

The Common Cold

The term “common cold” refers to a mild upper respiratory viral illness. It is self-limited therefore it will go away without treatment. It is the most frequent acute illness in the United States. It is separate and a distinctly different illness than influenza, throat infection, bronchitis, sinusitis, pertussis, and allergic rhinitis. The average person has two or three colds a year.

Colds are caused by many viruses, which cause similar symptoms. The same virus can cause another cold after re-exposure. However, the second illness is usually milder and lasts for a shorter period of time. Seasonal patterns may be seen for some of the viruses.

Transmission:

- Common cold viruses can be spread by three mechanisms:
 - Direct contact – colds are primarily spread from person-to-person via hands. The virus can stay alive on the skin for at least two hours. Thus, if a sick person shakes someone’s hand and that individual then touches his eye, nose, or mouth, the virus can be transmitted and later infect that person.
 - Indirect contact – viruses may survive on surfaces such as countertops for several hours thus can be transmitted from touching that surface and then touching the mouth, nose, or eyes.
 - Inhaling viral particles – droplets containing viral particles can be breathed, coughed, or sneezed into the air and transmitted to others if another person is standing close (within a few feet) and the droplet touches that person’s eye, nose, or mouth. Covering the mouth while coughing or sneezing reduces this risk.
- Persons with colds shed viruses the most on the second day of illness, however, low levels of viral shedding may persist for up to two weeks.
- Saliva generally does not spread the common cold virus as most people with a cold have no detectable virus in their saliva.
- Studies of using recirculated air in commercial airliners versus fresh air ventilation show no difference in the number of colds reported by persons after the flight.

Risk factors:

There are some factors that can increase the risk and severity of illness with a cold. There is no scientific basis for the belief that a cold climate increases susceptibility to getting a respiratory illness.

Increased risks of developing cold symptoms occur with:

1. Psychological stress
2. Lack of sleep or sleep disturbances
3. Exposure to children in daycare settings

Increased severity of colds is often seen with:

1. Underlying chronic diseases
2. Immunodeficiency disorders
3. Malnutrition
4. Cigarette smoking

Clinical features:

Symptoms of the common cold are mostly due to the response of the individual to the infection, rather than to direct damage to the respiratory tract from the virus. Symptoms vary from person to person and include:

- Rhinitis (runny nose) and congestion are the most common symptoms.
- Sore throat, sneezing, cough, malaise (feeling ill)
- Fever is uncommon in adults but may be present in children
- Purulent (colored, thick drainage containing pus) drainage may be seen with the common cold. The presence of purulence does not distinguish between a cold or sinus infection.

Incubation period/symptom duration:

- From the time of contact until onset of symptoms is generally 24 to 72 hours but can be as early as 10 to 12 hours after exposure.
- Symptoms usually last 3 to 10 days, but can last up to two weeks in some people.

Diagnosis:

The diagnosis is based on symptoms and observed signs.

- Swelling and congestion of nasal passages
- Redness of the throat
- Enlarged lymph nodes in the neck
- Normal lung exam
 - Chest x-rays not needed unless chest exam is abnormal

Conditions that can mimic a cold include:

- Allergic or seasonal rhinitis – a cough or sore throat are usually not seen with allergies.
- Bacterial throat infection or tonsillitis – nasal congestion and drainage are not generally seen with a bacterial throat infection or tonsillitis.
- Bacterial sinus infections – usually associated with significant facial pain and purulent nasal discharge.
- Influenza – usually associated with high fever, headache, and body aches.
 - During flu season, obtain nasal swabs for rapid flu testing
- Pertussis – associated with prolonged coughing, sometimes associated with vomiting.

Complications:

- Acute sinus infections are a rare complication in adults with colds. Viral sinusitis occurs more frequently than secondary bacterial sinusitis. Viral sinusitis will resolve within 3 weeks without antibiotic treatment.
- Lower respiratory tract disease:
 - RSV (respiratory syncytial virus) can cause an infection in the lungs especially in children, older adults, and immunocompromised patients.
 - Acute asthma attacks occur with colds thought to be due to changes in airway reactivity which can last up to four weeks following an infection.

