

# Colds, Coughs, Allergies, and Sinus Infections.

Dr. Tim Teller, M.D. - - Hilliard Pediatrics, Inc. - - 7/14

**Introduction.** This handout aims to help parents and their children through colds, coughs, allergies, sinus infections, and other causes of nasal symptoms. The following chart is a simplified way of dividing up different causes of nasal symptoms.

	How Long <u>It Lasts</u>	Color of <u>Discharge</u>	<u>Fever</u>	<u>Cough</u>	Other <u>Symptoms</u>	Family <u>History</u>
<b>COLDS</b>	10-14 days.	Clear to yellow to green.	Yes (0-5 days).	Often present.	Sore throat. Headache.	Not applicable.
<b>ALLERGIES</b>	Seasonal to daily.	Clear.	Never.	Occasionally.	Sneezing. Itchy nose or eyes.	Family members often have allergies or asthma.
<b>SINUS INFECTIONS</b>	More than 14 days.	Yellow to green. Never clear.	Rarely.	From drainage.	Sinus pressure or headache.	Occasionally helpful.

**COLDS.** Colds are caused by viruses. Colds are extremely common. The average young child has 6-12 each year (often many more than that if a child is in daycare or regularly with a number of other children). The more than 250 different upper respiratory viruses that cause colds are very contagious and passed from one person to another through sneezing, coughing, or hand contact. Many of these viruses live on toys, door handles, etc. for hours after the person with the cold virus touched the item. Cold viruses can cause congestion, a runny nose, sore throat, headache, sinus pressure, fever and chills, dry to moist or productive coughs, muscle aches, a poor appetite, and listlessness (not being as active as usual). Note that it is quite common to have back-to-back cold virus infections with persistent symptoms for weeks. Although no treatment is necessary, certain treatments can help with how bothersome the symptoms are while the virus runs its course (details are on the reverse):

- Antibiotics will **not** help.
- Cold and cough medicines often help.
- Medicines to help with the discomfort of fever can be given.
- Zinc tablets are of no or little help.
- Drinking plenty of fluids is helpful (do not worry if appetite is poor).
- Elevating the head of the bed often helps.
- Vaporizers or humidifiers can help.
- Suctioning or blowing the nose will help.
- Using saline nose drops or sprays will help.
- Avoiding cigarette smoke exposure will be helpful.
- No special change of food intake is necessary.

**ALLERGIES.** Pollens (trees, grass, and weeds), pets (cats, dogs, etc.), molds, and dust and dust mites cause most allergic nasal symptoms. Although allergies are common, they are uncommon in children less than 2 to 3 years of age. Most young children with frequent nasal symptoms are not allergic (they are usually having frequent cold viruses). Many children and adults with allergies have family members with allergies, asthma, and/or eczema (a tendency towards dry, irritated skin that can itch). Symptoms of allergies can include a runny nose, sneezing, a congested nose, an itchy nose (and eyes) and roof of the mouth, sinus pressure, headaches, and fatigue. As with cold viruses, treatment is not necessary. However, if the symptoms are bothersome to the child, there are multiple effective treatments available. Although there are many excellent allergists in Columbus (including Dr. Grace Ryu (“you”), M.D., Dr. Tim’s wife), many of our patients with allergies do *not* necessarily need to see an allergist. We will help you decide when that will be helpful. Allergies are not contagious.

- Both over-the-counter and prescription allergy medicines often are very helpful.
- Vaporizers or humidifiers are only occasionally helpful, but can make some allergies worse if not kept clean.
- Antibiotics will **not** help.
- Avoiding whatever triggers the allergies will be helpful.
- Suctioning or blowing the nose will help.
- Avoiding cigarette smoke exposure will be helpful.

