



## Frequently Asked Questions about the Common Cold

### *What causes the common cold?*

Common colds are caused by some 200 different viruses. Of these, about 100 are classified as rhinoviruses, which together cause 30 to 50 percent of all colds. All common cold viruses infect the lining of the nose and now are being shown to migrate to the lower airways and lungs, where they can exacerbate asthma and other lung diseases such as chronic obstructive pulmonary disease (COPD).

### *How often do people get colds?*

Adults typically contract two to five colds each year. Children, whose immune systems are still immature, typically contract seven to 10 colds each year. Parents of small children tend to get more colds than other adults.

### *How do cold viruses cause symptoms?*

The first comprehensive genomics study of the common cold in humans was conducted by scientists at Procter and Gamble, the University of Calgary and the University of Virginia. It confirms a hypothesis scientists had previously speculated: Contracting the rhinovirus triggers an overreaction of the immune system, leading to the runny noses, congestion, sneezing, and other symptoms typical of the common cold. Cold viruses themselves do not cause our symptoms directly, but indirectly through our immune response.

### *How is the common cold different from the flu?*

The flu is caused by the influenza virus, which is a different virus than those that cause colds. Although influenza virus can cause cold symptoms, they tend to cause lower respiratory or systemic symptoms, such as fevers, as well. Each season, only one or a few influenza viruses circulate in the U.S. (which is why the flu can be targeted through vaccinations). Without proper vaccinations, the flu can be a serious disease that can cause thousands of deaths in susceptible populations, such as the elderly.

### *What are the economic costs of colds?*

While most people consider colds a minor annoyance, they lead to substantial lost time from work and school. The annual economic burden in the U.S. of colds is around \$5 billion. In addition, cold viruses can exacerbate asthma and chronic obstructive pulmonary disease (COPD). Research shows that viruses may be involved in up to 80 percent of asthma attacks,

with cold viruses being the dominant cause of such exacerbations. Acute exacerbations account for 50% of all health care costs in asthma and 70% of all health care cost in COPD.

### ***Do some people catch cold viruses but show no symptoms?***

Yes. In the genomic study from P&G and university scientists published in the November 1, 2008 issue of the *American Journal of Respiratory and Critical Care Medicine (AJRCCM)*, one out of 17 experimentally infected volunteers showed no symptoms even though they tested positive for the virus and viral conversion. In colds acquired naturally in the community, perhaps 20 to 30 percent of infected individuals remain symptom-free.

### ***Does anyone know why some people have no symptoms?***

No one knows for sure, but we can speculate that it is not due to the virus itself but due to either an inherited or environmental factor that impacts an individual's immune response. For example, there are certain nutrients that play a key role in our immune response such as Vitamins C and D. This is clearly an area ripe for additional study.

### ***Why are colds more common in the winter?***

There are a number of factors which increase our susceptibility to colds in the winter. For example there is a greater tendency to be indoors and among crowds which can increase the possibility of viral transmission. Some research suggests lower air temperature and humidity can influence viral transmission. Researchers are currently investigating the impact of reduced sunlight which can lower Vitamin D levels, increasing our susceptibility to infection.

### ***Will there ever be a cure for colds?***

While research into an antiviral cold treatment has been going on for many years, the sheer number of different viruses that cause colds makes finding a cure fairly difficult. Currently, most research is focused in two areas: First in finding new treatments to reduce symptoms. And second, to identify key immune system antiviral molecules which, if boosted or supplemented, may help prevent or minimize colds. If symptoms are reduced, and the cold sufferer feels much better, that's getting close to a cure. Adequate nutrition also can help the body maintain optimal immune response to colds, especially during cold season. However, the best way to protect against cold symptoms is through prevention strategies such as hand hygiene.

### ***Will there ever be a vaccine to prevent the common cold?***

Some 200 different viruses can cause the common cold and with today's technology, a single vaccine could only target a few of the viruses. It doesn't make economic sense to spend millions of dollars to develop a vaccine that will only block a few of the cold viruses, because such a vaccine would prevent just a small fraction of all colds.

***What is the incubation period of a cold, and when will symptoms peak?***

After infection, symptoms appear in one to two days and peak in about three days. So if you're exposed to someone with a cold – say on an airplane or at home – and you don't feel worse in a few days, that means the danger of catching a cold has passed.

***What is the best defense against a cold?***

Today, the best defense against colds remains the same as always – trying to avoid them in the first place. Prevention through hygiene methods such as frequent hand washing and the use of antimicrobial hand sanitizers can help reduce the transmission of the cold virus. In some countries, therapies are available to reduce transmission through nasal sprays that discourage the spread and replication of the cold virus. In addition, maintaining a healthy immune system via good nutrition including important vitamins such as C and D, and getting adequate amounts of exercise and rest may help prevent the onset of a cold.