may cause a runny nose and congestion that is prolonged, low-grade fever ( $\leq 101^{\circ}\text{F}$  or  $38.3^{\circ}\text{C}$ ), and tender glands in the neck. Infants younger than one year may be fussy and have a decreased appetite and low-grade fever.

**Other causes** — Other common causes of sore throat that are not related to infection include breathing dry air through the mouth (especially during the winter) and allergies (allergic rhinitis).

**SORE THROAT DIAGNOSIS** — Most cases of sore throat are caused by viruses and do not require treatment. However, it is important to recognize and treat children with strep throat to prevent the spread of infection and also to prevent potentially serious complications of group A streptococcus (GAS) (eg, rheumatic fever).

It is difficult for a parent to know whether their child's sore throat is caused by GAS or a virus. Parents are encouraged to call their child's healthcare provider to determine if the child needs to be examined, especially if one or more of the following is present:

- Temperature is  $\geq 101^{\circ}\text{F}$  or  $38.3^{\circ}\text{C}$
- Season is late fall, winter, or early spring
- The child does not have a cough
- Child's age is between 5 and 15 years
- Recent exposure to someone with strep throat
- Difficulty breathing or swallowing
- Child's voice sounds muffled
- Stiff neck or difficulty opening the mouth
- Parent has questions or concerns about child's symptoms

**Laboratory testing** — If the provider suspects that the child could have strep throat, a test may be done to confirm the diagnosis. If the child does not have signs or symptoms of strep throat, testing is not usually necessary.

There are two types of tests available to diagnose strep throat: a rapid test and a culture. Both tests require the provider to swab the back and sides of the child's throat.

Results of the rapid test are available quickly, within a few minutes. Results of the culture are not available for 24 to 48 hours. The best test depends upon the individual child's situation and how quickly results are needed.

When the rapid test is used and is negative, a throat culture must be done to confirm that GAS is not present. If the rapid test or culture is positive for GAS, the child will be treated with an antibiotic. (See '[Strep throat](#)' below.)

**SORE THROAT TREATMENT** — The treatment of sore throat depends upon the cause; strep throat is treated with an antibiotic while viral pharyngitis is treated with rest, pain relievers, and other measures to reduce symptoms.

**Strep throat** — Strep throat is usually treated with an antibiotic, such as penicillin, or an antibiotic similar to penicillin (eg, [amoxicillin](#)). Children who are allergic to penicillin will be given an alternate antibiotic. The antibiotic is usually given in pill or liquid form two or three times per day. A one-time injection is also available, and may be recommended if a child is unwilling to take an oral medication.

After completing 24 hours of antibiotics, the child is no longer contagious and may return to school. Symptoms usually improve within one to two days. However, it is important for the child to finish the entire course of treatment (usually 10 days). If a child does not begin to improve or worsens within three days, the child should be reevaluated.

Throat pain can be treated with a non-prescription pain medication, if needed. (See '[Pain medications](#)' below.)

In addition, parents should monitor their child for dehydration, which can develop if the child is not willing to drink or eat due to a sore throat. (See '[Monitor for dehydration](#)' below.)

**Viral throat pain** — Sore throat caused by viral infections usually lasts four to five days. During this time, treatments to reduce pain may be helpful but will not help to eliminate the virus. Antibiotics do not improve throat pain caused by a virus and are not recommended.

A child with a viral infection is usually allowed to return to school when there has been no fever for 24 hours and the child feels well enough to pay attention.

**Pain medications** — Throat pain can be treated with a mild pain reliever such as [acetaminophen](#) (sample brand name: Tylenol) or a non-steroidal anti-inflammatory agent such as [ibuprofen](#) (sample brand names: Advil, Motrin). These medications should be dosed according to weight, not age.

[Aspirin](#) is not recommended for children <18 years due to the risk of a potentially serious condition known as Reye syndrome.

**Monitor for dehydration** — Some children with a sore throat are reluctant to drink or eat due to pain. Drinking less fluid can lead to dehydration. To reduce the risk of dehydration, parents can offer warm or cold liquids. (See '[Other interventions](#)' below.)

Signs and symptoms of mild dehydration include a slightly dry mouth, increased thirst, and decreased urine output (one wet diaper or void in six hours). Signs of moderate or severe dehydration include decreased urine output (less than one wet diaper or void in six hours), lack of tears when crying, dry mouth, and sunken eyes.