**SINUS INFECTIONS.** A sinus infection (“sinusitis”) is a bacterial illness of the small spaces off our nasal passages. Sinus infections often start as colds or allergies causing nasal discharge that blocks the normal drainage of the sinuses. When bacteria that normally live in small numbers in everyone’s nose become trapped in the sinuses, an infection can then occur. When nasal drainage begins, becomes thicker and discolored over 10-14 days, and is accompanied by frontal headache, sinus pressure, and a cough from post-nasal drip, this is the classic sinus infection. The cough may be dry (“ticklish”) or moist. Although the cold viruses that often begin sinus infections are contagious, a sinus infection is not contagious. Telling the difference between a cold and sinus infection is not always easy. There is no way to tell if a few days of sinusitis-like symptoms will fade away without antibiotic treatment in a few more days (quite likely and therefore be due to a cold virus) or continue for more than 10-14 days (less likely and therefore be a sinus infection). In either case, we would want to treat whatever symptoms are bothering the child (see below). Any sinusitis-like symptoms leading up to 10-14 days should be treated as a viral illness. If symptoms are then not improving or worsening at 10-14 days, it is appropriate to call for an appointment so we can discuss antibiotic treatment. Antibiotic treatment is not necessary, as most sinus infections will resolve on their own over a few weeks. However, if the symptoms are bothering the child, treating with antibiotics is appropriate.

- A vaporizer or humidifier can be helpful.
- Tylenol®, Motrin®, or Advil® are helpful for headache or pain.
- Suctioning or blowing the nose will be helpful.
- Elevating the head of the bed can be helpful.

- Over-the-counter or prescription medicines can be helpful to reduce the nasal drainage and/or congestion.
- Avoiding cigarette smoke will be helpful.

- Antibiotics often are helpful for symptoms lasting at least 10 to 14 days.

#### A note about **nosebleeds**.

Nosebleeds commonly occur among children during the time of other nasal problems (colds, allergies, and sinus infections). They are more likely with other nasal symptoms because the lining of the nose becomes irritated. Then vigorous nose blowing, overly-dry nasal passages (from dry winter air or from medications used to treat nasal symptoms), smoke exposure, or children bumping or “picking” their nose can cause these irritated nasal passages to bleed. If a nose bleed occurs, put a cold (ice) pack or cold, wet washcloth on the bridge of the nose, hold a tissue over the nostril that is bleeding, and have the child tilt the head back just a bit. The bleeding generally stops after 10-15 minutes. It will keep bleeding if the child blows their nose soon after the bleeding stops. If the bleeding persists, it is very helpful to spray Afrin® Nasal Decongestant Spray (over-the-counter) on half of a cotton puff and gently place it in the nostril that is bleeding. This quickly shrinks down the irritated lining of the nose and often stops the bleeding. Other treatments:

- A vaporizer or humidifier will be helpful.
- Try to reduce how often the nose is being suctioned or blown.
- Trim the child’s fingernails to decrease the chance that any “picking” of the nose will cause the nose to bleed.
- Avoiding smoke exposure will be helpful.
- Decrease or stop any antihistamine medicines for the nose.
- Placing a small “dab” of Vaseline petroleum jelly or saline gel (over-the-counter) in the nostrils before bedtime.

#### NOTES.

**Vaporizers or humidifiers.** Studies have shown that *both* steam and cool mist vaporizers *work equally well*, but I recommend the cool mist because older children occasionally put their hand in front of the steam and burn themselves. No study has shown any specific benefit to putting Vicks VapoRub in the vaporizer (menthol likely helps us feel “less plugged-up” is because it makes our nasal passages feel cooler). Although it may be safe and effective, I do not actively recommend Vicks. Also, carefully follow the cleaning instructions with your unit.

**Saline nose drops, sprays, and gels.** Although there are name brands (Ayr, Ocean, etc.) of these, generic or store brands are equally helpful. Saline drops and sprays are the most effective way of clearing mucous out of the nose of a child before they can blow their nose. With infants or young children, have the child lie down before using the drops or spray. Use a few drops or a few sprays to each nostril. I recommend waiting at least 10-30 seconds after using the saline before suctioning. This allows the saline enough time to loosen the mucous. Use a soft-tipped suction bulb designed for the nose. Using this method before an infant sleeps or eats is especially helpful. Saline is so safe that you can use saline and suctioning as often as needed (you may need to use it as often as every 30 minutes with many “colds”).

**Avoiding cigar, cigarette, and pipe smoke exposure.** Smoke and the smell of smoke cause many nasal symptoms to be more frequent or worse: colds and sinus infections are more likely and it makes any cold, allergy, and sinus symptoms worse. Completely avoiding this smoke is best. However, for children living with smokers, it will help if the smokers will smoke outside the house.

