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**Learn About Human Metapneumovirus (hMPV)**

Human metapneumovirus (hMPV) is a respiratory virus that causes an upper respiratory infection (a cold). It usually occurs in the winter and early spring, along with the “flu” season. The virus was unknown until 2001 when it was first discovered, and, since that time, researchers have been trying to determine the virus's impact on the population.

**Key Facts**

- hMPV causes upper respiratory infections in people of all ages but is most common in children, particularly under the age of 5.
- Symptoms include runny nose, nasal congestion, cough, sore throat, headache, and fever. A very small number of individuals may have some shortness of breath.
- In most cases, the symptoms go away on their own after a few days.
- A very small number of people are at risk for a more severe pneumonia following this infection, especially those who are over the age of 75 or have compromised immune systems.

**What Is hMPV?**

hPMV is a virus that spreads through contact with an infected individual. It enters through your mouth, eyes, or nose (mucus membranes). It is recognized as a leading cause of acute respiratory disease (cold) in children since its discovery in 2001. Most children have been infected with hMPV by age 5, and smaller number of children (5% to 16%) will develop a lower respiratory tract infection such as pneumonia. Infants, specifically 0-5 months, seem particularly susceptible.

This virus affects adults of all ages and is a major cause of respiratory illness in the elderly (older than 65 years of age), causing disease in up to 10% of people tested.

**How Does hMPV Affect Your Body?**

Upon entering the body, hMPV infects the cells in your respiratory tract. The infection of these cells by the hPMV leads to the release of local chemicals and hormones that can cause the body’s immune response. This response causes the classic symptoms of a “cold,” including local pain, low-grade fever, cough, runny nose, headache, and sore throat. In some individuals, the disease can spread to the main airways, or bronchi, leading to increased cough and wheezing. In children under the age of 1 year, lower body temperature and weight loss are also seen.

**How Serious Is hMPV?**

In general, hMPV is not serious. As with other causes of colds, most people have mild symptoms that go away on their own without treatment, usually within a few days. Patients with asthma may develop a subsequent asthma flare-up after infection. The elderly and people with weakened immune systems are at an increased risk for developing pneumonia, which can be severe. However, hMPV infection is usually less serious than other respiratory infections, including adenovirus and influenza.
Human Metapneumovirus (hMPV) Symptoms, Causes, and Risk Factors

What Are the Symptoms of hMPV?
Patients with hMPV usually have no symptoms (asymptomatic) or mild symptoms similar to a cold (an upper respiratory tract infection). These include:
- Fever
- Runny nose
- Sore throat
- Cough

Young children, the elderly, and those with a weakened immune system may develop a more severe illness with hMPV. These include:
- Wheezing
- Difficulty breathing
- Pneumonia
- Asthma flare-up
- Poor feeding (in children under 1 year of age)

What Causes hMPV?
The cause of hMPV is a virus that is spread through contact with someone who has an active infection. You are not more likely to get infection if you have a history of asthma, COPD, emphysema, or any other lung disease, but you may have more severe symptoms. Likewise, conditions that compromise your immune system, like cancer or transplantation, do not increase your risk of getting an infection. However, once infected, your risk of having severe symptoms might be increased due to these other diseases.

What Are the Risk Factors?
The only known risk factor for hMPV is exposure to someone who has the infection. There is no known associated risk with other lung diseases or smoking, but symptoms may be more troublesome and pneumonia more likely to develop in patients with the following conditions:
- Asthma using inhaled or oral steroids
- Child under year 1
- Adults over age 65
- Transplantation
- Long-term steroid use
- COPD

When to See Your Doctor
Most people with hMPV who have upper respiratory tract infection “cold” symptoms do not need to see a doctor. However, if you develop shortness of breath, severe cough, wheezing, or inability to feed or care for oneself, you should see your doctor.

Diagnosing and Treating hMPV
Testing for hMPV is not widely available, but the most common method is by testing secretions from the nose or throat.

What to Expect
Most people will be diagnosed with an upper respiratory infection or “cold” based on a collection of symptoms along with a particular time of year. During the winter months, it is usually enough to make a diagnosis with the presence of a fever, runny nose, cough, and sore throat. In most cases, the doctor will not do any test and treat the symptoms of your cold.

How hMPV Is Diagnosed
In some cases, your doctor may test you for influenza. This test involves swabbing the nasal (nose) passage by inserting a long swab into the back of your nose to collect a sample. In very few severe hospitalized cases, you may undergo a bronchoscopy where a small, flexible camera is inserted into your lung, and a sample of fluid is removed. This is only reserved for more severe cases, and the goal of this testing is to detect influenza as treatment can be stopped (or started) based on the results.
If your doctor tests you for influenza, the swab is then tested for approximately nine different viruses, which cause respiratory infections. This test is done in a laboratory and usually takes 1 to 2 days for the results.

**How hMPV Is Treated**
Treatment is geared toward easing symptoms, as there is no direct treatment for hMPV.

Mainly, the use of over-the-counter medication to control pain and fever (such as acetaminophen and ibuprofen), along with decongestants (pseudoephedrine) are used. If you have wheezing or cough, the use of an as-needed inhaler is recommended (eg, albuterol). Patients with more severe wheezing may escalate their therapy for asthma as recommended by their doctor, which may include higher doses of an inhaled corticosteroid or initiation of oral prednisone.

**Managing and Preventing Human Metapneumovirus (hMPV)**
Because this infection usually goes away on its own, living with symptoms for a prolonged period of time is unlikely.

**What to Expect**
Infection with hMPV usually causes symptoms of the common cold that last roughly 2-5 days. By day 2 of disease, most of patients will notice improvement, and many will feel completely fine by day 5. In people with underlying asthma or other lung disease, symptoms may last a few days longer but rarely more than 10 days. Any symptoms of a “cold” or upper respiratory tract infection lasting more than 14 days require further evaluation from your doctor.

**Managing the Disease**
As hMPV is short-lived, management is limited to treating fever and pain with over the counter medication in addition to decongestants.

**Preventing hMPV**
People with chronic lung diseases such as COPD, asthma, and pulmonary fibrosis should always take precautions to protect from infection such as hMPV, influenza, and other contagious diseases.

Additionally, you should make sure you are up-to-date on vaccinations and primary heath-care treatment, such as yearly physical examinations.

**Finding Support**
The Lung Association recommends patients and caregivers join our Living with Lung Disease Support Community to connect with others facing this disease. You can also call the Lung Association’s Lung Helpline at 1-800-LUNGUSA to talk to a trained respiratory professional who can help answer your questions and connect you with additional support.
**Questions to Ask Your Doctor About Human Metapneumovirus (hMPV)**

Many upper respiratory tract infections do not prompt specific questions to physicians, but a number of common questions for respiratory tract infection and prevention can be asked.

- Am I at increased risk for getting a lung infection?
- If I get a lung infection, am I at increased risk for developing severe pneumonia?
- Are there any lung infections that I should be concerned about given my health?
- Am I at risk of having a worse or longer “cold” than the average person?
- What steps could I take to protect myself from getting a cold?
- How long should I wait after getting a cold before it is “too long” and I need to come in and see you?