

Influenza (Flu) Frequently Asked Questions

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Influenza

What is influenza (also called flu)?

Influenza is an acute contagious respiratory illness caused by infection with an influenza virus. Influenza can occur throughout the year but influenza activity usually peaks in winter.

There are three types in all with influenza A and influenza B causing the majority of infections. A third type, influenza C, is rarely reported as a cause of human illness.

Influenza viruses infect the nose, throat and lungs. They can cause mild to severe illness and at times can lead to death. The best way to prevent flu is by getting the flu vaccine each year.

What are the symptoms?

People who have influenza often have some or all of the following symptoms and signs:

1. Fever¹ - temperature of 38°C (100.4°F) or more /or feeling feverish with chills
2. Dry cough
3. Sore throat
4. Headache
5. Sore muscles and joints
6. Runny or stuffy nose
7. Fatigue (very tired)
8. Some people may have nausea, vomiting and diarrhoea, though this is more common in children than adults

Influenza is often characterised by sudden onset of symptoms with patients often recalling the exact hour the fever commenced. Cough is often severe and lingers, but otherwise the disease is self-limiting and recovery is within 2-7 days. Long-term effects that can occur include depression and fatigue which can last weeks.

¹ It is important to note that not everyone with flu will have a fever

Is it flu or the common cold?

It can be difficult at times to tell the difference between the common cold and flu. The main difference is that the symptoms of influenza come on rapidly and are typically accompanied by muscle aches and a fever. The common cold comes on more slowly and is associated with a runny nose, sneezing and stuffy nose. See table below:

Symptoms	Flu	Cold
Fever	Characteristic high (38°C ; 100.4°F); lasts 3-4 days	Rare
Headache	Prominent	Rare
General Aches, Pains	Usual; often severe	Slight
Fatigue, Weakness	Can last up to 2-3 weeks	Quite mild
Extreme Exhaustion	Early and prominent	Never
Stuffy Nose	Sometimes	Common
Sneezing	Sometimes	Usual
Sore Throat	Sometimes	Common
Chest Discomfort, Cough	Common; can become severe	Mild to moderate; hacking cough

What are the complications from influenza?

Flu makes people feel worse than a common cold. For most people flu is just a nasty experience but for some it can lead to illnesses that are more serious.

The most common complication is pneumonia, mainly secondary bacterial pneumonia. Primary influenza viral pneumonia is not a common complication but is associated with a high death rate.

Other complications include ear infections, sinus infections, worsening of pre-existing medical conditions such as asthma, chronic bronchitis or chronic heart failure and rarely acute encephalopathy (swelling of the brain). These illnesses may require treatment in hospital and can be life threatening especially in

those aged 65 years and over and in those with underlying medical conditions.

Pregnant women have also been found to be at increased risk of the complications of flu.

Reye's Syndrome is a particular syndrome that almost exclusively occurs in children, primarily in association with influenza B infection and presents with severe vomiting, confusion and coma.

Death is reported in 0.5-1 per 1,000 cases of influenza. The majority of deaths occur in those over the age of 65.⁽¹⁾ Even in winters when the incidence of influenza is low, 3,000-4,000 excess deaths may be attributable to influenza in the United Kingdom.⁽²⁾ Excess deaths are deaths above normal expected levels. In the United States, between 1976 and 2006, estimates of flu-associated deaths range from a low of about 3,000 to a high of about 49,000. Research by the HSE Health Protection Surveillance Centre, as part of a wider European study, estimates that over the last eight flu seasons between 200 and 500 people in Ireland died each year from flu related illness, and up to 1,000 people could die in a particularly severe flu season.

How is influenza diagnosed?

Doctors usually diagnose flu based on symptoms. Confirmation of influenza infection can be obtained either from throat or nasopharyngeal swabs or very occasionally by performing a blood test.

What should I do if I get influenza?

Most influenza-like illnesses are self-limiting and it is best to treat them at home until the person is well enough to return to normal activities (approximately 5-7 days).

