

Can you die from a common cold?

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The rhinovirus causes about half of all colds. Credit: Maryna Olyak/Shutterstock

Most people know that the flu can kill. Indeed, the so-called Spanish flu killed 50 million people in 1918—more than were killed in the <u>first world war</u>. But what about the common cold? Can you really catch your death?

The cold is a collection of symptoms—coughing, sneezing, a runny nose, tiredness and perhaps a fever—rather than a defined disease. Although it shares a lot with the initial symptoms with the flu, it's a very different <u>infection</u>.

Rhinovirus causes about half of all colds, but other <u>viruses</u> can cause one or more of the symptoms of a cold, including adenovirus, <u>influenza virus</u>, <u>respiratory syncytial virus</u> and parainfluenza <u>virus</u>.

The common cold is normally a mild illness that resolves without treatment in a few days. And because of its mild nature, most cases are selfdiagnosed. However, infection with rhinovirus or one of the other viruses responsible for common cold symptoms can be serious in some people. Complications from a cold can cause serious illnesses and, yes, even death—particularly in people who have a weak immune system. For example, <u>studies have shown</u> that patients who have undergone a bone marrow transplant can have a higher likelihood of developing a serious respiratory infection. While rhinovirus is not thought to be the main cause of this, other viruses that are associated with symptoms of the common cold, such as RSV, adenovirus and parainfluenza virus, are.

There is, of course, more than one way for someone to become very sick after infection with a respiratory virus. Some viruses, such as adenovirus, can also cause symptoms throughout the body, including the gastrointestinal tract, the urinary tract and the liver.

Other viruses, like the influenza virus, can themselves potentially cause severe inflammation in the lungs, but they can also lead to particularly serious conditions, such as <u>bacterial pneumonia</u>.

A virus-induced <u>bacterial infection</u> is one way a cold or flu virus can lead to death. While the exact mechanisms of how bacterial infections can be primed by viral infection are still being investigated, a possible way it can occur is through increased bacterial attachment to cells of the lung. For example, rhinovirus has been shown to increase the presence of a receptor called PAF-r in lung cells. This can allow bacteria, such as *Streptococcus pneumoniae*, to bind more effectively to the cells, <u>increasing the likelihood</u> of it leading to a severe condition like pneumonia.

Higher risk in some people

Unfortunately, a cold can also have more severe symptoms in the very young and the very old. Older people are more likely to develop a more serious infection compared with adults or older children. And people who smoke—or who are exposed to <u>second-hand smoke</u>—are also more likely to get a cold and have more severe symptoms.

Another group of people who are more severely affected by infection with cold-causing viruses are



people with an existing lung condition. They can include people with asthma, cystic fibrosis or chronic obstructive pulmonary disease (COPD). Infection with a virus that causes inflammation of the airways can make breathing much harder. People with COPD who catch a mild cold virus are also at risk of developing a bacterial infection.

While the bacterial infection in these patients can be treated with antibiotics, there is no effective antiviral treatment against all types of rhinovirus. For other respiratory viruses, such as influenza, there is an effective vaccine that can help protect vulnerable people from the flu virus, including asthmatics, the very young and the very old.

There is not one single element that dictates how severe an infection with a cold virus will be, but there are many conditions or factors that can raise a red flag.

One of the best ways to avoid catching a cold is to wash your hands properly. This can prevent the spread of many different infections, not just the viruses that cause the <u>common cold</u>. And everyone, not just those classed as vulnerable, should get the flu jab. For <u>viral infections</u>, prevention is key.

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