

# Human Metapneumovirus: Symptoms, Causes and Prevention

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## Abstract

**Background:** Human Metapneumovirus is spreading vigorously and is being compared to COVID-19 but this is not true, in this article, we are going to do some discussion about Human

Metapneumovirus (hMPV), which is not a new virus to tackle First, this virus was isolated in Netherland in 2001 and now is circulating the entire world for many years (Boivin G et al.,2002). In India, the very first cases that tested positive were the two babies who had a history of bronchopneumonia ([www.thehindu.com](http://www.thehindu.com)). The human Metapneumovirus has symptoms similar to those of the common cold like as sneezing, coughing, and headache and also it shares some symptoms similarities with COVID-19 and Respiratory syncytial virus (RSV). (Wilkesmann A et al.,2006; Esper F et al.,2003). According to our health

experts, hMPV is not a virus to be very concerned about because is a stable virus, unlike COVID-19 which mutates often and thus can be tackled easily. Lastly, we will conclude that this virus is not very harmful and we can be safe from it only by taking some health precautions, till date no medicine has been discovered against human Metapneumovirus, only self-hygiene is the option to be safe from this virus ([www.cbsnews.com](http://www.cbsnews.com)).

**Keywords:** Metapneumovirus; Symptoms; Causes; Prevention

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## Introduction

Human Metapneumovirus is a single-stranded RNA virus, enveloped, in the Pneumovirinae subfamily of paramyxoviridae family it was first isolated in the Netherlands in 2001(van den Hoogen BG, de Jong JC, Groen J, et al.,2001). This virus causes both upper and lower

respiratory diseases in people of almost all ages, furthermore, people having weak immune systems are more prone to this virus. This virus can spread through respiratory droplets or by direct contact with an infected person, Its symptoms are similar to those of a common cold like a blocked nose, headache and tiredness ([www.nhmrc.gov](http://www.nhmrc.gov)), it may also show symptoms similar to severe diseases like as bronchiolitis, asthma exacerbations and

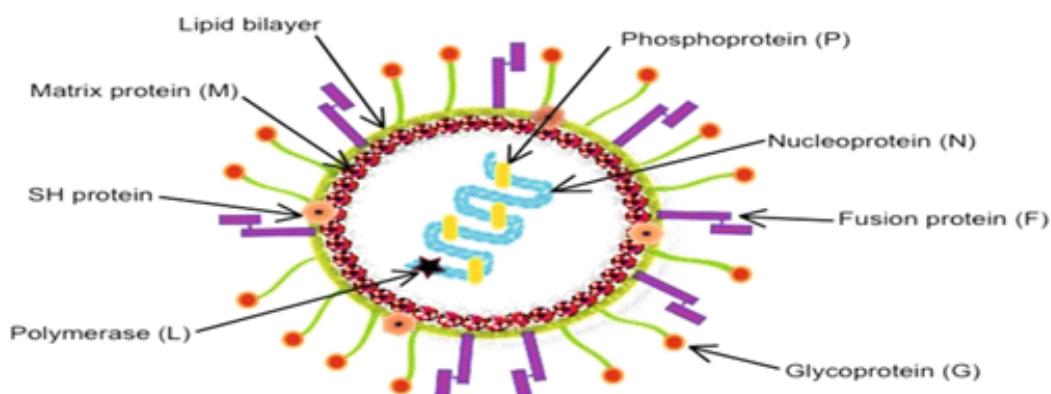
respiratory syncytial viruses like as sneezing, runny nose, fever and cough (Wilkesmann A, et al.; Esper F, et

al.). In some of the cases studied human Metapneumovirus is found to be associated with an acute respiratory infection (ARI) with super infections as a result of *Staphylococcus aureus* and *Streptococcus pneumoniae* (Boivin G, et al.). This virus is found to be more active in early spring and late winter seasons and can be easily detected by the use of common lab tests such as PCR, and antigen detection. Although this virus shows symptoms similar to those of COVID-19, is not very harmful because COVID-19 mutates so fastly while hMPV is a stable virus and can be tackled easily Indian Health Minister J.P. Nanda said that the health system and surveillance network of the country are vigilant and there is no reason to worry. ( www.cbsnews.com).

