

What is a Cough?

A cough is an important physiological defense mechanism that is reflexively or deliberately intended to clear the airways. Cough involves a reflex arc beginning in peripheral cough receptors. Cough receptors are mostly found in the epithelium of the upper and lower respiratory tracts. There are 2 predominant types of receptors:

- **Irritant receptors**—stimulated by noxious fumes or liquids
- **Mechanical receptors**—activated by physical triggers such as touch, displacement, or stretch

Coughs can be classified as either acute (duration \leq 3 weeks), sub-acute (duration = 3-8 weeks) or chronic (duration $>$ 8 weeks). Coughs can also be defined as either productive or dry. Productive coughs bring up mucus, whereas dry coughs do not.

Acute cough is most often caused by an upper respiratory tract infection (URI), especially the common cold. Other causes of acute cough include:

Pneumonia (most commonly viral in children)

Viral rhinosinusitis (nasal and upper respiratory congestion)

Acute bronchitis (usually viral, inflammation of lower airways producing a deeper sounding cough, often hoarseness)

Acute sinusitis (again, often viral, we suspect bacterial infections after 10-14 days of worsening, thick, discolored nasal discharge along with headache, fever, cough.)

Allergic/irritant rhinitis

Pertussis (whooping cough, causes episodes of violent coughing often followed by gagging/vomiting)

Mycoplasma (a type of bacteria that causes a mild “walking pneumonia”)

Treatment of cough and congestion:

Remember that coughing isn't all bad. It helps clear mucus from your airway. Teach children to cough into their elbows, rather their hands and try to use non-medicated measures during the day for coughing. Reserve use of medications for night-time coughs that disturb sleep or particularly persistent daytime coughing. If your child is experiencing chest pain, unrelenting cough, difficulty breathing, wheezing, or shortness of breath they should be evaluated in our office.

water/fluids- water, juice, warm chicken soup or tea helps loosen congestion and prevents dehydration. Avoid caffeine and excess sugary beverages.

Salt water- a saltwater gargle (1/4-1/2 teaspoon salt in 8 ounces of warm water) can temporarily relieve a scratchy or sore throat

Saline nasal drops/sprays- OTC saline nasal sprays help relieve thick congestion and stuffiness. For infants, lay baby on its back and squirt a small amount of saline up each nostril- it is safe for them to swallow or inhale the liquid. You can gently suction out excess mucous with a bulb syringe or the NoseFrida snot-sucker (find at Bed Bath & Beyond.) Saline sprays can be used in older children as often as necessary. DO NOT USE over the counter nasal decongestants such as Afrin or Neo-Synephrine more than 2-3 days, as they can cause rebound congestion when stopped.

Honey- safe to use for coughs and sore throats in children older than one. 2 teaspoons (10 milliliters) of honey has been found to be as effective as OTC cough medicine in a study of children with URIs. Best given straight up, honey coats and soothes an irritated oropharynx.

Pectin cough drops- safe to use in children at least 3 years of age who don't choke easily. Pectin coats the throat, and helps soreness and cough.

Humidification- cold viruses thrive in dry conditions, and dry air also dries mucous membranes causing a stuffy nose and sore throat. Cool mist humidifiers help add moisture to the air- but be sure to clean it daily following the manufacturer's instructions. Sitting in a steamy bathroom for a few minutes also helps loosen secretions and soothe irritated throats. Warm mist humidifiers are fine as well, but can cause steam burns if touched.

Benadryl- a first-generation (sedating) antihistamine that may provide minor relief of congestion, sneezing and watery eyes, can be used in infants and children. Newer antihistamines like zyrtec and allegra are good for allergy, but not for colds. Can use with acetaminophen or ibuprofen.

What NOT to use for coughs and colds:

Antibiotics- these attack bacteria, but do not work against viruses. You should have your child evaluated by Dr. Vivian prior to starting antibiotics, which are generally reserved for treatment of likely bacterial ear infections, bacterial sinusitis and bacterial pneumonia. Overuse of antibiotics can lead to antibiotic-resistant bacteria.

Over the counter cold and cough medications in children younger than 4- the FDA has recommended against the use of such medications due to serious and significant side effects and lack of efficacy in young children.

Zinc- most high quality studies show no benefit to the use of zinc, and the mineral can cause significant side effects such as bad taste, nausea, and even permanent loss of the sense of smell in zinc-containing nasal cold remedies.