

Seasonal Influenza Vaccine Information for Healthcare Professionals

What is influenza?

Influenza is an acute respiratory illness caused by infection with an influenza virus. The illness affects the upper and/or lower respiratory tract, is usually self limiting with recovery in 2–7 days but it can be severe, especially in the elderly.

What are the symptoms of influenza?

Most people with influenza are sick for 5-7 days with sudden onset of high fever (>38°C), sore throat, dry cough, myalgia and headache. Symptoms such as nausea, vomiting and diarrhoea can also occur but are more common in children than adults. Some people can get a more severe disease and may need to be admitted to hospital.

What are the complications of influenza?

Complications of influenza can include pneumonia, ear infections, sinus infections, dehydration, encephalitis (swelling of the brain) and Guillain-barre syndrome (a nerve condition that can result in temporary paralysis). Influenza may also worsen chronic medical conditions, such as congestive cardiac failure, asthma or diabetes. Influenza can be fatal with the majority of deaths occurring in those over 65.

How is influenza transmitted?

Influenza viruses spread mainly from an affected person to others through coughing or sneezing. Sometimes people may become infected by touching surfaces with influenza viruses on it and then touching their mouth or nose. Most healthy adults can infect others from just before symptoms develop and up to 5 days after they become sick. A person with influenza may be able to pass on the virus to someone else before they know they are sick, as well as while they are sick. Influenza can be highly contagious and can spread rapidly especially in long-stay institutions.

Who is most at risk of infection from influenza?

All age groups can be affected. Those most at risk are older people and people of any age with a chronic medical condition, particularly chronic respiratory or cardiac disease. Young children are also at a higher risk of being infected because they will not have had the opportunity to develop immunity to the virus.

What is influenza vaccine?

Influenza vaccine is an inactivated vaccine, containing killed influenza virus. The vaccine is injected into muscles and stimulates the immune system to produce antibodies to the influenza virus. When

the live virus infects a person who has been vaccinated, the antibodies attack and kill the virus and prevent infection.

Who should be vaccinated?

Vaccination is recommended for two groups of individuals:

- Those older than 6 months of age who are at increased risk of influenza-related complications and
- Those likely to transmit influenza to a person at high risk of influenza complications (including household contacts and out-of-home care givers).

Annual immunisation with seasonal influenza vaccine is strongly recommended for:

- All people aged 65 years and over
- Adults and children over 6 months of age with any of the following
 - Chronic illness requiring regular follow up such as chronic respiratory disease including cystic fibrosis, moderate or severe asthma, chronic cardiac disease, diabetes mellitus, chronic liver disease and chronic renal disease,
 - Immunosuppression due to disease or treatment including those with missing or non-functioning spleens.
- Children and teenagers on long-term aspirin therapy,
- Residents of nursing homes, old peoples' homes and other long stay facilities,
- Carers of those in at risk groups
- Poultry workers, veterinary inspectors, park rangers and those with likely contact with water fowl (as this puts them at risk of co-infection with avian influenza).

Why do healthcare workers need to be vaccinated?

Influenza vaccine is recommended for all healthcare workers both to protect them from getting influenza and to reduce transmission of influenza to patients, family and close contacts. Vaccination can also prevent persons of highest risk of complications from developing severe influenza related illness and death. This is particularly important for healthcare workers involved in the care of elderly patients, who may not get sufficient protection from the vaccine themselves.

One study showed that vaccination of healthcare workers in an elderly care unit reduced the death rate among patients by almost 60%.

Is it safe for pregnant women to be vaccinated?

Yes. As the vaccine only contains killed virus it is safe to use in pregnancy. Pregnant women who have chronic illness requiring medical follow-up as outlined above and those with immunosuppression due to disease or treatment should be vaccinated before the flu season, regardless of the stage of pregnancy. Pregnant women are advised to discuss vaccination with their general practitioner or occupational health unit.

How effective is influenza vaccine?

When the vaccine closely matches the circulating strain, it provides 70 – 80% protection against influenza. It is less effective in the elderly. However, vaccination has been shown to reduce the incidence of pneumonia, hospital admissions and mortality in the elderly.

When should the influenza vaccine be given?

The influenza vaccine should be given in September or October each year. However, it can be given throughout the year. It will take 10 - 14 days for the vaccine to provide protection against influenza.

Why should the vaccine be given every year?

