Influenza



What is influenza?

Influenza, commonly called “the flu”, is a contagious disease caused by viruses that infect the respiratory tract including nose, throat, and lungs. Influenza causes severe illness and life threatening complications in many people.

This document covers seasonal influenza.

What is the cause of influenza?

There are four types of viruses called influenza A, B, C and D. Influenza types A and B are responsible for the seasonal disease that occurs almost every winter. Influenza type C usually causes a very mild disease often without symptoms. Influenza type D viruses affect cattle and are not known to cause illness in people.

Influenza type A viruses are classified into subtypes and each subtype is further divided into strains. Only influenza A viruses have caused pandemics.

The H and N letters refer to the different kinds of proteins found on the outside surface of the influenza virus. The various subtypes of type A influenza virus depend on the kinds of proteins that stick out from the surface of the virus – the haemagglutinin or HA protein and the neuraminidase or the NA protein. The body’s immune system can make antibodies that can recognize these specific virus proteins (antigens) and therefore fight that specific influenza virus.

Researchers have found 18 kinds of HA proteins and 11 NA proteins in many combinations in bird flu viruses. These combinations are reported as strains of the influenza virus H(number) N(number). For example: H7N1, H9N2, H5N1, etc.

Influenza type B virus is not divided into subtypes, but can be documented as strains.

What are the symptoms of influenza?

It can take 1 to 4 days for symptoms to appear after exposure to the virus. The symptoms of influenza include fever (39°C and above), cough, and muscle aches.

Other common symptoms include sore throat, runny nose, headache, chills, loss of appetite, and fatigue. Some adults will also experience stomach ache, vomiting and diarrhea, but these symptoms are more common with children.

Most people who get the flu recover completely in 7 to 10 days. However, some people especially the elderly and those with chronic health problems can develop serious complications. These complications include pneumonia and aggravation of pre-existing medical conditions such as congestive heart failure, asthma, or diabetes.

How is influenza transmitted?

The influenza viruses mainly are spread from person to person through droplets produced while coughing or sneezing. Droplets of an infected person are propelled by coughing, sneezing, and talking into the air and are deposited on the mouth or nose of people nearby. This droplet transmission of the flu is known as contact transmission.

The influenza viruses can also be transmitted by indirect contact by touching a contaminated object or surface and then touching your own mouth, eyes or nose before washing your hands. This action is also called fomite transmission – a fomite is any surface or inanimate thing (door knobs, phones, television remotes, towels, money, clothing, dishes, books, toys, etc.) that can carry an agent after an infected person contaminated it by touching it or sneezing on it. Viruses can survive on surfaces – they live longer on hard, impermeable surfaces (e.g., door knobs) than on porous surfaces (e.g., clothing). The viruses can still be infective for two hours and maybe up to eight hours. It is easier to catch the common cold than influenza by fomite transmission because some of the "cold" viruses (rhinoviruses) have much smaller infectious doses than the "flu" viruses.

Can influenza be prevented?

Influenza can be prevented by annual vaccination. In Canada, the National Advisory Committee on Immunization (NACI) recommends that all Canadians older than six months get a flu shot.

The influenza vaccine is highly recommended for the following people due to a higher risk of hospitalization:

- Adults (including pregnant women) and children with chronic heart or lung disease.
- People of any age who are residents of nursing homes and other long-term care facilities.
- People over the age of 65 years.
- Children between 6 months and 5 years.
- People with health conditions such as diabetes, cancer, heart disease, lung disease, obesity, etc.
- Healthy pregnant women.
- Indigenous peoples.

The vaccine is also recommended for people who are capable of transmitting influenza to those at high risk. For example, health care workers, those providing essential community services, people (e.g., family, household members,

caregivers) who have close contact with those listed as high risk, those who care for or are expecting a newborn baby during flu season, child care workers, or those who live or work in situations that have close contact (e.g., crew on a ship).

Are there other ways to prevent the infection?

To prevent the transmission of influenza use the following hygiene practices:

- Wash hands after contact with respiratory droplets and contaminated objects. (Frequent hand washing with appropriate hand care to prevent skin irritation.)
- Cover your mouth and nose with your arm (not your hand) when coughing or sneezing.
- Use tissues to contain respiratory droplets.
- Keep your hands away from your face (viruses enter the body through your nose, mouth and eyes).
- Clean commonly touched surfaces such as door knobs, or light switches. Regular household cleaners and disinfectants are appropriate.
- If you think you are sick, stay home.
- Good personal hygiene practices will reduce the risk of infection. However, the most effective method of prevention is vaccination.

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