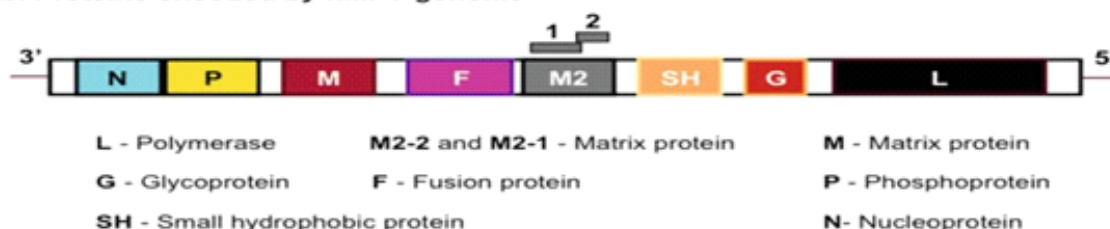
**Structure:**

(Nagarjuna R. Cheemarala , et al.)

**a. Model structure of hMPV**



**b. Proteins encoded by hMPV genome**



**Causes:**

Human Metapneumovirus can spread due to close contact with an infected person and by sharing objects of personal use like a towel with the ill person. This virus can also spread by air droplets, as an infected person sneezes nearby without the use of a handkerchief he can infect you also by passing the virus through droplets. Some objects of daily use like a table, or chair if touched unknowingly may carry a virus if touched by an infected person, shaking hands with an infected person can make this virus easily transferred to your body and can make you ill.

**Symptoms:**

Human Metapneumovirus has symptoms similar to those of a common cold like as a runny nose, and coughing. Human Metapneumovirus has previously been reported to be a rare cause of community-acquired pneumonia thus many symptoms similar to pneumonia are also detected in hMPV-infected persons (Don M et al.,2008). This virus also shares symptom similarities with COVID-19 and Respiratory syncytial virus and according to some of the reports hMPV and RSV are clinically indistinguishable (Esper F et al.,2004; Caracciolo S et al.,2008). Some easily detectable symptoms of this virus include cough, sore throat, fever, nasal congestion and shortness of breath. But if it gets worse then the infected person may have to face some severe problems like:

- Bronchiolitis: Inflammation of the small airways in the lungs.

- Bronchitis: Inflammation of the larger airways.
- Pneumonia: Infection of the lung tissue, which can be fatal in some cases.
- Ear infection in children.

#### **Prevention:**

To date, no medicine has been discovered to treat human Metapneumovirus only some common drugs that we use during fever or cold can be taken to minimize the effect of the virus. Doctors or health experts do not suggest taking these drugs regularly rather they suggest taking proper rest, and only in severe cases a special treatment is suggested to be taken. Avoid touching your mouth, nose and eyes with unwashed hands Avoid close contact with the infected person, use the mask in a public place and always carry a sanitizer.

#### **HMPV Treatment Options:**

Currently, there is no specific antiviral treatment or vaccine available for HMPV infections thus there are some healthy habits to be followed to overcome this virus's ill effects:

- Rest and hygiene.
- Using fever reducers and pain relievers like acetaminophen to manage fever and discomfort.
- By the use of Nasal decongestants and saline sprays.
- Use of humidifiers to add moisture to the air, which can help soothe irritated airways.
- In severe cases supplemental oxygen is provided to the patients having difficulty in breathing.
- By using bronchodilators to open up airways in patients with wheezing or shortness of breath.

Conclusions: Human Metapneumovirus is an actively spreading virus, this virus has existed for decades in society but there has been no such case till now by which we can tag this virus as a fatal one. Although the symptoms of this virus may vary from mild to the most severe according to our health experts this can be easily tackled. This virus is not as harmful as COVID-19 and can be cured easily thus there is no need to worry about it. We should strictly manage our healthy routine by washing our hands for 20 seconds after touching any unknown thing, in public places we should always cover our noses and mouths and should always carry a mask. This can be easily cured by taking proper rest and by the regular use of prescribed

**medicine.**

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