**Elevating the head of the bed.** For infants with runny nose and/or congestion, elevating the head of the baby’s crib or bassinet can decrease how often the nasal mucous will interfere with them comfortably breathing through their nose while sleeping. An angle of about 20-30 degrees will help. This can be done by placing a firm object (a few books or a box) under the mattress. Placing the infant in a bouncy seat serves the same purpose and is more helpful after 3-4 months of age when infants will squirm into a less helpful position. For older children, if they are dramatically congested, propping them up on extra pillows can help.

**Blowing the nose.** By 2 years of age, many children will be able (although not always willing) to blow their nose. It has been found that *forcefully* blowing the nose makes it more likely that mucous (and bacteria) will be forced into the sinuses, therefore, encourage **gentle** blowing of the nose. Remember that it is a good idea to get in the habit of washing the hands after blowing the nose. Also, many children will keep “sniffing” their nose when it is running. This (like forcefully blowing the nose) can plug up the ears and sinuses, leading to ear and sinus infections. Using saline drops or sprays (as detailed above) before blowing the nose can help clear the mucous.

**The color of the nasal discharge.** I am often asked if white, yellow, or green nasal discharge means there is an infection. Discolored drainage can be due to a cold virus, a sinus infection, and occasionally allergies. *A child with discolored nasal drainage most likely has a cold virus.* What is important is the **length of time** that the discolored nasal discharge has lasted: if it is 14 days or more, we are more likely to be a sinus infection.

**Children in daycare settings with near constant nasal symptoms.** Many children in daycare or home babysitting situations are exposed to so many different cold viruses that they have nearly endless nasal symptoms for the first 2-3 years. Sadly, this is difficult to change. It can be confusing when trying to decide when these symptoms are another new cold virus or a sinus infection. It is almost always true that if the symptoms clear for a few days and begin again, even if the drainage has been yellow or green that the drainage is due to a cold virus.

**Antibiotics.** A variety of antibiotics are helpful for sinus infections. The same antibiotics that treat ear infections will treat sinus infections. Most sinus infections will respond to a 10 day course of antibiotics and will improve within the first 3-5 days of treatment. For a child with chronic or frequent sinus infections, a longer course (14 days to 4-6 weeks) may be necessary. If this is the case, it may take 10-14 days to see improvement from the antibiotic. Because of the increasing problem with bacteria becoming resistant to antibiotics, it is important for us to try to use the “weakest” antibiotic that will work to treat the infection, to have your child take all of the prescribed antibiotic, and to only treat a sinus infection with antibiotics when it is necessary for the child’s symptoms.

**Washing the hands and using antibacterial hand sanitizers.** Washing the hands frequently with soap and warm water is helpful during a cold. It decreases the chances of spreading the germs to someone else. Washing the hands well helps to avoid illnesses by washing away viral and bacterial germs before they enter our body (usually through our mouth and nose). The idea of antibacterial hand sanitizers might sound appealing. The fact is people who frequently use antibacterial hand washes are no better at avoiding illnesses than someone who washes their hands with soap and water and there is a concern that people who use them are more likely to get sick with a resistant (to antibiotics) germ if

they do become ill. Therefore, when you have been potentially exposed to germs or are getting ready to eat or have used the bathroom (or changed a diaper), wash your hands with warm soapy water. And if you cannot do that, use a hand sanitizer.

**Nasal decongestants.** Over the counter nasal decongestant sprays will “unplug” the nasal passages and relieve sinus pressure. Side effects include burning or stinging, sneezing, and an increase in nasal drainage. Although helpful with nose bleeds (see above), I do not routinely recommend nasal decongestants. If used, be very careful to follow the instructions. If these sprays are used for more than 3 days, they can cause the nose to be congested after they are stopped. Therefore, do **not** use these sprays for more than 3 consecutive days.

**Breastfeeding Mothers.** Unless instructed by a physician, avoiding medicines during breastfeeding is best. However, we pediatricians recognize that breastfeeding mothers may want to take something on occasion for nasal symptoms. Any medicine for runny nose, sneezing, or congestion can cause the same side effects in a breastfeeding infant as it does the mother. And, just as with an older child or adult, it is difficult to predict if any specific side effects will occur in any particular child. If drowsiness, wakefulness, or fussiness occurs in the child after you have taken a dose of the medicine, it is likely this will continue with each later dose. In addition to the above side effects, some breastfeeding mothers will find the amount of breast milk will decrease with antihistamines or decongestants for colds and allergies. Benadryl® and pseudoephedrine are generally thought to be safe while breastfeeding. If you are a breastfeeding mother and require an antibiotic for a sinus infection, remember to mention that you are breast-feeding to the physician prescribing the antibiotic.