Seasonal Influenza viruses change from year to year but are closely related to each other. Many people have some immune protection from exposure in previous years. The vaccine produced against the influenza viruses circulating last year may not provide protection against this year's influenza viruses, so a new vaccine is needed each year.

The World Health Organisation recommends the composition of influenza vaccines depending on the circulating strains.

The seasonal flu vaccine for 2009 / 2010 contains H1N1 – like virus. Is this the same as the H1N1 pandemic vaccine?

No, the seasonal flu vaccine contains three inactivated (killed) influenza viruses

- An A/Brisbane/59/2007 (H1N1) – like virus
- An A/Brisbane/10/2007 (H3N2) – like virus
- A B/Brisbane/60/2008 – like virus.

The H1N1 – like virus is different from the strain in the pandemic influenza vaccine which is an A/California/07/2009 (H1N1) – like virus.

What is the pandemic (H1N1) 2009 influenza?

Pandemic (H1N1) 2009 is a new strain of influenza A. Most people under 65 years have no immunity to this virus.

Will seasonal flu vaccine give any protection against pandemic (H1N1) 2009?

So far evidence suggests that it is unlikely that seasonal influenza vaccines will be protective against the pandemic virus.

Do we still need a seasonal flu vaccine campaign this year?

Seasonal and pandemic (H1N1) 2009 influenza virus strains may all be circulating this winter so it is still important that those in the usual “at risk” groups receive seasonal influenza vaccine and also have the pandemic vaccine when it becomes available.

Are there any reasons why influenza vaccine should not be given?

Contraindications:

Previous anaphylactic reaction to a previous dose of any of the constituents. The vaccine should not be given to those who have a known anaphylactic reaction to egg.

Precautions:

Acute severe febrile illness – defer until recovery.

What are the recommended doses and route of administration for influenza vaccine?

Age Group	Route of Administration
Adults and children ≥ 13 years	A single injection of 0.5ml IM or by deep subcutaneous injection.
Children aged 3–12 years	0.5ml IM or by deep subcutaneous injection. For children <9 years of age the dose should be repeated 4 – 6 weeks later if receiving influenza vaccine for the first time.
Children aged 6 months–3 years	0.25ml IM repeated 4 – 6 weeks later if receiving influenza vaccine for the first time.

All dose recommendation for children can vary between products, please consult the individual data sheets.

- The deltoid muscle is the recommended site for adults and older children.
- The anterolateral thigh may be used for infants and young children.

Are there any side effects from the vaccine?

The most commonly reported adverse reactions are localised redness and swelling at the injection site (up to 30%) and a slight temperature and aching muscles (1 – 10%) commencing 6 – 12 hours after vaccination and lasting up to 48 hours.

Guillain-Barre Syndrome has been reported very rarely after immunisation with influenza vaccine (one case per million people vaccinated in one US study), although a causal relationship has not been established.

Can the influenza vaccine cause influenza?

No. The influenza vaccine contains no live virus and therefore cannot cause influenza. Some people may experience mild non-specific symptoms for up to 48 hours after immunisation as their immune system responds to the vaccine, but this is not influenza.

Can pneumococcal vaccine be given at the same time as the influenza vaccine?

Yes. Pneumococcal polysaccharide vaccine is recommended for people aged 65 years of age and older and for younger people in specific at risk groups. It can be given at the same time as influenza vaccine but at a different site.

How will the influenza campaign be organised?

Supplies of influenza vaccine will be distributed to general practitioners, hospitals, long stay and other health facilities by the HSE National Cold Chain Delivery Service commencing in September. In order to maintain vaccine potency, the vaccines should be stored between +2°C and +8°C.

Is the vaccine free or is there a charge?

The vaccine is available free of charge to those aged 65 years and over, those in the at-risk groups, long-term carers and frontline healthcare workers. However, a consultation fee may apply to those who do not have a "Medical Card" or a "Doctor-Only Card".

Where can people get vaccinated?

Individuals aged 65 years and over or in an at-risk group should contact their GP for further information. Healthcare workers should contact their line manager, occupational health unit, HSE health centre or GP for further information about vaccination.

Pandemic (H1N1) 2009 vaccine

In addition to the seasonal flu vaccine you will also need to be vaccinated against pandemic (H1N1) 2009 influenza. The seasonal flu vaccine will not protect you against swine flu.

Key Source

National Immunisation Advisory Committee, Royal College of Physicians of Ireland Immunisation Guidelines for Ireland 2008