If influenza or influenza-like illness has been diagnosed, often the best treatment is to:

- Stay indoors, keep warm and rest
- Drink plenty of liquids.
- Simple painkillers such as paracetamol may help relieve headache or muscle pains.
- Medical advice should be sought if the influenza symptoms become more severe or last more than about a week.
- Those with chronic medical conditions or long standing illness may need medical attention earlier.

Specific influenza antiviral medicines can reduce the severity and the duration of flu. These medicines need to be prescribed by a doctor and are usually considered for people at higher risk of complications from influenza infection. They usually need to be taken within 48 hours of the first symptoms.

Antibiotics are only required if a person develops influenza-related complications such as a bacterial pneumonia.

Note: Aspirin or aspirin-containing medicines should NOT be given to children under the age of 16 years. This is due to the increased risk of children developing Reye's syndrome, a form of encephalitis and liver degeneration.

How does influenza spread?

The virus multiplies in the nose and airway passages and usually spreads from person-to-person by aerosol droplet spray when people with flu cough, sneeze or talk. These droplets can land on the mouths or noses of people who are nearby.

Influenza is highly infectious and can survive on worktops/objects especially in low temperatures and in low humidity. Less often, a person might get flu by touching a surface or object with flu virus on it and then touching their own mouth, eyes or possibly their nose. The virus can live on a hard surface for up to 24 hours and a soft surface for around 20 minutes.

The incubation period (delay between infection with influenza and appearance of symptoms) is short, typically 1-3 days. A person can spread the virus from 1-2 days before the onset of symptoms and continue to be infectious for a further 5-7 days after symptoms begin. This however may be prolonged to a week or more in children or people with weakened immune systems.

What precautions can I take?

Annual vaccination remains the best protection against influenza, especially in people who are at high risk of complications from influenza.

As the virus can spread through sneezing, coughing, contaminated hands or surfaces, ensuring [good hygiene practices](#) will help such as washing hands. To reduce spread, it is important that if someone has the flu or a cold that they cover their nose and mouth preferably with

a tissue when they cough and sneeze and wash their hands afterwards for at least 10 seconds or use an alcohol-based rub/gel. Tissues need to be bagged and disposed of appropriately (in a rubbish bin) if they are used outside the home, otherwise, they can be disposed of in normal household waste.

Normal household products can be used to clean the room of someone who has had flu as the virus can easily be destroyed. Pay particular attention to hard surfaces. Open the windows, wash the bed linen but make sure that you wash your hands afterwards.

How can flu be prevented?

The best way to prevent flu is to get the flu vaccine. Flu can be prevented by vaccination. Flu vaccine is a safe, effective way to help prevent flu infection, avoid hospitalisation and reduce flu related deaths and illnesses. Vaccination of healthcare workers has been shown to reduce flu-related deaths by 40%.

Who is at risk of influenza?

Influenza can affect people of all ages, however it has more severe consequences in older people (aged 65 years and older) or people defined as being at high risk for flu. High-risk groups include people with:

- Chronic lung disease including chronic obstructive pulmonary disease (COPD), cystic fibrosis, those with moderate or severe asthma or bronchopulmonary dysplasia
- Chronic heart conditions
- Chronic kidney disease
- Chronic liver disease
- Chronic neurological disorders
- Morbid obesity (body mass index (BMI) ≥ 40)
- Diabetes mellitus
- Haemoglobinopathies
- Pregnant women
- Those who have weakened immune systems due to disease or treatment including asplenia and splenic dysfunction and all cancer patients
- Children with any condition which can compromise lung function (e.g. spinal cord injury, seizure disorder) especially those attending special schools/day centres
- Children with moderate or severe neurodevelopmental disorders such as cerebral palsy and intellectual disability
- Children on long term aspirin therapy also belong to a high risk group.

These above groups of people are targeted for influenza vaccination.

For the latest information on seasonal influenza vaccination see the [National Immunisation Advisory Committee guidelines on influenza](#).⁽³⁾ Further information is also available on the [National Immunisation Office's website](#).

What is a flu epidemic?

An epidemic is the occurrence of more cases of flu than expected in a given area or among a specific group of people over a particular period of time. Epidemics of influenza can occur annually, during the winter months and in Ireland last on average 9 weeks.

