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Patient education: The common cold in children (Beyond the Basics)

Author: [Diane E Pappas, MD, JD](#)

Section Editor: [Morven S Edwards, MD](#)

Deputy Editor: [Mary M Torchia, MD](#)

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COMMON COLD OVERVIEW

The common cold is the most common illness in the United States. Infants and children are affected more often and experience more prolonged symptoms than adults. The common cold accounts for approximately 22 million missed days of school and 20 million absences from work, including time away from work caring for ill children.

This topic review discusses the causes, symptoms, and treatment of the common cold in children. The common cold in adults is discussed separately. (See "[Patient education: The common cold in adults \(Beyond the Basics\)](#)".)

COMMON COLD CAUSES

The common cold is a group of symptoms caused by a number of different viruses. There are more than 100 different varieties of rhinovirus, the type of virus responsible for the greatest number of colds. Other viruses that cause colds include enteroviruses (echovirus and

coxsackieviruses) and coronavirus. Because there are so many viruses that cause the symptoms of the common cold, people may have multiple colds each year and dozens over a lifetime.

Children under six years average six to eight colds per year (up to one per month, September through April), with symptoms lasting an average of 14 days. This means that a child could be ill with intermittent cold symptoms for nearly half of the days in this time period, without cause for concern. Young children in daycare appear to suffer from more colds than children cared for at home. However, when day-care children enter primary school, they catch fewer colds, presumably because they are already immune to a larger number.

Seasonal patterns — The common cold may occur at any time of year, although most colds occur during the fall and winter months, regardless of the geographic location. Colds are not caused by cold climates or being exposed to cold air.

Transmission — Colds are transmitted from person-to-person, either by direct contact or by contact with the virus in the environment. Colds are most contagious during the first two to four days.

Direct contact — People with colds typically carry the cold virus on their hands, where it is capable of infecting another person for at least two hours. If a child with a cold touches another child or adult, who then touches their eye, nose, or mouth, the virus can later infect that person.

Infection from particles on surfaces — Some cold viruses can live on surfaces (such as countertops, door handles, or toys) for up to one day.

Inhaling viral particles — Droplets containing viral particles can be exhaled into the air by breathing or coughing. Rhinoviruses are not usually transmitted as a result of contact with infected droplets, although influenza virus and coronavirus can be transmitted via small droplets. Cold viruses are not usually spread through saliva.

COMMON COLD SYMPTOMS

The signs and symptoms of a cold usually begin one to two days after exposure. In children, nasal congestion is the most prominent symptom. Children can also have clear, yellow, or green-colored nasal discharge; fever (temperature higher than 100.4°F or 38°C) is common during the first three days of the illness. The table describes how to take a child's temperature ([table 1](#)). (See "[Patient education: Fever in children \(Beyond the Basics\)](#)".)

Other symptoms may include sore throat, cough, irritability, difficulty sleeping, and decreased appetite. The lining of the nose may become red and swollen, and the lymph nodes (glands) in the neck may become slightly enlarged.

The symptoms of a cold are usually worst during the first 10 days. However, some children continue to have a runny nose, congestion, and a cough beyond 10 days. In addition, it is not unusual for a child to develop a second cold as the symptoms of the first cold are resolving; this can make it seem as if the child has a single cold that lasts for weeks or even months, especially during the fall and winter. This is not a cause for concern, unless the child has any of the more serious symptoms, discussed below. (See ['When to seek help'](#) below.)

Symptoms of allergies (allergic rhinitis) are slightly different than those of a cold and may include bothersome itching of the nose and eyes.

COMMON COLD COMPLICATIONS

Most children who have colds do not develop complications. However, parents should be aware of the signs and symptoms of potential complications.

Ear infection — Between 5 and 19 percent of children with a cold develop a bacterial or viral ear infection. If a child develops a fever (temperature higher than 100.4°F or 38°C) after the first three days of cold symptoms, an ear infection may be to blame. (See ["Patient education: Ear infections \(otitis media\) in children \(Beyond the Basics\)"](#).)

Asthma — Colds can cause wheezing in children who have not wheezed before or worsening of asthma in children who have a history of this condition.

Sinusitis — Children who have nasal congestion that does not improve over the course of 10 days may have a bacterial sinus infection.

Pneumonia — Children who develop a fever after the first three days of cold symptoms may have bacterial pneumonia, especially if the child also has a cough and is breathing rapidly.

COMMON COLD TREATMENT

Symptomatic treatment — The treatment of an infant or child with a cold is different than treatment recommended for adults. Antihistamines, decongestants, cough medicines, and expectorants, alone and in combinations, are all marketed for the symptoms of a cold.

