# Influenza (Flu) - Frequently Asked Questions

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## The Influenza Virus

### What is influenza (also called flu)?

Influenza is a contagious (spreads easily from one person to another) respiratory illness caused by infection with an influenza (flu) virus. Influenza can occur throughout the year but influenza activity usually peaks in winter. There are four types of influenza 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 D viruses primarily effect cattle and are not known to infect or cause illness in humans.

What is new about this winter is that we also have a global COVID-19 pandemic. The pandemic started in March 2020 and is likely to continue through the winter. Both Covid-19 and Influenza activity will be monitored during the winter period and reports on both are available on the Health Protection Surveillance Centre's website at www.hpsc.ie .

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 influenza is by getting the influenza vaccine each year and adopting good infection prevention and control practices.**

The seasonal influenza vaccine protects against 4 strains of influenza virus. These are the strains most likely to be circulating this influenza season.

### What are the symptoms of influenza?

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

- Fever[1]- temperature of 38ºC (100.4ºF) or more and/or feeling feverish with chills
- Dry cough
- Sore throat
- Headache
- Sore muscles and joints
- Runny or stuffy nose
- Fatigue (very tired)
- Some people may have nausea, vomiting and diarrhoea, though this is more common in children than adults

Influenza is often characterised by the sudden onset of symptoms with patients often remembering the exact hour that the symptoms started. 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 for weeks

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

**The influenza or the common cold-how will I know the difference ?**

It can be difficult at times to tell the difference between the common cold and influenza. The main difference is that the symptoms of influenza come on quickly, are typically more severe and usually include 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$^{O}$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 |

**How will I know if I have influenza or COVID-19?**

COVID-19 and influenza can be difficult to distinguish from their symptoms alone, and require a laboratory test. The consequences of being infected with influenza and COVID-19 at the same time are not yet clear but the importance of preventing influenza infection is a very important, this year more than ever. The most effective way to avoid influenza infection is through vaccination. This is particularly important for all those people in the risk groups including older persons, people with underlying medical conditions, pregnant women, healthcare workers and children aged 2 to 12 years old. It is important to ensure people keep their distance while waiting for the influenza vaccine, as well as wear a mask and have access to hand-washing or hand sanitiser. Full details are available at https://www.hse.ie/flu .

**What are the complications from influenza?**

Influenza makes people feel worse than a common cold**.** For most people influenza is just a nasty experience but for some it can lead to illnesses that are more serious and it can sometimes cause death.

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 underlying 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 older and in those with underlying medical conditions.

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

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

In Ireland, the HSE Health Protection Surveillance Centre (HPSC) has estimated that the average number of excess (additional) deaths from all causes occurring each influenza season (October-May) is 900. Depending on the season in question this number can range from 200 to 1700. These figures are based on analysis of data from five influenza seasons 2014/2015 - 2018/2019.

Research by the HSE Health Protection Surveillance Centre, estimated that between 400-800 excess (additional) deaths may be due to influenza in Ireland each season, and between 1,000-1,200 excess (additional) deaths due to influenza could occur in a particularly severe influenza season. The majority of deaths occur in people aged 65 years and older.

Excess mortality is a term used in epidemiology and public health that refers to the number of deaths from all causes during a period of time above what we would have normally expected to see.

**Why is influenza an issue?**

- Influenza is responsible for between 400 and 800 deaths each year in Ireland. In a severe season it can cause between 1000 and 1200 deaths.
- Influenza 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.
- Influenza leads to an increased incidence of heart attacks and strokes. [1,2,3]
- Influenza can cause serious disease in previously healthy people. Sixty eight percent (68%) of influenza cases admitted to ICU since 2009 were aged less than 65 years. Information about underlying medical conditions was available for 93% of the 1,234 people with influenza admitted to ICU since 2009. Of these 18% (almost one fifth) had no underlying medical conditions. Current seasonal influenza vaccination information was reported for 71% (almost three-quarters) of people admitted to ICU since 2009. Of those a quarter (25%) were vaccinated. (HPSC surveillance of influenza in ICU-Data are provisional, HPSC November 2020).

- The number of confirmed influenza hospitalised cases reported to HPSC during the 2019/2020 influenza season was 4,330. Of these hospitalised cases, 154 required admission to critical care units.

