

**Influenza – the disease**  
**Information for immunisation providers**

This fact sheet aims to provide answers to many of the frequently asked questions regarding influenza. Influenza is a common illness that can be prevented by vaccination. Information on influenza vaccines is provided in the companion NCIRS fact sheet "[Influenza vaccines in Australia](#)".

The following questions are answered below.

1. [What is influenza or the flu?](#)
2. [How is influenza spread and who gets it?](#)
3. [How is influenza diagnosed?](#)
4. [When does influenza occur and how does the virus change?](#)
5. [What are the complications of influenza?](#)
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**1. What is influenza or the flu?**

Influenza, or ‘the flu’ as it is often called, is an acute viral illness that mainly affects the respiratory system. Flu symptoms usually start with a sudden onset of chills, shakes, headache, muscle aches, fever and dry cough. The respiratory symptoms then become more prominent. Sometimes abdominal complaints (such as pain and diarrhoea) and involvement of other body systems occurs. Older people who have caught the flu may not have a fever. The flu is often ‘self-limiting’ (that is, it resolves spontaneously) but it can cause severe illness and life threatening complications (see "[What are the complications of influenza?](#)" below).

Influenza is more than a bad cold. Many people confuse influenza with illnesses caused by other respiratory viruses (such as the common cold virus, rhinoviruses, respiratory syncytial virus (RSV), and adenoviruses). The table below compares the symptoms of influenza versus a cold.

SYMPTOMS	DISEASE	
	Influenza	Cold
Time sick	At least a week	1 to 2 days
High fever	Common	Rare, usually only mild fever if any
Muscular pains	Common	Rare
Shivering	Common	Rare
Runny nose	Rare, usually dry sensation initially	Common

However, sometimes illness caused by these viruses can't be easily distinguished from influenza. When the diagnosis of influenza isn't certain (and hasn't been confirmed by a laboratory test), the illness is often called ‘influenza-like illness’.

## 2. How is influenza spread and who gets it?

Influenza is spread easily, mainly through people sneezing and coughing. Droplets containing the influenza virus also settle onto surfaces, such as telephones, door knobs, etc, and can then pass from hands to the nose, mouth or eyes. People with influenza infection can be infectious to others for the 24 hours before symptoms start, and can continue to be infectious for about a week or more once the symptoms have appeared; their level of infectiousness usually diminishes over time. Influenza is more easily spread where crowds of people gather.

People of all ages get the flu. In the general community the percentage of people affected by flu is typically 5–10%, but may be up to 20% in some years. In households and ‘closed’ populations, such as nursing homes, attack rates may be 2–3 times higher. The flu is actually very common in healthy children with 10–40% infected each year and approximately 1% of these infections resulting in hospitalisations.

## 3. How is influenza diagnosed?

The only way to be certain that someone has influenza is to collect either a nose or throat swab, to detect the influenza virus, or to collect blood samples (during their illness and about two weeks after their illness), to check for an antibody (serologic) response to the virus. For the nose/throat test to be the most reliable, testing needs to be performed within 2–3 days of symptoms commencing. These tests are not used very often in the community, but are more commonly done in hospitalised patients who are suspected of having the flu. When there is a lot of influenza activity, and the symptoms described above are present, there is a high probability that an illness is due to influenza. Some GP practices and emergency departments may use ‘point-of-care’ rapid antigen testing for influenza (on nose/throat specimens) which can give a result right away. These tests may be useful for early diagnosis of influenza, particularly for patients in whom treatment with antiviral drugs is considered (see [“What is the treatment for influenza?”](#) below).

## 4. When does influenza occur and how does the virus change?

Influenza is a seasonal disease with most cases in Australia occurring around the winter months between June and September. In the Northern Hemisphere, influenza usually occurs between December and April, whereas in the tropics, flu can occur all year round. During 2007, there were over 10 000 laboratory-confirmed cases of influenza notified to the Australian National Notifiable Diseases Surveillance System.