However, there have been few clinical trials of these products in infants and children, and there are no studies that demonstrate any benefit in infants or children.

The US Food and Drug Administration (FDA) advisory panel has recommended against the use of these medications in children younger than six years [1]. We agree with this recommendation because these medications are not proven to be effective and have the potential to cause dangerous side effects. For children older than six years, cold medications may have fewer risks; however, there is still no proven benefit.

Parents may give [acetaminophen](#) (sample brand name: Tylenol) to treat a child (older than three months) who is uncomfortable because of fever during the first few days of a cold. [Ibuprofen](#) (sample brand names: Advil, Motrin) can be given to children older than six months. [Aspirin](#) should not be given to any child under age 18 years. There is no benefit of these medications if the child is comfortable. Parents should speak with their child's health care provider about when and how to treat fever. (See "[Patient education: Fever in children \(Beyond the Basics\)](#)".)

Humidified air may improve symptoms of nasal congestion and runny nose. For infants, parents can try [saline](#) nose drops to thin the mucus, followed by bulb suction to temporarily remove nasal secretions ([table 2](#)). An older child may try using a saline nose spray.

Honey may be helpful for nighttime cough in children older than 12 months.

Parents should encourage their child to drink an adequate amount of fluids; it is not necessary to drink extra fluids. Children often have a reduced appetite during a cold and may eat less than usual. If an infant or child completely refuses to eat or drink for a prolonged period, the parent should contact their child's health care provider.

Antibiotics — Antibiotics are not effective in treating colds. They may be necessary if the cold is complicated by a bacterial infection, like an ear infection, pneumonia, or sinusitis. Parents who think their child has developed one of these infections should contact their child's health care provider.

Inappropriate use of antibiotics can lead to the development of antibiotic resistance and can possibly lead to side effects, such as an allergic reaction.

Herbal and alternative treatments — A number of alternative products, including zinc and herbal products such as echinacea, are advertised to treat or prevent the common cold. There is some evidence that prophylactic use of [vitamin C](#) may decrease the duration of the common

cold in children. With the exception of vitamin C, none of these treatments have been proven to be effective in clinical trials; their use is not recommended.

COMMON COLD PREVENTION

Simple hygiene measures can help to prevent infection with the viruses that cause colds. These measures include:

- 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. It is not necessary to use antibacterial hand soap. Teach children to wash their hands before and after eating and after coughing or sneezing.
 - 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.
 - It may be difficult or impossible to completely avoid people who are ill, although parents should try to limit direct contact.
 - Most children with colds need not be excluded from day care or school. It is likely that they spread the virus before they developed cold symptoms.
 - Using a household cleaner that kills viruses, such as phenol/alcohol (sample brand name: Lysol), may help to reduce viral transmission.
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WHEN TO SEEK HELP

If a child develops any of the following features, the parent should call their health care provider, regardless of the time of day or night.

- Refusing to drink anything for a prolonged period
- Behavior changes, including irritability or lethargy (decreased responsiveness); this usually requires immediate medical attention
- Difficulty breathing, working hard to breathe, or breathing rapidly; this usually requires immediate medical attention

Parents should call the health care provider if the following symptoms develop or if there are general concerns about the child:

- Fever greater than 101°F (38.4°C) lasts more than three days. The table describes how to take a child's temperature ([table 1](#)).
- Nasal congestion worsens or does not improve over the course of 10 days.
- The eyes become red or develop yellow discharge.
- There are signs or symptoms of an ear infection (pain, ear pulling, fussiness).

SUMMARY

- The common cold is a group of symptoms caused by a number of different viruses. Children under six years average six to eight colds per year (up to one per month, September through April), with symptoms lasting an average of 14 days. This means that a child could be ill with intermittent cold symptoms for nearly half of the days in this time period, without cause for concern.
- Colds are most contagious during the first two to four days. People with colds typically carry the cold virus on their hands, where it is capable of infecting another person for at least two hours. Some cold viruses can live on surfaces (such as countertops, door handles, or toys) for as long as one day. Droplets containing viral particles can be exhaled into the air by breathing, coughing, or sneezing.
- The signs and symptoms of a cold usually begin one to two days after exposure. In children, nasal congestion is the most prominent symptom. Children can also have clear, yellow, or green-colored nasal discharge. Fever (temperature higher than 100.4°F or 38°C) is common during the first three days of the illness. Other symptoms may include sore throat, cough, irritability, difficulty sleeping, and decreased appetite.
- Most children who have colds do not develop complications. However, parents should be aware of the signs and symptoms of potential complications, including ear infections, asthma, sinusitis, and pneumonia.
- There have been few clinical trials of cold medications (antihistamines, decongestants, cough medicines, and expectorants) in infants and children, and there are no studies that demonstrate any benefit in infants or children. We do **not** recommend their use in infants

and children because of the lack of proven efficacy and the potential risk of dangerous side effects.