- Influenza is highly infectious (spreads very easily from one person to another) and those who are infected, including healthcare workers, can spread the disease from one day before symptoms begin (when they have no symptoms) and for 5 to 7 days after developing symptoms.

- Influenza occurs every winter but the amount of influenza circulating each winter is not easy to predict 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 influenza is to get the influenza vaccine. The influenza vaccine is a safe, effective way to help prevent influenza infection, avoid hospitalisation, and reduce influenza related deaths and illnesses. Vaccination of healthcare workers has been shown to reduce influenza -related deaths by 40%.

**How is influenza diagnosed?**

Doctors usually diagnose influenza based on the patient's symptoms. Confirmation of influenza infection can be received either through throat or nasopharyngeal swabs. .

**How does influenza spread?**

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

Influenza is highly infectious and can survive on worktops/objects especially in low temperatures and in low humidity. Less often, a person might get influenza by touching a surface or object with influenza 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 (time between infection with influenza and appearance of symptoms) is short, typically 1 to 3 days. A person can spread the virus from 1 to
2 days **before** the symptoms appear and continue to be infectious for a further 5 to 7 days after symptoms begin. This however may increase to more than a week or more in children or people with weakened immune systems.

**What should I do if I get influenza?**

Most influenza-like illnesses (ILI) are self-limiting (that is you get better after a few days) and it is best to treat them at home until the person is well enough to return to normal activities (about 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 liquid
- Simple painkillers such as paracetamol may help relieve headache or muscle pains
- Medical advice should be sought if the influenza symptoms get worse or last for more than one week.
- People with chronic medical conditions e.g. heart disease, lung disease or long-standing illness should consider seeing their doctor earlier.

Influenza antiviral medicines can reduce the severity and the duration of influenza. 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 2 days of the first symptoms of influenza.

Antibiotics are only required if a person develops influenza-related complications like 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 (brain infection) and liver degeneration (deterioration).

**What precautions can I take?**

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

As the influenza virus can spread through sneezing, coughing, unclean hands or surfaces, ensuring good hygiene practices will help such as washing hands. To reduce spread, it is important that if someone has the influenza or a cold that they cover their nose and mouth (ideally 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 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 i.e. kitchen bin.

Normal household cleaning products can be used to clean the room of someone who has had influenza 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.

**Who is at risk of influenza?**

The following groups are considered to be at risk and are eligible to receive the influenza vaccine for free through the HSE programme:

People who:

- are 65 years of age and older
- are pregnant

- are a child aged 2 to 12 years (new vaccine programme for 2020/2021)
- are an adult or child aged 6 months or older with a long-term health condition such as:
  - o chronic heart disease, including acute coronary syndrome
  - o chronic liver disease
  - o chronic renal failure
  - o chronic respiratory disease, including chronic obstructive pulmonary disease (COPD), cystic fibrosis, moderate or severe asthma or bronchopulmonary dysplasia
  - o chronic neurological disease including multiple sclerosis, hereditary and degenerative disorders of the central nervous system
  - o diabetes mellitus
  - o haemoglobinopathies
  - o morbid obesity i.e. body mass index (BMI) over 40
  - o immunosuppression due to disease or treatment (including treatment for cancer)
  - o are a child with a moderate to severe neurodevelopmental disorder such as cerebral palsy
- were born with Down syndrome
- live in a nursing home or other long-term care facility
- work in healthcare
- are a carer or live with someone who is at risk of influenza because of a long-term health condition
- are a carer or live with someone who has Down syndrome
- are in regular contact with pigs, poultry or waterfowl should get the influenza vaccine.

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 (4). Further information is also available on the HSE.ie.

**What is an influenza epidemic?**

An epidemic is the occurrence of more cases of influenza than expected in a given area or among a certain 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 an influenza pandemic?**

A pandemic refers to an epidemic that has spread over several countries or continents, usually affecting a large number of people.

The influenza virus typically undergoes small changes on its surface proteins regularly as it grows. This is known as antigenic drift. Therefore, the influenza virus for the 2020/2021 season will be slightly different from the one in 2019/2020. Vaccines have the effect of stimulating the body to produce antibodies targeted at a particular breed of microorganism ("bug").

### What is antigenic drift/antigenic shift?

The influenza antibodies produced in 2019/2020 from vaccination will provide some immunity but not to a satisfactory level. As the influenza virus changes then so should the type of protective antibodies in our bloodstream. We want these antibodies to be as targeted as possible on this season's virus. This is why the exact type of influenza vaccine changes annually and why we need to be vaccinated annually against the influenza.