- Ear infections:
 - Because colds cause problems with drainage and pressure regulation of the middle ear, an acute ear infection (otitis media) can occur.

Treatment:

Symptomatic therapy is the only thing necessary for treating the common cold as it is a self-limited infection (meaning it will go away with time). Antibiotics are not effective and should not be prescribed unless there is convincing evidence of the presence of a bacterial infection.

Some medications used to treat symptoms include:

- Cromolyn sodium (NasalCrom®) – may relieve runny nose, cough, and sneezing.
- Antihistamines
 - Antihistamines such as diphenhydramine (Benadryl®) may alleviate sneezing and a runny nose but their use is limited by side effects of drowsiness or sedation, as well as dry eyes, nose and mouth. Non-sedating antihistamines such as Claritin® are not effective.
- Antitussives (cough medicines)
 - Cough associated with the common cold is usually caused by nasal obstruction and postnasal drip. Cough suppression is usually not needed though studies show that dextromethorphan is more effective than codeine.
- Expectorants
 - Guaifenesin (Mucinex®) will thin secretions and may be of some benefit in decreasing cough.
- Decongestants
 - Topical or oral decongestants such as pseudoephedrine or phenylephrine may temporarily relieve nasal congestion.
 - Topical decongestants should be limited to two to three days because a rebound syndrome will occur after 72 hours of use meaning that the symptoms of congestion and drainage that the decongestant was treating will return and possibly worsen. They can also cause nosebleeds, agitation, insomnia, and worsen hypertension.
 - Purchase of pseudoephedrine-containing cold medications is limited due to use in manufacture of amphetamine drugs. These can decrease congestion but have the same side effects as topical decongestants.
 - Phenylephrine is a common component of over-the-counter cold preparations but is not very effective.
- Intranasal glucocorticoids
 - Topical glucocorticoids such as Flonase®, Nasonex®, etc. are of no proven benefit for patients with the common cold though are of benefit in treating patients with allergic rhinitis.
- Zinc
 - Zinc intake has been shown to be associated with a reduction in the duration and severity of cold symptoms.
 - However, zinc containing products, especially intranasal ones, have been associated with the permanent loss of smell.
- Vitamins and herbal remedies
 - Vitamin C – if started after the onset of cold symptoms does not reduce symptom severity or duration.
 - Echinacea – studies have failed to demonstrate any benefit when used to treat the common cold.

- Antiviral therapy
 - There are studies using intranasal interferon for the treatment of the common cold. There may be some benefit to the use of interferon but the safety and practicality of use has yet to be determined and this product is not currently available.
- Antibiotic therapy
 - Treatment with antibiotics for the common cold causes more harm than benefit. Antibiotics do not kill viruses and should not be prescribed for a cold. Adults treated with antibiotics have a risk for developing allergic reactions such as rashes; GI symptoms such as diarrhea, nausea, vomiting; swelling of the face; seizures; dizziness; etc.
- Analgesics
 - Acetaminophen and nonsteroidal anti-inflammatory drugs (NSAIDs) reduce headaches, aches, and fevers. They do not improve cough or nasal discharge and do not reduce the duration of symptoms.

Prevention:

- Studies have not proven that the use of alcohol gels prevent developing symptoms of a respiratory illness as the virus can be spread by inhaling droplet particles. However general hygienic measures such as hand washing has been shown to prevent the spread of respiratory viruses especially from younger children.
- Decontamination of environmental surfaces with disinfectants that kill viruses may help decrease the rate of transmission. However a study of the effectiveness of antibacterial cleaning products failed to show a difference when compared to standard cleaning products in the incidence of colds.
- Vitamins - regular supplementation with vitamins C, D, and E have not been shown to decrease the incidence of colds.
- Zinc – there have been studies that show that children taking zinc sulfate decreased the rate of development of colds, however studies have not shown this to work for adults. Zinc, especially when found in intranasal products, can lead to the loss of smell.