There are two known strains of influenza. Influenza type A is the most common and is usually associated with the most serious forms of disease and large epidemics. Influenza type B is generally associated with smaller outbreaks. As influenza viruses circulate around the world, the virus strains are continuously changing. Influenza viruses are subclassified by the two types of proteins on their surface, known as the haemagglutinin (H) and neuraminidase (N) antigens. The process by which these proteins change to produce new strains of the virus is called ‘antigenic drift’. A major change in the virus structure is known as ‘antigenic shift’. This leads to a completely new H or N type becoming established in the human population. The two subtypes of influenza A currently circulating in the population are known as A (H1N1) and A (H3N2).

Occasionally there have been worldwide outbreaks of influenza known as ‘influenza pandemics’, which have occurred with the global spread of a new influenza A virus strain (or subtype). The influenza pandemic of 1918 (‘Spanish flu’) was estimated to have killed 10–40 million people. The 1957 ‘Asian flu’ and the 1968–69 ‘Hong Kong flu’ pandemics were not as dramatic as the 1918 pandemic. For example, although the Hong Kong flu was reported to have infected many people, the mortality rate was lower than that seen during the 1918 pandemic.

## 5. What are the complications of influenza?

Serious complications from the flu occur in a small number of people. People at most risk of complications from influenza include those with pre-existing medical conditions such as chronic lung and heart disease. (See also NCIRS fact sheet “Influenza vaccines in Australia”.) LINK However, previously healthy people can also have severe complications. In Australia, there are, on average, 85 deaths and over 4000 hospitalisations recorded as being due to influenza illness each year. However, these figures are certainly an underestimate. Pneumonia, myocarditis (inflammation of the heart muscle) and neurologic complications can all arise directly from the virus. Secondary bacterial infections, such as pneumonia, can also cause severe complications and death.

## 6. What is the treatment for influenza?

Treatment of influenza generally aims to prevent or minimise symptoms. Treatment includes bed rest until the fever subsides, pain relief such as aspirin or paracetamol, and high fluid intake. Children <16 years of age must not be given aspirin or aspirin-containing medications whilst sick with influenza. This is due to the increased risk of children developing Reye Syndrome, a form of encephalitis and liver degeneration.

Antiviral medication can help reduce the severity and duration of symptoms of influenza. This medication requires a prescription and, to be effective, needs to be administered within 48 hours of symptoms first occurring.

## 7. How can someone prevent influenza?

There are two major ways of preventing influenza: preventing contact with the virus and vaccination to provide immunity to it. Precautions against contact include cough etiquette, like covering the nose and mouth with a tissue when coughing or sneezing; washing hands before eating or drinking can also help to further reduce exposure to influenza. Avoid close contact with people who are sick. If unwell with influenza, stay home from work, school and social gatherings.

The best way to avoid influenza is to get vaccinated each year. Each year a new flu vaccine formulation is produced. That vaccine will contain the three most common strains of circulating influenza viruses for that year (two influenza A strains and one influenza B strain). For further information on the influenza vaccine, please refer to the NCIRS fact sheet “[Influenza vaccines in Australia](#)”.

## Further reading

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Plotkin SA, Reef S. Influenza vaccine. In: Plotkin SA, Orenstein WA, eds. Vaccines. 5th ed. Philadelphia, PA: Saunders, 2008.

National Health and Medical Research Council. The Australian Immunisation Handbook. 9<sup>th</sup> ed. Canberra; Australian Government Department of Health and Ageing, 2008. <http://immunise.health.gov.au>

### Useful Websites

The Australian WHO Collaborating Centre for Reference and Research on Influenza <http://www.influenzacentre.org/fluinfo.htm>

Better Health Victoria  
[http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Flu\\_facts\\_tips\\_and\\_treatment?OpenDocument](http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Flu_facts_tips_and_treatment?OpenDocument)