What is a flu pandemic?

Influenza virus undergoes minor changes on its surface regularly as it multiplies. This is known as antigenic drift and is the reason why a person needs to be vaccinated annually.

When more major changes occur in the structure of the virus such that a new virus subtype is produced, this is known as antigenic shift. This is of major importance, as the general population will not have any protection against this new virus. The new subtype can cause a pandemic if it has the ability to spread rapidly from person to person and if it is virulent. As a result large numbers of people all over the world are affected over a relatively short space of time and some cases can prove fatal.

Influenza Vaccine

What is the seasonal (yearly) flu vaccine?

The seasonal (yearly) flu vaccine contains killed forms of three common influenza strains (two type A strains and one type B strain). The protection gained from the seasonal flu vaccine decreases over time and usually only lasts for up to one year because the circulating flu strains change each year. Yearly vaccination is therefore required to provide the best protection against circulating strains.

You should discuss this with your GP if you are unsure whether or not you are at risk and should get the flu vaccine.

Is there a vaccine available?

Yes. Each year flu vaccine is made available from September onwards. The best time to be vaccinated is from mid-September to mid-October, i.e. before the influenza season starts. However you can get the vaccine anytime during the flu season which lasts from October to late May.

What influenza strains are in the 2017/2018 seasonal flu vaccine for the northern hemisphere (Europe, North America)?

This year's seasonal flu vaccine contains 3 strains of flu viruses as recommended by the World Health Organization (WHO), as the strains most likely to be circulating this season. The three strains are:

1. an A/Michigan/45/2015 (H1N1)pdm09-like virus;
2. an A/Hong Kong/4801/2014 (H3N2)-like virus;
3. a B/Brisbane/60/2008-like virus.

Further information on [WHO recommendations on the composition of influenza virus vaccines is available on the WHO website.](#)

What vaccine is available for the 2017/2018 seasonal influenza vaccination programme?

The flu vaccine in use in the 2017/2018 HSE seasonal influenza vaccination programme is inactivated influenza vaccine (Split Virion) BP (manufactured by Sanofi Pasteur).

How does the seasonal flu vaccine work?

Seasonal flu vaccine helps the person's immune system to produce antibodies to the flu virus. When someone who has been vaccinated comes into contact with the virus, these antibodies attack the virus.

How long does it take the flu vaccine to work?

The vaccine starts to work within two weeks because it takes this time for the vaccine to produce the required antibodies to protect against the infection.

How effective is the vaccine?

The most effective way to prevent influenza illness and/or severe outcomes from influenza is vaccination. Safe and effective vaccines are available and have been used for more than 60 years.

The effectiveness varies depending on the age and health of the person being vaccinated and the strains of flu virus that are circulating. Influenza vaccination is most effective when circulating viruses are well-matched with vaccine viruses.

Older persons and those with certain long term diseases have lower immune responses so the vaccine may not be as effective but it will still prevent severe illness and hospitalisation.

Among elderly people living in long-term care facilities, the vaccine is 50-60% effective in preventing hospitalisation for all causes and 70-80% effective in preventing death.⁽⁴⁻⁵⁾

Influenza vaccine remains the best protection against influenza and is recommended by all major expert bodies including the World Health Organization, US Centers for Disease Control and Prevention, European Centre for Disease Prevention and Control and the National Immunisation Advisory Committee of the Royal College of Physicians of Ireland.

Is the vaccine safe?

Yes. Seasonal flu vaccines have been given for more than 60 years to millions of people worldwide. Reactions are generally mild and serious side effects are very rare. The flu vaccine cannot give you flu.

Who should get the vaccine?