- Parents may give [acetaminophen](#) (sample brand name: Tylenol) to children older than three months or [ibuprofen](#) (sample brand names: Advil, Motrin) to children older than six months to treat discomfort associated with fever. Humidified air can improve symptoms of nasal congestion and runny nose. Honey may be helpful for nighttime cough in children older than 12 months.
- Parents should encourage their child to drink an adequate amount of fluids; it is not necessary to drink extra fluids.
- Antibiotics are not effective in treating colds. They may be necessary if the cold is complicated by a bacterial infection, like an ear infection, pneumonia, or sinusitis. Parents who think their child has developed one of these infections should contact their child's health care provider. Inappropriate use of antibiotics can lead to the development of antibiotic resistance and can possibly lead to side effects, such as an allergic reaction.
- A number of alternative products, including zinc, [vitamin C](#), and herbal products such as echinacea, are advertised to treat or prevent the common cold. There is some evidence that prophylactic use of vitamin C may decrease the duration of the common cold in children. With the exception of vitamin C, none of these treatments have been proven to be effective in clinical trials; their use is not recommended.
- Simple hygiene measures can help to prevent infection with the viruses that cause colds, including hand washing or use of an alcohol-based hand rub and limiting contact with others who are ill.

WHERE TO GET MORE INFORMATION

Your health care provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our website (www.uptodate.com/patients). Related topics for patients, as well as selected articles written for health care 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 education: Cough, runny nose, and the common cold \(The Basics\)](#)

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

[Patient education: Sinusitis in adults \(The Basics\)](#)

[Patient education: Giving your child over-the-counter medicines \(The Basics\)](#)

[Patient education: Eustachian tube problems \(The Basics\)](#)

[Patient education: Pneumonia in children \(The Basics\)](#)

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

[Patient education: Adenovirus infections \(The Basics\)](#)

[Patient education: Mycoplasma pneumonia in children \(The Basics\)](#)

[Patient education: Enterovirus D68 \(The Basics\)](#)

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 education: The common cold in adults \(Beyond the Basics\)](#)

[Patient education: Fever in children \(Beyond the Basics\)](#)

[Patient education: Ear infections \(otitis media\) in children \(Beyond the Basics\)](#)

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.

[The common cold in children: Clinical features and diagnosis](#)

[The common cold in children: Management and prevention](#)

[Acute bacterial rhinosinusitis in children: Clinical features and diagnosis](#)

[Acute bacterial rhinosinusitis in children: Microbiology and management](#)

[Approach to the child with recurrent infections](#)

[Allergic rhinitis: Clinical manifestations, epidemiology, and diagnosis](#)

[Epidemiology, clinical manifestations, and pathogenesis of rhinovirus infections](#)

[The common cold in adults: Treatment and prevention](#)

[Zinc deficiency and supplementation in children](#)

The following organizations also provide reliable health information.

- National Library of Medicine
www.nlm.nih.gov/medlineplus/healthtopics.html
- National Institute of Allergy and Infectious Diseases
www.niaid.nih.gov/
- Centers for Disease Control and Prevention (CDC)

Phone: (404) 639-3534

Toll-free: (800) 311-3435

www.cdc.gov

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[1-6]

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REFERENCES

1. US Food and Drug Administration. Public Health Advisory. Nonprescription cough and cold medicine use in children. FDA recommends that over-the-counter (OTC) cough and cold products not be used for infants and children under 2 years of age. www.fda.gov/Drugs/DrugSafety/PostmarketDrugSafetyInformationforPatientsandProviders/DrugSafetyInformationforHealthcareProfessionals/PublicHealthAdvisories/UCM051137 (Accessed on August 31, 2011).
2. [Gonzales R, Malone DC, Maselli JH, Sande MA. Excessive antibiotic use for acute respiratory infections in the United States. Clin Infect Dis 2001; 33:757.](#)
3. [Heikkinen T, Järvinen A. The common cold. Lancet 2003; 361:51.](#)
4. [Clemens CJ, Taylor JA, Almquist JR, et al. Is an antihistamine-decongestant combination effective in temporarily relieving symptoms of the common cold in preschool children? J Pediatr 1997; 130:463.](#)
5. [Paul IM, Yoder KE, Crowell KR, et al. Effect of dextromethorphan, diphenhydramine, and placebo on nocturnal cough and sleep quality for coughing children and their parents.](#)