**Zinc and vitamin C supplements.** Over the last few years, it has become common to hear that zinc supplements fight the common cold. Studies have shown that an adult with a cold who takes zinc tablets throughout the illness will decrease how many days they are sick by one half (typically from 7-10 days to 4-5 days). However, at least 1 out of four persons taking zinc supplements will have nausea and vomiting, many children will be “hyper” while taking a zinc supplement, and no scientific studies have looked at how children’s colds respond to zinc. Therefore, it is difficult to recommend zinc supplements for children. Vitamin C supplements given during a cold have long been felt by many to help fight the common cold. While safe if moderate amounts are used, vitamin C has not been shown to routinely work against colds in scientific studies.

**COLD, COUGH, AND ALLERGY MEDICINES.** *No medicine will cure a cold, cough, or allergy.* These medicines can help control the symptoms of runny nose, sneezing, congestion, and/or cough. You will need to continue offering doses for as long as the symptoms are there. Note that children less than 4 years of age rarely benefit from these medicines. Young children are also more prone to the side effects of these medicines. For children 4 and above, you may find a number of these medicines helpful. As of 2007, after Federal Drug Administration recommendations changed about these medicines, cough and cold medicines labeled for infants and toddlers were voluntarily taken off the market. You may read that studies have shown that the cold and cough medications are not effective in children less than 6 years of age and can have potentially serious side effects. This is true. By carefully following the correct doses (see below), serious side effects can be avoided. If a study shows that the medications are not effective in a group of children, it does not mean that the medicines do not help some children with these symptoms. Therefore, it is fine to try the correct dose of the medication. After a few doses, if no improvement is noted, I would not recommend continuing the medication. Although it may seem as if there are an endless number of cough and cold medicines, you can simplify your buying by understanding which medicines will help your child’s symptoms. **Decongestants** (pseudoephedrine) unplug a stuffy nose. Side effects: headache, excitability, and sleeplessness. *Note: there may be an added risk at all ages (children and adults) for a stroke when decongestants are used. More research is being done to further study this possible risk factor.* **Antihistamines** (chlorpheniramine, brompheniramine, clemastine, diphenhydramine) decrease sneezing and dry a runny nose. Side effects: sleepiness, dry mouth, and dizziness. **Cough suppressants** (dextromethorphan) decrease how frequently you cough. Side effects: stomach upset. **Expectorants** (guaifenesin) moisturize a dry cough and increase how frequently you cough. Note that guaifenesin has a bad taste. Side effects: stomach upset, headache, and drowsiness (notice they increase how much you cough). *Beware* that any cough and cold medicine stating it is for “sore throat” or “fever” contains acetaminophen (Tylenol) or ibuprofen (Motrin) and should **not** be given at the same time as acetaminophen (Tylenol) or ibuprofen (Motrin) itself. I do not recommend using these medicines labeled for “sore throat”, “flu”, or “fever” because of this easy confusion. Also, these multi-symptom medications often contain ingredients that your child may not need during a particular illness (and this increases the likelihood of side effects from the medication and therefore is hard to recommend).

[D] = decongestant; [A] = antihistamine; [C] = cough suppressant; [E] = expectorant.

1 teaspoon (tsp.) = 5 milliliters (ml.). 1 tablespoon (Tbsp.) = 15 ml. 1 ounce (oz.) = 30 ml. lbs = pounds.

#### **OVER-THE-COUNTER MEDICINES:**

**Allegra® Children’s Liquid** [A] 2-11 years: 1 tsp. 12 years and above: 2 tsp. Every 12 hours.

**Allegra® Meltable Tablets** [A] 6-11 years: 1 tablet. 12 years and above: 2 tablets. Every 12 hours.

**Benadryl® Allergy Liquid** [A] Less than 25 lbs.: 1/2 tsp. 25-50 lbs.: 1 tsp. Greater than 50 lbs.: 2 tsp. Every 6 hours.