There are guidelines set out by the Royal College of Physicians of Ireland National Immunisation Advisory Committee (NIAC); these guidelines are available on the [HSE website](#).⁽³⁾

Influenza vaccine is strongly recommended for those aged 6 months and older who are at increased risk of influenza-related complications:

- Persons aged 65 years and older
- People (adults and children) with chronic illness requiring regular medical follow-up such as:
 - Chronic heart disease (including acute coronary syndrome)
 - Chronic liver disease
 - Chronic renal failure
 - Chronic respiratory disease, including chronic obstructive pulmonary disease (COPD), cystic fibrosis, moderate or severe asthma or bronchopulmonary dysplasia
 - Chronic neurological disease including multiple sclerosis, hereditary and degenerative disorders of the central nervous system
 - Diabetes mellitus
 - Haemoglobinopathies
- Immunosuppression due to disease or treatment including asplenia or splenic dysfunction and all cancer patients
- Down Syndrome
- Morbid obesity i.e. body mass index (BMI) 40
- Children aged 6 months and older with any condition that can affect lung function e.g. spinal cord injury, seizure disorder, or other neuromuscular disorder especially those attending special schools/day centres.
- Children with moderate to severe neurodevelopmental disorders such as cerebral palsy and intellectual disability.
- Children on long term aspirin therapy
- Pregnant women (vaccine can be given at any stage of pregnancy)
- Healthcare workers
- Residents of nursing homes and other long stay institutions
- Household contacts of at-risk persons
- Out of home caregivers to at-risk persons
- People with regular contact with pigs, poultry or water fowl.

Who should NOT get seasonal flu vaccine?

Most people can get the flu vaccine.

The vaccine should not be given to those with a history of severe allergic (anaphylaxis) reaction to a previous dose of the vaccine or any of its constituents (parts of the vaccine).

What about people with egg allergy?

People with egg allergy can get seasonal flu vaccine. This may be given by your GP or you may need referral to a hospital specialist.

When should vaccination be postponed?

There are very few reasons why vaccination should be postponed. Vaccination should be re-scheduled if you have an acute illness with a temperature greater than 38°C (100.4°F).

Are there any side effects to the vaccine?

The most common side effects will be mild and may include soreness, redness or swelling where the injection was given. Headache, fever, aches and tiredness may occur. Some people may have mild sweating and shivering as their immune system responds to the vaccine but this is not flu and should pass in a day or so.

Very rarely, less common side effects that can occur after vaccination include allergic reactions and Guillain-Barré syndrome (GBS), a severe paralytic illness. The risks of developing GBS are higher following influenza illness.

Life-threatening allergic reactions are extremely rare, but can happen in people who have a severe allergy to any vaccine component.

Does the vaccine cause influenza?

No, the flu vaccine cannot give you the flu because it is not a live vaccine.

Can I still get influenza despite having the vaccine?

Yes. Depending on the match between the vaccine received and the strain that has caused the infection. In most circumstances, the illness is milder if you have been vaccinated.

Influenza Vaccine and Pregnancy

The World Health Organization have stated that pregnant women are the highest priority group for seasonal influenza vaccination

Why do pregnant women need to get the seasonal flu vaccine?

Pregnant women should be given flu vaccine as they are at higher risk of severe complications from flu.

Studies have shown that pregnancy may increase the risk of influenza because of the alterations in heart rate, lung capacity and in the immune system.

Influenza in pregnancy is associated with premature birth and reduced foetal growth. Premature birth can lead to long-term medical and social consequences.

Flu vaccine protects pregnant women during pregnancy and provides ongoing protection to their newborn baby during their first six months of life. The vaccine can be given at any stage of pregnancy.

Many pregnant women are unaware that they are at high risk of influenza and its complications.

Further information for pregnant women this season is available on the [HSE website](#).

Is it safe for pregnant women to be vaccinated?

Yes. The vaccine is safe for pregnant women. Seasonal flu vaccines have been given for more than 60 years. Reactions are generally mild and serious side effects are very rare. Seasonal flu vaccine has been recommended for several years for all pregnant women in the USA.

Will my baby be protected if I am vaccinated?

Vaccination during pregnancy can protect your baby and also helps prevent you getting flu and passing it on to your baby.

At what stage of pregnancy should women receive the seasonal influenza vaccine?

Seasonal flu vaccine should be given to pregnant women at any stage of pregnancy.

Should a woman who was pregnant at the end of the 2016/2017 flu campaign who received seasonal flu vaccine then and who has not yet delivered her baby receive the 2017-2018 influenza vaccine?

