

# 1 Understanding Seasonal Flu

infection control strategies to keep yourself and others safe

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## What flu is... and what is not

Seasonal flu is an infection of the upper respiratory tract caused by micro-organisms, called viruses, which enter our body when we breathe flu-contaminated air droplets. Seasonal flu is highly contagious. It rapidly spreads among people and causes hundreds of millions to fall ill worldwide, every winter. In the U.S. alone, 60 millions are infected annually. Of these, more than 200,000 are so severely affected that they need hospital care, according to the Centers for Disease Control and Prevention (CDC). A staggering 20,000 are young children under the age of five.

### Recognizing flu

Establishing whether a person has flu based on symptoms alone is not always possible, mostly because, as discussed in the following section, there are other viral respiratory infections with similar symptoms. The only way to tell for sure is to have swabs of nasal and/or throat mucus tested for the presence of the virus. Not only these tests help determine whether a flu-like illness is actually flu, they also help identify which type of virus is causing it. Some tests are quite fast and provide results within 24 hours. These are called 'rapid influenza tests'.

But, there is a hiccup: they are not reliable. These tests fail to pick up the presence of the flu virus in about one third of cases. So, they may indicate that you have not flu when, in fact, you have it. and vice versa.

## CHAPTER 1. Understanding Seasonal Flu

### What flu is... and what is not

In general, people with influenza have at least some of the following signs and symptoms:

- Blocked nose.
- Dry cough.
- Fatigue.
- Fever.
- Headache.
- Muscle aches.
- Sore throat.

The incubation period, namely the time between the initial contact with the virus and the first appearance of the symptoms, is 48 hours, although it may be as short as 24 hours. At first, most people have headache and feel very weak and feverish. A sudden increase in body temperature usually follows. This can reach up to 104 °F (40 °C) in a matter of hours, and is often accompanied by muscles and joints aches. At the same time, patients may develop sore throat, persistent dry cough, and nasal congestion with sneezing. If there are no complications, symptoms subside within a week. A full recovery is expected after two weeks, although weakness and fatigue may last for several weeks.

### Stomach flu A myth?

Despite common belief, nausea, vomiting and diarrhea are not common flu symptoms, although they may develop in very young children. So, there is no such disease as 'stomach flu.' And the reason is simple: flu viruses can only affect the respiratory tract.

Infections of the stomach and intestine are called viral gastroenteritis and are caused by a variety of viruses, most commonly rotaviruses, enteroviruses and adenoviruses. Note that viral gastroenteritis is not the same as bacterial gastroenteritis. The latter is not caused by viruses but by bacteria, such as *Escherichia coli* and *Salmonella*.

### Not the common cold... or respiratory syncytial virus (RSV)

Flu is also different from the common cold. As seen in the previous sections, flu starts rather suddenly, normally in the winter months, often with a generalized sense of weakness and of feeling unwell followed by headache, severe body aches and high fever. Loss of appetite is common and complete recovery may take up to two to several weeks.

	Starts	Develops	High fever is	Symptoms are	Recovery occurs in
<b>Flu</b>	relatively suddenly	in winter	common	mild to severe; may develop into pneumonia	up to two to several weeks
<b>Cold</b>	gradually	at any time of the year	uncommon	mild	a few days
<b>RSV</b>	relatively quickly	winter/early spring	uncommon	mild to severe; may develop into pneumonia	one to two weeks



