



Influenza (Flu)

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What is influenza?

Influenza is an acute respiratory illness caused by infection with an influenza virus.

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.

What is Swine Flu?

Swine flu is a new influenza virus that was first identified in April 2009. As most people did not have any immunity against the virus it spread rapidly worldwide and infected a large number of people. It is also known as Pandemic (H1N1) 2009.

What are the symptoms?

Influenza is characterised by sudden onset of symptoms with patients often recalling the exact hour the fever commenced. The symptoms include a temperature of 38°C (100.4°F) or more with a dry cough, headache, sore muscles and sore throat. Cough is often severe and protracted, but otherwise the disease is self-limiting and recovery is in 2-7 days. Long-term effects that can occur include depression and fatigue that can last weeks.

What are the complications from influenza?

The most frequent complication is pneumonia, most commonly

secondary bacterial pneumonia. Primary influenza viral pneumonia is an uncommon complication but is associated with a high death rate. Other complications include worsening of pre-existing chronic medical conditions such as chronic bronchitis or chronic heart failure. 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 1000 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⁾ The current best Irish national estimate of the number of deaths annually from influenza and its complications is 300-400 deaths per year and is based on extrapolation of studies done in the UK and the US.

How does influenza spread?

The virus multiplies in the nose and airway passages and usually spreads by aerosol droplet spray. It is highly infectious and can survive on worktops especially in low temperatures and in low humidity. The incubation period (delay between infection and appearance of symptoms) is short typically 1-3 days. A person can spread the virus by sneezing or coughing from 1-2 days before the onset of symptoms and continue to be infectious for a further 3-5 days. This however may be prolonged to a week in children.

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.

Who is at risk of influenza?

Influenza can affect all ages, however it has more severe consequences in the elderly or people defined as being high risk. High-

risk groups include people with chronic heart conditions, chronic respiratory disease, chronic renal disease, chronic liver diseases, chronic neurological disorders, morbid obesity (body mass index over 40), diabetes mellitus, pregnant women (up to six weeks post partum) and those who are immunosuppressed. These groups of people are targeted for influenza vaccination.

Is it flu or the common cold?

It can be difficult at times to distinguish 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 has a more insidious onset and is associated with a runny nose, sneezing, and blocked nasal passages. Please see table below.

Symptoms	Flu	Cold
Fever	Characteristic high ($\geq 38^{\circ}\text{C}$ 102-104° 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

How is influenza diagnosed?

Confirmation of influenza infection can be obtained either from throat or nasopharyngeal swabs or by performing a blood test.

What can I take for influenza?

If influenza or influenza-like illness has been diagnosed, often the best treatment is to stay indoors, keep warm and drink plenty of liquids. Simple painkillers such as paracetamol may help relieve headache or muscle pains. **Note:** Aspirin should NOT be given to children under the age of 16 years.

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

Is there a vaccine?

Yes. Each year flu vaccine is made available from September onwards. The best time to be vaccinated is from mid September to October, i.e. before influenza season commences. This is because it takes two weeks for the vaccine to produce the required antibodies to protect against the infection.

What is the seasonal (annual) flu vaccine?

The seasonal (annual) flu vaccine contains three common influenza strains. The flu virus changes each year, this is why a new flu vaccine has to be given each year. This year's flu vaccine contains the Swine flu strain.

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.

Who should get the vaccine?

There are guidelines set out by the Royal College of Physicians Immunisation Advisory Committee. ⁽³⁾ Two groups are targeted:

- 1) Any individual over the age of six months of age who is at risk of influenza related complications
- 2) Those at increased risk of transmitting influenza to a person who is at high risk of influenza-related complications.

The 2010/2011 seasonal influenza vaccine is strongly recommended for:

