

# National Center for Immunization and Respiratory Diseases (NCIRD)

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## Human Metapneumovirus (HMPV)

### About HMPV

Human metapneumovirus (HMPV) can cause upper and lower respiratory disease in people of all ages, especially among young children, older adults, and people with weakened immune systems. Discovered in 2001, HMPV is in the Pneumoviridae family along with respiratory syncytial virus (RSV). Broader use of molecular diagnostic testing has increased identification and awareness of HMPV as an important cause of upper and lower respiratory infection.

### Symptoms

Symptoms commonly associated with HMPV include cough, fever, nasal congestion, and shortness of breath. Clinical symptoms of HMPV infection may progress to bronchitis or pneumonia and are similar to other viruses that cause upper and lower respiratory infections. The estimated incubation period is 3 to 6 days, and the median duration of illness can vary depending upon severity but is similar to other respiratory infections caused by viruses.

#### CDC Expert Commentary with Medscape



Human Metapneumovirus: Common yet Underdiagnosed [↗](#)

Run time: [3:42 mins]

Released 8/15/2016

### Surveillance and Seasonality

Surveillance data from CDC's the National Respiratory and Enteric Virus Surveillance System (NREVSS) shows HMPV to be most active during late winter and spring in temperate climates.

### Transmission

HMPV is most likely spread from an infected person to others through

- secretions from coughing and sneezing
- close personal contact, such as touching or shaking hands
- touching objects or surfaces that have the viruses on them then touching the mouth, nose, or eyes

In the U.S., HMPV circulates in distinct annual seasons. HMPV circulation begins in winter and lasts until or through spring. HMPV, RSV, and influenza can circulate simultaneously during the respiratory virus season.

## Prevention and Treatment

Currently, there is no specific antiviral therapy to treat HMPV and no vaccine to prevent HMPV. Medical care is supportive. However, your patients can help prevent the spread of HMPV and other respiratory viruses by following these steps:

- Wash their hands often with soap and water for at least 20 seconds (see CDC's Clean Hands Save Lives!).
- Avoid touching their eyes, nose, or mouth with unwashed hands.
- Avoid close contact with people who are sick.

Patients who have cold-like symptoms should

- cover their mouth and nose when coughing and sneezing
- wash their hands frequently and correctly (with soap and water for at least 20 seconds)
- avoid sharing their cups and eating utensils with others
- refrain from kissing others
- stay at home when they are sick

In addition, cleaning possible contaminated surfaces (such as doorknobs and shared toys) may potentially help stop the spread of HMPV.

In healthcare settings, healthcare providers should follow CDC's 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings.

Since HMPV is a recently recognized respiratory virus, healthcare professionals may not routinely consider or test for HMPV. However, healthcare professionals should consider HMPV testing during winter and spring, especially when HMPV is commonly circulating.

## Laboratory Diagnosis

Infection with HMPV can be confirmed usually by

- direct detection of viral genome by polymerase chain reaction assays, and
- direct detection of viral antigens in respiratory secretions using immunofluorescence or enzyme immunoassay.

## Resources

- National Respiratory and Enteric Virus Surveillance System (NREVSS)