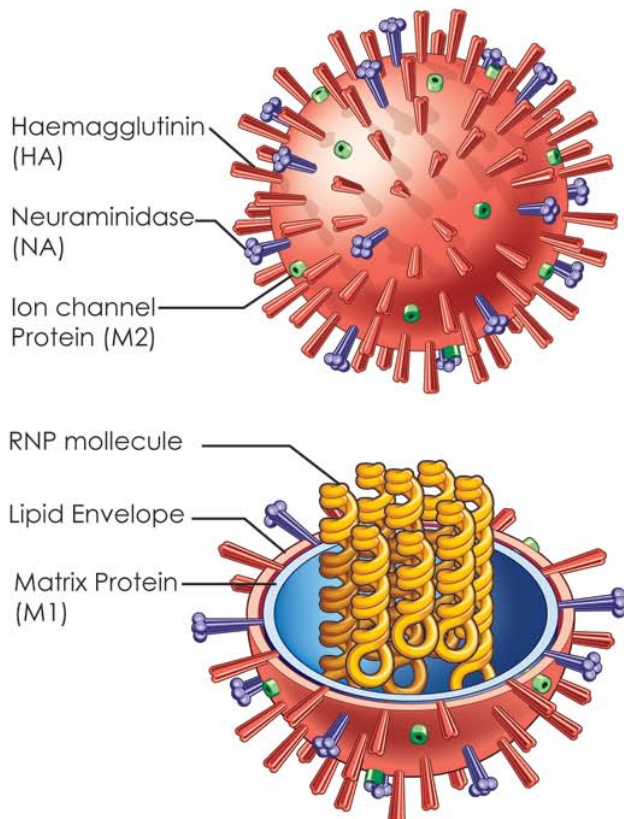
## CHAPTER 1. Understanding Seasonal Flu

### What flu is... and what is not

Like flu, colds are viral infections of the upper respiratory tract. However, unlike flu, they begin slowly, usually with a blocked or running nose, sneezing, and a scratchy throat. There is no high fever and there may be only slight appetite loss. Symptoms can develop at any time of the year and usually disappear after a few days.

Infection by RSV (respiratory syncytial virus) is another flu-like illness commonly mistaken as flu. Indeed, people infected with RSV show many of the typical symptoms of influenza, but they don't develop high temperature. RSV infections are usually mild in adults, but may be severe in young children, particularly those under six months of age with underlying medical conditions, who may develop pneumonia if they don't receive prompt medical help.

### Influenza A virus



### What virus?

There are three types of flu viruses: A, B and C. Seasonal flu is caused by the A and B types. So, these are the viruses responsible for the localized epidemics we see every year, usually between November and March. Some A flu viruses can also cause what we call pandemics. These occur worldwide, such as the Spanish flu outbreak of 1918, every 10 to 40 years. Type C flu viruses, are generally too mild to cause epidemics.

### Why winter?

This question has puzzled scientists for decades. Eventually, in June 2007, researchers of Mount Sinai School of Medicine, New York, came up with the answer: the peak of the flu season occurs in winter because during the winter months the weather is cold and dry.

Using guinea pigs as a model for the transmission of seasonal flu, Dr. Peter Palese and colleagues found that these had the highest chance to infect each other when they were kept at a temperature of 41 °F (5 °C) and a humidity of 20 percent. Transmission diminished significantly for temperatures above 41 °F (5 °C) and humidity higher than 20 percent; and stopped completely when temperature and humidity were 86 °F (30 °C) and 80 percent, respectively.

Why cold and dry? Because the virus is more stable at low temperatures, and because, in conditions of low humidity, flu-contaminated air droplets are less likely to pick up water and fall to the ground.

Hence, in cold and dry weather, the virus is not only better able to survive, it also floats in the air longer, which increases its chances to pass from one person to another. This would explain, for example, why there is no flu season at the Tropics where the weather is typically hot and humid.

# 2

## Home care

The ABC of a full recovery and maintaining your body in good health



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**The key elements for the effective treatment of flu patients at home include:**

- **Preventing dehydration.**
- **Adequately managing fever.**
- **Ensuring comfort.**

## What should you eat and drink ?

Influenza experts all agree that correct nutrition plays a major role in the good recovery of infected individuals, particularly in the first two days from the onset of symptoms. And the key principles to this approach couldn't be simpler. For a start, you should settle for a diet almost completely based on liquids.

### **Avoid**

- Drinking too much all at once, as this can induce vomiting. Drink sensible amounts and in small sips.
- Fizzy drinks, because they reduce the amount of liquid one can drink.
- Alcohol, as this stimulates urination (i.e., has a diuretic effect) further increasing the risk of dehydration.

### **What about coffee?**

The evidence from the studies on whether or not coffee (and other caffeinated beverages, like tea and cola) promotes dehydration is inconclusive. A few studies show that coffee has a diuretic effect, like alcohol. However, other studies found evidence to the contrary. According to the latter, when coffee is consumed in moderate amounts (e.g., one to four cups a day), it appears to be no more of a diuretic than water.