A child who is moderately or severely dehydrated should be evaluated by a healthcare provider as soon as possible to determine if treatment is needed.

### Oral rinses

- Salt-water gargles are an old stand-by for relief of throat pain. It is not clear if this treatment is effective, but it is unlikely to be harmful. Most recipes suggest 1/4 to 1/2 teaspoon of salt per cup (8 ounces) of warm water. The water should be gargled and then spit out (not swallowed). Children younger than six to eight years are not able to gargle properly.
- An oral rinse composed of equal parts of [diphenhydramine](#) (Benadryl liquid) and Maalox ([magnesium hydroxide](#), [aluminum hydroxide](#), and [simethicone](#)) may be helpful for pain caused by a sore mouth or ulcers in the mouth. Children older than six to eight years may swish and spit (not swallow) the mixture.

**Sprays** — Sprays containing topical anesthetics are available to treat sore throat. However, such sprays are no more effective than sucking on hard candy. In addition, a common anesthetic ingredient, [benzocaine](#), can cause allergic reactions. We do not recommend throat sprays for children.

**Lozenges** — A variety of medicated throat lozenges are available to relieve dryness or pain. However, it is not clear that lozenges work any better than hard candy. We do not recommend throat lozenges for children, especially children younger than three to four years, who can choke. Sucking on hard candy may provide some relief for children older than three to four years, who are not at risk for choking.

**Other interventions** — Other interventions include sipping warm beverages (eg, honey or lemon tea, chicken soup), cold beverages, or eating cold or frozen desserts (eg, ice cream, popsicles). These treatments are safe for children. Honey should not be given to children younger than 12 months due to the potential risk of botulism poisoning.

**Alternative therapies** — Health food stores, vitamin outlets, and Internet Web sites offer alternative treatments for relief of sore throat pain. We do not recommend these treatments due to the risks of contamination with pesticides/herbicides, inaccurate labeling and dosing information, and a lack of studies showing that these treatments are safe and effective.

**SORE THROAT PREVENTION** — Hand washing is an essential and highly effective way to prevent the spread of infection. Hands should be wet with water and plain soap, and rubbed together for 15 to 30 seconds. Special attention should be paid to the fingernails, between the fingers, and the wrists. Hands should be rinsed thoroughly, and dried with a single use towel.

Alcohol-based hand rubs are a good alternative for disinfecting hands if a sink is not available. Hand rubs should be spread over the entire surface of hands, fingers, and wrists until dry, and may be used several times. These rubs can be used repeatedly without skin irritation or loss of effectiveness. Hand rubs are available as a liquid or wipe in small, portable sizes that are easy to carry in a pocket or handbag. When a sink is available, visibly soiled hands should be washed with soap and water.

Hands should be washed after coughing, blowing the nose or sneezing. While it is not always possible to limit contact with a person who is sick, the spread of infection can be prevented if touching of the eyes, nose or mouth are avoided.

In addition, tissues should be used to cover the mouth when sneezing or coughing. These used tissues should be disposed of promptly. Sneezing/coughing into the sleeve of one's clothing (at the inner elbow) is another means of containing sprays of saliva and secretions and has the advantage of not contaminating the hands.

**WHEN TO SEEK HELP** — Parents of a child with throat pain and one or more of the following should contact their healthcare provider immediately:

- Difficulty swallowing or breathing
- Excessive drooling in an infant or young child
- Temperature  $\geq 101^{\circ}\text{F}$  or  $38.3^{\circ}\text{C}$

- Swelling of the neck
- Inability or unwillingness to drink or eat
- “Hot potato” or muffled voice
- Difficulty opening the mouth
- Stiff neck

**WHERE TO GET MORE INFORMATION** — Your child's healthcare provider is the best source of information for questions and concerns related to your child's medical problem.

This article will be updated as needed on our web site ([www.uptodate.com/patients](http://www.uptodate.com/patients)). Related topics for patients, as well as selected articles written for healthcare professionals, are also available. Some of the most relevant are listed below.