1. All those 65 years and older
2. Adults and children over 6 months of age with any of the following: chronic illness requiring regular follow up (e.g. chronic respiratory disease including cystic fibrosis, moderate or severe asthma, chronic heart disease, bronchopulmonary dysplasia, chronic neurological disease, diabetes mellitus, haemoglobinopathies, chronic renal disease, chronic liver disease, chronic neurological disease including multiple sclerosis, hereditary and degenerative disorders of the central nervous system etc)
3. Pregnant women and women up to 6 weeks post birth who are not in a medically at risk group and who have not already received pandemic (H1N1) 2009 vaccine (can be given at any stage of pregnancy). Pregnant women with medical risk groups should receive this year's seasonal influenza vaccine whether or not they received pandemic influenza vaccine.
4. Those who are immunosuppressed due to disease or treatment including those with missing or non functioning spleens
5. Children and teenagers on long-term aspirin therapy.
6. Children with any condition (e.g. cognitive dysfunction, spinal cord injury, seizure disorder, or other neuromuscular disorder) that can compromise respiratory function especially those attending special schools/ day centres
7. Those with morbid obesity i.e. Body Mass Index ≥ 40
8. Residents of nursing homes, old peoples' homes and other long stay facilities

9. Healthcare staff including those on clinical placement. All pregnant health care workers should be encouraged to get the seasonal flu vaccine (even if they received the pandemic vaccine last year)
10. Carers who have direct patient contact
11. People who have close, regular contact with pigs, poultry or water fowl

Children under 9 years of age require two doses of seasonal flu vaccine if they are receiving seasonal flu vaccine for the first time.

How often do I need to be vaccinated?

Usually, the influenza vaccine is recommended annually for those at risk for flu complications. You should discuss this with your GP if you are unsure whether or not you are at risk.

How effective is the vaccine?

The vaccine is 70-90% effective. In residents of nursing homes, the vaccine is effective in preventing severe complications and deaths. Studies have shown that hospitalisation rates, cases of pneumonia and respiratory illness, and death rates were reduced by over 50% in elderly residential population that were vaccinated. ^(4 - 8)

Is the vaccine safe?

Yes. However, the vaccine should not be given to those with:

- A history of known severe allergic hypersensitivity to egg protein
- A history of a severe allergic (anaphylaxis) reaction to a previous influenza vaccination.

Are there any side effects to the vaccine?

One third of recipients may develop soreness and redness at the injection site. More generalised reactions such as fever, sore muscles and feeling unwell can occur following vaccination and most often affect persons who have had no previous exposure to the flu virus

antigens in the vaccine for example young children. The reaction usually begins about 6-12 hours after vaccination and lasts up to 48 hours.

Less common side effects that can occur after vaccination include allergic reactions and Guillain-Barré syndrome (GBS), a severe paralytic illness. Life-threatening allergic reactions are very rare, but can happen in people who have a severe allergy to any vaccine component, most commonly allergy to eggs.

In 1976, swine flu vaccine was associated with an increased number of cases of GBS. Influenza vaccines since then have not been clearly linked to GBS. However, if there is a risk of GBS from current influenza vaccines, it is estimated at 1 or 2 cases per million persons vaccinated - much less than the risk of severe influenza, which can be prevented. ⁽⁹⁾

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

During the pandemic, pregnant women and women up to 6 weeks after giving birth were at higher risk of complications from the pandemic (swine flu) virus. It is expected that the pandemic virus will still be around this winter so pregnant women and women up to 6 weeks after giving birth need to be protected. The seasonal flu vaccine this winter, will provide protection against the pandemic (swine flu) virus and can be given at any stage of pregnancy. Your GP will advise you about this.

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.

Does the vaccine cause influenza?

No, the vaccine is not a live vaccine and cannot give you influenza.

What are antiviral drugs?

There are currently three antiviral drugs that can shorten the course of infection if given early in the disease and provide short-term protection against influenza: amantadine, zanamivir and oseltamivir. Of these only zanamivir (trade name Relenza) and oseltamivir (trade name Tamiflu) are currently licensed in Ireland.

The UK National Institute for Clinical Excellence (NICE) does not recommend the use of amantadine for the treatment of influenza A.

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Oseltamivir and **zanamivir** inhibit the neuraminidase enzyme, thereby preventing release of virus from infected cells. They are licensed for the treatment of influenza A and B in adults and children within 48 hours (or within 36 hours for zanamivir treatment in children aged between 5 and 12 years) of the onset of first symptoms 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. In order to be effective the drug needs to be administered within 48 hours (or within 36 hours for zanamivir treatment in children aged between 5 and 12 years) of the onset of symptoms. ⁽¹⁰⁾ For detailed information on indication, contraindication, dosing and side effects, consult the package insert.

What is an epidemic?

An epidemic is the occurrence of more cases of disease 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 last on average between 6-8 weeks.

What is a 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.

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