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Coronavirus (COVID-19)

Common Questions

What are Viruses?

Viruses are primitive microscopic organisms that have existed for millions of years. They are unable to live without a "host", i.e. they live within cells of another larger body (referred to as a host). All plants and animals are made up of cells. Every cell within plants and animals contains DNA, which forms genes. Viruses however can carry their genes in both DNA or a molecule similar to DNA called RNA. Viruses are very tiny simple organisms that are made up of either a strand of DNA or RNA wrapped in a coat of protein. They are incapable of living or reproducing on their own and must live within another organism.

How and where do viruses live and reproduce?

Viruses have a great ability to attach themselves to the cells of another organism (bacteria, plants, animals), injecting their DNA or RNA contents inside the host cell, taking over the operation of that cell using it to multiply itself i.e. make multiple copies of more viruses.

Why are viruses so harmful?

Throughout human existence we have been plagued by many viruses which have caused significant illness and death. Viral infection can lead to damage of various organs including brain, liver, heart, lung etc., that may cause individuals to be disabled, or can lead to death. Over time we have learned to combat potent viral diseases such as, measles, mumps, polio, and smallpox through the use of vaccines. Many of us are familiar with the seasonal flu (influenza) that typically occurs during the winter months. These viruses often cause fever, body aches, cough, sneezing, and can lead to respiratory distress, pneumonia, and death. In fact, many thousands of people die each year globally from seasonal influenza. Seasonal flu vaccines can help to reduce infection, illness and death.

What are coronaviruses?

Human Coronaviruses (CoV) were first identified about 60 years ago. They are a large family of RNA viruses that cause respiratory illnesses of varying severity from a mild common cold to more severe diseases such as pneumonia. Only seven coronaviruses are known to cause disease in humans, four of them are common and most frequently cause symptoms of the common cold. However, three of these viruses can cause severe, and sometimes fatal, respiratory infections. In recent years we have encountered two of these three viruses in the form of SARS-CoV (**S**evere **a**cute **r**espiratory **s**yndrome) for which there was an outbreak in 2003, and MERS-CoV (**M**iddle **E**ast **r**espiratory **s**yndrome), outbreak in 2012. The third virus, identified in 2019 is called SARS-CoV-2 (**C**orona**v**irus **d**isease 2019, or COVID-19) and is responsible for the current pandemic.

Why is the new coronavirus so infectious?

Most flu viruses cause symptoms very early in the course of infection, i.e. an infected individual shows signs of illness (feeling unwell, lethargic, cough, fever) within a few days of exposure to the virus. It is at that point that the person is most infectious, and can spread the virus to others. However, the new coronavirus is different in that an infected individual may be pre-symptomatic (not show any signs of infection) for up to 2 weeks. During that time however, that infected individual could spread the virus to others through direct contact or respiratory droplets. It is this "stealth" behavior of the virus that makes it so infectious and potentially deadly.

Why is the new coronavirus so destructive?

Many individuals infected with a new coronavirus may show little or no symptoms of infection, but despite being pre-symptomatic or asymptomatic the virus maintains its ability to spread from person to person through respiratory droplets and direct contact. In symptomatic individuals the infection can proceed from mild flu-like symptoms and progress to sudden, severe lung inflammation, with difficulty breathing (respiratory distress), pneumonia, and death. In some cases blood clots can also develop in the lung. Other organs including the brain, heart, lung, and kidney can also be damaged by this infection. The extent of the disability that might occur from injury to these organs is at this time not fully understood.

For further advice and resources, please visit: www.educateyourhealth.com