**Patient level information** — UpToDate offers two types of patient education materials.

**The Basics** — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

[Patient information: Sore throat in children \(The Basics\)](#)

[Patient information: Sore throat in adults \(The Basics\)](#)

[Patient information: Strep throat in children \(The Basics\)](#)

[Patient information: Swollen neck nodes in children \(The Basics\)](#)

[Patient information: Scarlet fever \(The Basics\)](#)

[Patient information: Laryngitis \(The Basics\)](#)

[Patient information: Tonsillectomy and adenoidectomy in children \(The Basics\)](#)

**Beyond the Basics** — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

[Patient information: Sore throat in adults \(Beyond the Basics\)](#)

**Professional level information** — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

[Antibiotic failure in the treatment of streptococcal tonsillopharyngitis](#)

[Approach to diagnosis of acute infectious pharyngitis in children and adolescents](#)

[Complications of streptococcal tonsillopharyngitis](#)

[Evaluation of sore throat in children](#)

[Periodic fever with aphthous stomatitis, pharyngitis and adenitis \(PFAPA syndrome\)](#)

[Peritonsillar cellulitis and abscess](#)

[Sore throat in children and adolescents: Symptomatic treatment](#)

[Tonsillectomy and adenoidectomy in children: Indications and contraindications](#)

[Treatment and prevention of streptococcal tonsillopharyngitis](#)

The following organizations also provide reliable health information.

- National Library of Medicine

([www.nlm.nih.gov/medlineplus/sorethroat.html](http://www.nlm.nih.gov/medlineplus/sorethroat.html))

- The Nemours Foundation

([http://kidshealth.org/teen/infections/bacterial\\_viral/strep\\_throat.html](http://kidshealth.org/teen/infections/bacterial_viral/strep_throat.html))

[1-5]

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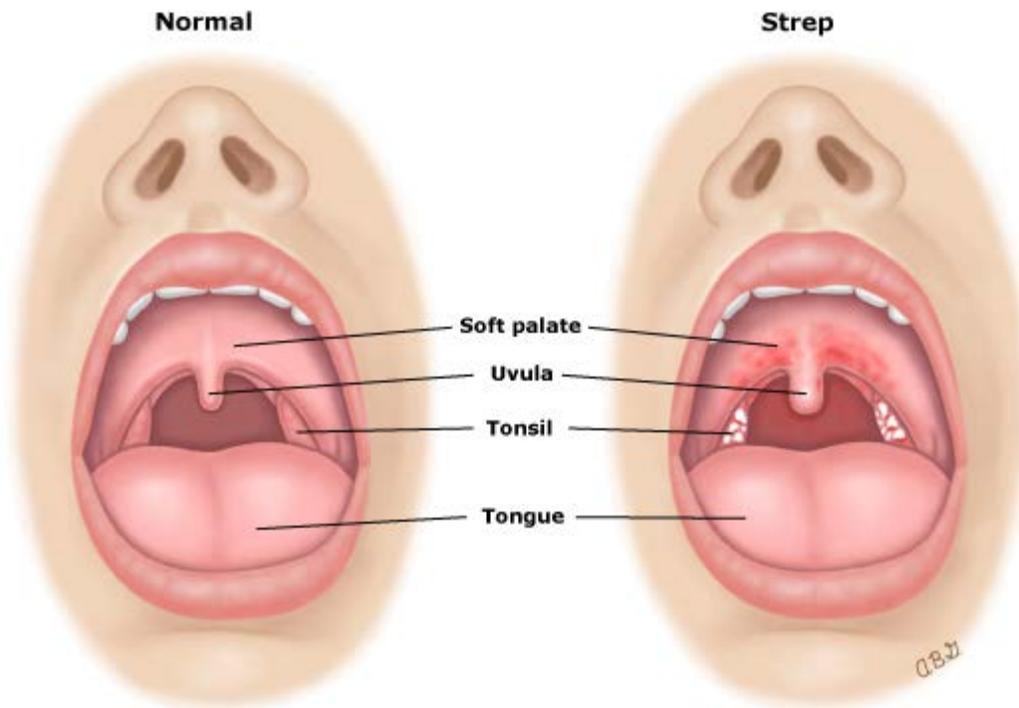
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## GRAPHICS

### Strep throat

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Strep throat can make the roof of your mouth turn red and your tonsils white. It can also make your uvula swell.

Graphic 78761 Version 6.0

### Disclosures

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