[Pediatrics 2004; 114:e85.](#)

6. [Cohen HA, Rozen J, Kristal H, et al. Effect of honey on nocturnal cough and sleep quality: a double-blind, randomized, placebo-controlled study. Pediatrics 2012; 130:465.](#)

Topic 1211 Version 22.0

GRAPHICS

Frequently asked questions about fever in children

<p>What is a fever?</p> <p>In general, a fever means a temperature above 100.4°F (38°C). You might get slightly different numbers depending on how you take your child's temperature (oral [mouth], armpit, ear, forehead, or rectal).</p>
<p>How do I measure my child's temperature?</p> <p>The best method to measure temperature depends upon several factors. In all cases, rectal temperatures are the most accurate. However, measurements of temperature in the mouth (for children older than 4 or 5 years) is accurate when done properly. Temperatures measured in the armpit, in the ear, and on the forehead are the least accurate but may be useful as a first test.</p> <p>Glass thermometers are not recommended, due to the potential risks of exposure to mercury, which is toxic. If another (digital) thermometer is not available, be sure to carefully "shake down" the glass thermometer before use. Instructions for disposing of glass thermometers are available online (www.epa.gov/mercury/spills/index.htm).</p>
<p>Measuring a rectal temperature</p> <p>The child or infant should lie down on his or her stomach across an adult's lap.</p> <p>Apply a small amount of petroleum jelly (sample brand name Vaseline) to the end of the thermometer.</p> <p>Gently insert the thermometer into the child's anus. The silver tip of the thermometer should be 1/4 to 1/2 inch inside the rectum.</p> <p>Hold the thermometer in place. A glass thermometer requires 2 minutes, while most digital thermometers need less than 1 minute.</p>
<p>Measuring an oral temperature</p> <p>Clean the thermometer with cool water and soap. Rinse with water.</p> <p>Do not measure the temperature in a child's mouth if he or she has consumed a hot or cold food or drink in the last 30 minutes.</p> <p>Place the tip of the thermometer under the child's tongue toward the back. Ask the child to hold the thermometer with his or her lips.</p> <p>Keep the lips sealed around the thermometer. A glass thermometer requires approximately 3 minutes, while most digital thermometers need less than 1 minute.</p>
<p>Measuring an armpit temperature</p> <p>Place the tip of the thermometer in the child's dry armpit.</p> <p>Hold the thermometer in place by holding the child's elbow against the chest for 4 to 5 minutes.</p>
<p>Measuring an ear temperature</p> <p>To measure temperature in the ear, the parent must pull the child's outer ear backward before inserting the thermometer.</p> <p>The ear probe is held in the child's ear for approximately 2 seconds.</p> <p>If the child has been outside on a cold day, wait 15 minutes before measuring the ear temperature.</p> <p>Ear tubes and ear infections do not affect the accuracy of an ear temperature.</p>

Graphic 57109 Version 9.0

Instructions on using a bulb syringe^[1]

Nasal congestion from a cold can make it difficult for a young infant to breathe while eating. Mucus can be removed from the infant's nose with a bulb syringe.

Before using a bulb syringe, saline nose drops can be used to thin the mucus. Saline nose drops can be purchased in most pharmacies or can be made at home by adding 1/4 teaspoon salt to 8 ounces (1 cup) of warm (not hot) water. Stir to dissolve the salt, and store the solution for up to one week in a clean container with a cover.

Place the infant on his or her back. Using a clean nose dropper, place one to two drops of saline solution in each nostril. Wait a short period.

Squeeze and hold the bulb syringe to remove the air. Gently insert the tip of the bulb syringe into one nostril, and release the bulb. The suction will draw mucus out of the nostril into the bulb.

Squeeze the mucus out of the bulb into a tissue.

Repeat suction process several times in each nostril until most mucus is removed.

Wash the dropper and bulb syringe in warm, soapy water. Rinse well, and squeeze to remove any water.

The bulb syringe can be used two to three times per day as needed to remove mucus. It is best to do this before feeding; the saline and suction process can cause vomiting after feeding.

Reference:

1. *Suctioning the Nose with a Bulb Syringe*. Cincinnati Children's Hospital Medical Center. Available at: www.cincinnatichildrens.org/health/info/newborn/home/suction.htm.

Graphic 67982 Version 3.0

Contributor Disclosures

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