Yes. The National Immunisation Advisory Committee recommends that in these instances that the pregnant woman receives a dose of the 2017/2018 seasonal flu vaccine. This is because there are new strains of influenza in the 2017/2018 vaccine and immunity to the 2016/2017 vaccine may have decreased.

What if I don't feel well after vaccination?

If you have a temperature after the vaccine, take paracetamol, as it is safe in pregnancy, and it is important for you and your baby to avoid fever. Do not take ibuprofen or aspirin (unless advised by your obstetrician). Remember if you are unwell after getting a vaccine, it could be for some other reasons - don't assume it's the flu vaccine and seek medical advice if needed.

For further information on influenza vaccine, visit the [National Immunisation Office](#) website

Influenza Vaccine and Health Care Workers

Why is the Influenza Vaccine important for Health Care Workers?

Every year flu vaccine is offered to health care workers to prevent the spread of flu to vulnerable patients and to staff. Health care workers should get the flu vaccine to protect themselves, their families and their patients.

This year the HSE aims to achieve a target of 40% flu vaccine uptake among health care workers.

During the 2016/2017 influenza season:

- There was an increase in flu vaccine uptake in both hospital staff (31.8% compared to 22.5% in 2015/2016) and in long term care facility (LTCF) staff (28.1% compared to 24.4% in 2015/2016).
- The highest uptake was in medical and dental staff and the lowest uptake in nursing staff.
- 14 hospitals (29.2%) and 24 LTCFs (23.5%) exceeded the 40% target.⁽⁶⁾

Why is flu an issue?

- Flu is responsible for between 200 and 500 deaths each year in Ireland. In a severe season it can cause up to 1000 deaths.
- Flu can cause serious complications such as pneumonia especially in those aged 65 and older, children under 4 years of age, those with long term medical conditions and pregnant women.
- Flu leads to an increased incidence of heart attacks and strokes.^(7,8,9)
- Flu can also cause serious disease in previously healthy people. Between 7-26% of the 638 people admitted to ICU in Ireland with flu since 2009 were previously healthy people and over one-third of cases were aged less than 65 years (HPSC surveillance of influenza in ICU)-Data are provisional, HPSC August 2017.
- The number of confirmed influenza hospitalised cases reported to HPSC during the 2016/2017 influenza season was 1394. Fifty confirmed influenza cases required admission to critical care units.
- Flu is highly transmissible and those who are infected, including healthcare workers, can spread the disease from one day before symptoms begin (while asymptomatic) and for 5-7 days after developing symptoms.
- Flu occurs every winter but the extent of infection is unpredictable so it is not possible to know whether there will be a mild or a severe season in any particular year.

How can it be prevented?

The best way to prevent flu is to get the flu vaccine. Flu vaccine is a safe, effective way to help prevent flu infection, avoid hospitalisation and reduce flu related deaths and illnesses. Vaccination of healthcare workers has been shown to reduce flu-related deaths by 40%.

Antiviral Drugs

What are antiviral drugs?

There are currently two antiviral drugs that can shorten the course of flu infection if given early in the illness and provide short-term protection against influenza: oseltamivir and zanamivir. Both zanamivir (trade name Relenza) and oseltamivir (trade name Tamiflu) are currently licensed in Ireland⁽¹⁰⁾

Oseltamivir and zanamivir inhibit the neuraminidase enzyme, thereby preventing release of influenza virus from infected cells. They are licensed for the treatment of influenza A and B in adults and children when influenza is circulating in the community. Oseltamivir is licensed for use in children aged 1 year and older and zanamivir is licensed for use in children aged 5 years and older.

For detailed information on indication, contraindication, dosing and side effects, consult the package insert. Further information on antiviral guidance is available on the [HPSC website](#).

Where to look for further information

Further information on influenza vaccines can be found on the following websites.

National Immunisation Office. See www.immunisation.ie

Immunisation Guidelines of Ireland
<http://www.hse.ie/eng/health/immunisation/hcpinfo/guidelines/immunisationguidelines.html>

Health Products Regulatory Authority. See www.hpra.ie

Medicines information on line. See [www.medicines .ie](http://www.medicines.ie)

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