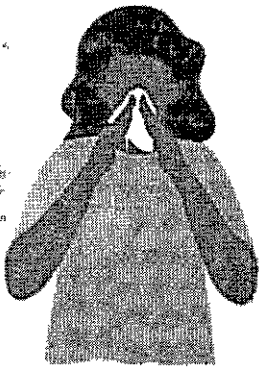
## References

- American Academy of Pediatrics. Human metapneumovirus [\[PDF\]](#). Red Book 2018 Report of the Committee on Infectious Diseases [online edition].
- CDC. *Notes from the Field: Severe Human Metapneumovirus Infections — North Dakota, 2016*. *MMWR*. 2017;66(28):486-8.
- CDC. Outbreaks of human metapneumovirus in two skilled nursing facilities — West Virginia and Idaho, 2011–2012. *MMWR*. 2013;62(46):909-13.
- Heikkinen T, Österback R, Peltola V, Jartti T, Vainionpää R. Human *metapneumovirus* infections in children. *Emerg Infect Dis* [serial on the Internet]. 2008 Jan.
- Pelletier G, Dery P, Abed Y et al. Respiratory tract reinfections by the new human Metapneumovirus in an immunocompromised child. *Emerg Infect Dis* [serial on the Internet]. 2002 Sep.
- Peña SA, Davis SS, Lu X, Sakthivel SKK, Peret TCT, et al. Severe Respiratory Illness Associated with Human Metapneumovirus in Nursing Home, New Mexico, USA [\[PDF\]](#). *Emerg Infect Dis*. 2019 Feb;25(2):383-384.[AJL(1)]

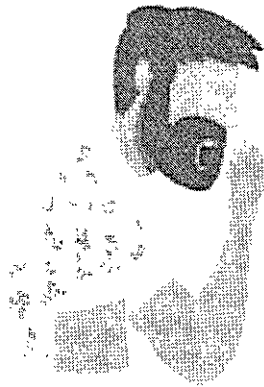
- Stockton J, Stephenson I, Fleming D, Zambon M. Human *Metapneumovirus* as a cause of community-acquired respiratory illness. *Emerg Infect Dis* [serial the Internet] 2002 Sep.
- Va den Hoogen BG, de Jong JC, Goen J, Kuiken T, de Groot R, et al. A newly discovered human pneumovirus isolated from young children with respiratory tract disease [↗](#). *Nat Med*. 2001;7(6):719-24.
- Widmer K, Zhu Y, Williams JV et al. Rates of hospitalizations for respiratory syncytial virus, human metapneumovirus and influenza virus in older adults [↗](#). *J Infect Dis*. 2012;206(1):56-62.

Last Reviewed: September 20, 2023

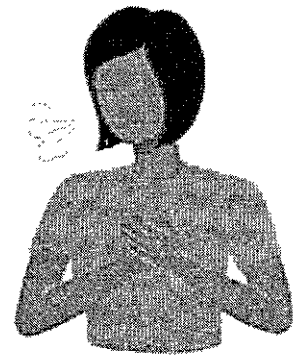
# Symptoms of Human Metapneumovirus



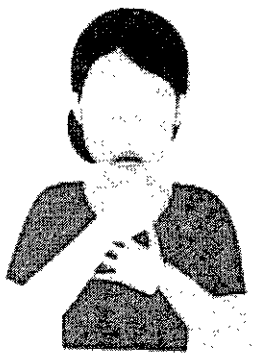
**Runny or  
stuffy nose.**



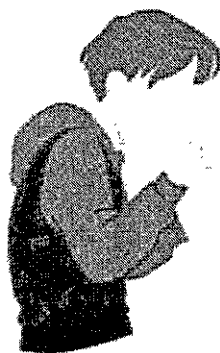
**Cough.**



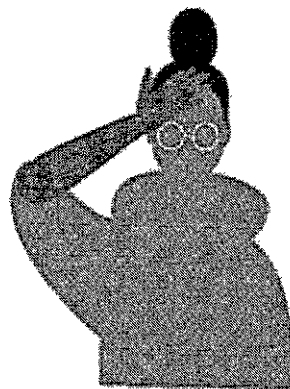
**Shortness  
of breath.**



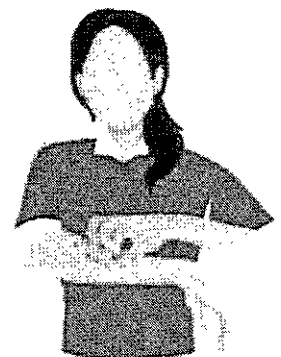
**Sore throat.**



**Wheezing.**



**Fever.**



**Rash.**