**Benadryl® Allergy Fastmelt** [A] 2-5 years: 1 tablet; 6-11 years: 1-2 tablets; 12 years and above: 2-4 tablets. Every 6 hours.

**Children’s Vicks® NyQuil** [A + C] 4-5 yrs: 7.5 ml; 6-11 yrs: 15 ml. Every 6 hours.

**Claritin® Children’s Allergy Suspension** [A] 2-5 yrs: 1 tsp; 6 years and above: 2 tsp. Every 24 hours.

**Claritin® 24 Hour Allergy Tablets or Reditabs** 6 years and above: 1 tablet. Every 24 hours.

**Delsym® Cough Formula** [C] 2-5 years: 1/2 tsp.; 6-11 years: 1 tsp.; 12 years and above: 2 tsp. Every 12 hours.

**Delsym® Children’s Night Time Cough & Cold** [D + A] 6-11 years: 1 tsp.; 12 years and above: 2 tsp. Every 4 hours.

**Dimetapp® Cold and Allergy Chewable or Quick Dissolve Tablets** [D+A] 4-5 years: 1 tablet. 6-12 years: 2 tablets. Every 4 hours.

**Dimetapp® Cold and Allergy Elixir** [D + A] 4-5 years: 1 tsp.; 6-11 years: 2 tsp.; 12 years and above: 4 tsp. Every 4 hours.

**Dimetapp® Cold and Cough DM** [D + A + C] Same as Dimetapp Cold and Allergy Elixir above. Every 4 hours.

**Dimetapp® ND Non-Drowsy Allergy Tablets or Syrup** [A] 4-5 yrs: 1 tsp.; 6 and above: 1 tablet or 2 tsp. Every 24 hours.

**Mucinex® (Children’s Cough Liquid)** [E] 4-5 years: 1/2-1 tsp. every 4 hours; 6-11 years: 1-2 tsp. every 4 hours.

**Mucinex® (Children's Mini-Melts)** [E] 4-5 years: 1-2 packets every 4 hours; 6-11 years: 2-4 packets every 4 hours.  
**Mucinex® (Children's Congestion & Cough)** [E + D + C] 4-5 years: ½-1 tsp. every 4 hours; 6-11 years: 1-2 tsp. every 4 hours.  
**PediaCare® Nighttime Cold Liquid** [D + A] or **PediaCare Daytime Cold** [D + C] or **PediaCare Cough & Congestion** [E + C]: 4-5 yrs: 1 tsp.; 6-11 yrs: 2 tsp. Every 4 hours.  
**Robitussin® Cough Long-Acting** [C] 4-5 yrs.: 1 tsp.; 6-11 yrs.: 2 tsp.; 12 yrs. and above: 4 tsp. Every 6-8 hours.  
**Robitussin® Cough & Cold Long-Acting** [A + C] 4-5 yrs: 1 tsp; 6-11 yrs: 2 tsp; 12 yrs and above: 4 tsp. Every 6 hours.  
**Triaminic® Long-Acting Cough** [C] or **Triaminic® Night Time Cough & Cold** [D + A] or **Triaminic® Cold & Allergy** [D + A] or **Triaminic® Daytime Cold & Cough** [D + C]: 4-5 yrs.: 1 tsp.; 6-11 yrs.: 2 tsp. Every 4 hours (except the Long-Acting Cough, which is every 6 hours).  
**Zyrtec® Tablets 10mg** 1 once a day or **Chewables 5 mg** (4-5 years of age: 1 once a day), **10 mg** (6 years and above) or **Allergy Syrup** (4-5 years of age: ½ tsp. once daily; 6 and above: 1 tsp. daily).

#### PRESCRIPTION MEDICINES:

In addition to the over-the-counter dextromethorphan cough suppressant, there are three prescription strength cough suppressants: hydrocodone (a relative of codeine that is a powerful cough suppressant; a liquid), carbapentane and Tessalon (benzonatate; a capsule). There are some coughs, especially those that disrupt sleep, which will respond well to these prescription medicines. However, they can cause drowsiness, upset stomach, and dizziness. Hydrocodone, a narcotic found in Histussin HC and similar medications, can be habit forming if given for long periods.

