

Rhinovirus

General Information

Rhinovirus is a member of the Picornaviridae family, which includes human pathogens such as enterovirus and hepatovirus. Rhinovirus is a non-enveloped virus, the most common cause of the common cold. It can also cause sore throat, ear infections, sinus infections, and to a lesser degree, pneumonia and bronchitis.

The incidence of these infections is higher during autumn and winter, with most infections occurring between September and April. The seasonality may be due to the start of the school year and people spending more time indoors, increasing proximity with each other and a higher chance of transmission.

Significance

According to the National Center for Health Statistics, there are over 62 million annual occurrences of the common cold in the United States.

More than 200 different viruses are known to cause the common cold; the majority of these are caused by rhinoviruses, followed by coronaviruses, influenza virus, and adenoviruses.

More than any other illness, rhinovirus is associated with the common cold. Rhinovirus is estimated to be the culprit for about 35% of these cases. There are more than 100 distinct rhinovirus types which makes developing a vaccine against rhinoviruses difficult. Most rhinoviruses seldom produce serious illness and are mainly limited to the upper respiratory tract. In some cases, it may cause complications that lead to ear or sinus infections. In higher risk populations, such as infants, the elderly or immunocompromised, it may also lead to asthma, chronic bronchitis and serious lower respiratory tract; however, most of the infections are mild and self-limited.

Symptoms

Infection occurs rapidly. The incubation period is 12-72 hours, and most people will experience symptoms within 2-3 days of infection. Symptoms generally persist for 7-10 days.

The main signs and symptoms include:

- Sore throat
- Runny nose (nasal discharge)



- Nasal congestion
- Sneezing

This may be accompanied by a mild fever, headache, muscle ache or weakness, cough, fatigue and loss of appetite.

Transmission

The rhinovirus received its name by “rhino” meaning nose, the location where the virus typically infects. Rhinovirus is typically spread through person-to-person contact. The virus is spread by direct contact with aerosols produced when an infected person coughs or sneezes (respiratory secretions) or through contact with contaminated surfaces where you pick up the virus on your hands and later touch your eyes, nose or mouth.

Rhinovirus can survive on inanimate objects for several hours, increasing the risk to be picked up by hands and later transferred to the nose, eyes or mouth. The risk of transmission can be increased in schools or day cares where a child with a runny nose transfers secretions to hands, tables, toys or other surfaces which are subsequently touched by other children.

Treatment

There is no cure for a cold. Rhinovirus infections are usually mild and self-limiting, so treatment is generally focused on relief of symptoms and prevention of complications. The typical course of therapy includes:

- Rest
- Hydration (plenty of fluids)
- Keeping head at 45° angle
- Comfortable surroundings, including temperature and adequate humidity to relieve and sooth irritated nasal and throat passages

Over-the-counter medicines, such as antihistamines, nasal decongestants, and may help ease the symptoms, but won't make a cold go away any faster. It is important to read label and use instructions for any medications, and use them as directed. It is recommended that young children do not use these medications without doctor approval.

Please note that antibiotics will not help you recover from a cold. They do not work against viruses, and they may make it harder for your body to fight future bacterial infections or cause other complications if you take them unnecessarily.



Prevention

There are no vaccines available against rhinovirus due to the large number of serotypes. The best way to prevent rhinovirus infection is to:





















- **Wash hands often**
Scrub hands with soap and water for at least 20 seconds, and help young children do the same. If soap and water are not available, use an alcohol-based hand sanitizer. Viruses live on your hands, and regular hand washing can help protect you from getting sick. Wash your hands after coughing, sneezing or blowing your nose.
- **Use respiratory hygiene/cough etiquette**
Move away from people before coughing or sneezing. Cough or sneeze into a tissue then throw it away, or cough or sneeze into your upper shirt sleeve, completely covering your mouth and nose and wash your hands.
- **Avoid touching your eyes, nose, and mouth with unwashed hands**
Viruses can enter your body this way and make you sick.
- **Limit contact with infected people**
Infected people can spread viruses that cause the common cold through close contact with others. Avoid close contact with others, such as hugging, kissing, or shaking hands if you are sick, and stay home, so you don't infect others.
- **Frequently clean and disinfect**
Disinfect frequently touched surfaces and objects such as doorknobs, table tops and toys.
- **Stay home when you are sick**



Cleaning and Disinfection

Diligent and frequent cleaning and disinfection of environmental services is a key component in a comprehensive “respiratory illness” prevention strategy.

Rhinovirus is susceptible to the following Diversey disinfectants:

Product	Oxivir® 1 RTU / Wipes	Oxivir® Tb RTU / Wipes	Oxivir® Five 16	Alpha® HP Multisurface Disinfectant Cleaner	Avert™ Sporicidal Disinfectant Cleaner/Wipes	Virex® II 256	Virex® Tb	Virex® Plus	Expose® II 256	MoonBeam®3 UV Disinfection
Contact Time (Min)	1	1	5	5	1	5	3	3	10	3
										
Product	Oxivir® Tb RTU / Wipes	Oxivir® Plus (Concentrate)	Virox® 5 Concentrate	Virox® 5 (RTU & Wipes)	Percept™ (TMMC) (Concentrate, RTU & Wipes)	Virex® II 256	Avert™ Disinfectant Cleaner	MoonBeam®3 UV Disinfection		
Contact Time (Min)	1	5	5	5	5	5	1	3		
										

References:

1. <https://www.cdc.gov/features/rhinoviruses/index.html>

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