**Tessalon®** pearls (yellow capsules that look like a pearl) 10 yrs and above: 1 every 6-8 hours. Do not chew.

**Hycodan® syrup** 6-11 years: ½ tsp. and 12 years and above: 1 tsp. Every 4-6 hours.

**Codiclear DH®** syrup 6-11 years: ½ tsp. and 12 years and above: 1 tsp. Every 4-6 hours.

**Tussionex®** suspension (12 hour cough and cold medicine) 6-11 yrs: 1/2 tsp; 12 yrs and older: 1 tsp. Every 12 hours.

#### **SPECIFIC RECOMMENDATIONS BASED ON AGE AND SYMPTOMS.**

For children less than 2 years of age

...With runny nose, congestion, and/or cough => elevate the head of the bed, suction the nose using saline, and use a vaporizer or humidifier. Avoid over-the counter cough and cold medications. If less than 8 weeks, do not treat a fever unless instructed by us. For 2-6 months, treat the fever as needed with Tylenol. For children 6 months old and above, treat any fever with Tylenol or Motrin/Advil as needed.

For children 2-3 years of age

...With runny nose, congestion, and/or cough => encourage regular gentle nose blowing and use a vaporizer or humidifier. Avoid over-the-counter cough and cold medications unless specifically instructed by us to do so.

For children 4 years of age and older

...With runny nose, congestion, and/or cough => encourage regular gentle nose blowing and use a vaporizer or humidifier. If your child's symptoms are disrupting their normal routine, especially if disrupting their sleep, consider an over-the-counter medication above that matches their symptoms.

For children 6 years of age and older

...If congestion is not responding to other treatments => try a nasal decongestant spray (but carefully follow the instructions on the package, not treating for more than 3 days).

For children of all ages

...Consistently **coughing every 1-5 minutes** => contact us during regular office hours as your child needs to be seen to decide if a lower respiratory illness (pneumonia, bronchiolitis, or bronchiolitis) has now occurred.

...If your child is **breathing ≥ 60 times a minute** when they do not have a fever or having the chest sink-in around the ribs with each breath ("**retractions**") => contact us immediately (day or night), as your child may need to be seen immediately (at our office during regular office hours or Children's Hospital Urgent Care or Emergency Department if after hours).

...If you suspect your child has an **ear infection or sore throat** => call us during office hours to make an appointment to be seen.

...If a **fever** has continued for **5 days** => call during regular office to make an appointment to decide if something other than a viral illness is causing the persistent fever (ear infection, Strep throat, pneumonia, etc.). See the "Fever" handout for further information.

...If the cough of **croup** (a deep, barking, hoarse cough) occurs => follow the usual recommendations, but realize that the cough of croup does not commonly respond well to any cough medicine. See the "Croup" handout for further instructions.

...If a child with known **asthma** has a **cold and cough** => follow the usual instructions, but realize that the cough of asthma rarely responds to a cough suppressant (dextromethorphan, hydrocodone, Tessalon). However, it is safe to try a cough medicine.

...If nasal congestion or runny nose symptoms suggest a possible sinus infection BUT have lasted less than 10-14 days => follow the usual instructions to continue treating the symptoms.

...If nasal congestion or runny nose symptoms are **not improving at 10-14 days** => call during regular office hours to schedule an appointment to discuss further treatment, especially antibiotic treatment for a sinus infection. Signs and symptoms that make it more likely to be a sinus infection: thick, discolored nasal drainage (white, yellow, or green); headache or facial pain (in older children); and a cough or post-nasal drip. Signs and symptoms that make it unlikely or less likely to be a sinus infection: clear nasal discharge; no effect on sleep, appetite, or normal mood; and a temperature more than a low-grade fever (as this makes it more likely a viral infection).

...If symptoms of **allergies** are persistent, not responding well to over-the-counter medicines, or are not responding to a prescription medicine => call during regular office hours to discuss further options (your child may benefit from trying different medications or an appointment with an allergist).

...If your child's **sinus infection** symptoms have not improved after 2-3 days of antibiotic treatment => continue the antibiotic for a full 5 days of treatment before calling during regular office hours if the symptoms have not yet improved.

-- Dr. Tim Teller, M.D. – Hilliard Pediatrics, Inc. -- 7/14