Occasionally, more major changes occur in the structure of the virus such that a completely 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 severe pandemic. As a result large numbers of people all over the world can be affected over a fairly short space of time with significant fatality.

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## Influenza Vaccine

### Is there a vaccine available?

Yes. This year, for the 2020/2021 influenza season, the influenza will be available from mid-October onwards for at risk groups and children. The best time to get vaccinated is from mid-October onwards before the influenza season starts.

### What is the seasonal (yearly) influenza vaccine?

The seasonal (yearly) influenza vaccine currently used in Ireland contains inactivated (non-live) forms of four common influenza strains (two type A strains and two type B strains). For the 2020/2021 influenza season a live attenuated quadrivalent vaccine (LAIV) has been introduced for children aged 2 to 12years unless contraindicated. The protection gained from the seasonal influenza vaccine decreases over time and usually only lasts for up to one year because the circulating influenza strains change each year. Yearly vaccination is therefore needed to provide the best protection against circulating influenza strains.

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

### What influenza strains are in the 2020/2021 seasonal flu vaccine for the northern hemisphere (Europe, North America)?

The 2020/2021 influenza vaccine used in Ireland will be a quadrivalent vaccine and will contain four strains of influenza viruses. These vaccine strains are recommended by the World Health Organization as the strains most likely to circulate this influenza season. The four strains are:

- an A/Guangdong-Maonan/SWL1536/2019 (H1N1)pdm09-like virus;
- an A/Hong Kong/2671/2019 (H3N2)-like virus;
- a B/Washington/02/2019 (B/Victoria lineage)-like virus; and

- a B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.

Further information on the World Health Organization's recommendations is available via the link below:

Recommendations on the composition of influenza virus vaccines is available on the WHO website.

**How does the seasonal influenza vaccine work?**

Seasonal influenza vaccine helps the person's immune system to produce antibodies to the influenza virus. When someone who has been vaccinated comes into contact with the virus, these antibodies attack the virus. You need to have the influenza vaccine every year. This is because the antibodies that protect you decline over time. influenza strains can also change from year to year.

**How long does it take the influenza vaccine to work?**

The vaccine starts to work within two weeks.

**Is the vaccine safe?**

Yes. Getting the influenza vaccine is the best way to help protect yourself from getting the influenza. It will not stop all influenza viruses and the level of protection may vary. So, it's not a 100% effective and you may still get influenza. But if you do get influenza after you have the vaccine, it's likely to be milder and you will recover more quickly.
influenza vaccines usually reduce the risk of infection by 40-60%.

influenza vaccines also reduce:

- the severity of illness
- complications from in influenza enza
- influenza -related hospitalisations
- admissions to critical care units

influenza vaccines have been given to millions of people worldwide for over 60 years, including pregnant women. Reactions to the vaccine are generally mild.

There is no aluminum, thiomersal, mercury, gelatin or porcine gelatin in the Quadrivalent Inactivated Influenza vaccine used in the 2020/2021 campaign. Read more about what is contained in the flu vaccine from the HPRA website.

There are very small amounts of gelatin/porcine gelatin in the Live Attenuated Influenza Vaccine (Fluenz) for children aged 2-12 years old. Gelatin is used as a stabiliser and is different from gelatin found in food as it is processed and broken down into small fragments.

Read more on the use of gelatin in the vaccine from the Irish Council of Imams.

Read more about what is contained in the nasal flu vaccine from the HPRA website.

Read more about how well vaccines work on the Centers for Disease Control and Prevention website

All medicines, including influenza vaccines, require licensing by the Health Products Regulatory Authority (HPRA) or the European Medicines Agency (EMA).

Any harmful effects should be reported to the HPRA.

**How effective is the flu vaccine?**

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

The effectiveness of the influenza vaccine varies depending on the age and health of the person being vaccinated and the strains of influenza virus that are circulating. In influenza enza vaccination is most effective when circulating viruses are well-matched with vaccine viruses. In general, current influenza vaccines tend to work better against in influenza B and in influenza A (H1N1) viruses and offer lower protection against in influenza A (H3N2) viruses.

Older persons and those with certain long-term diseases have lower immune responses. While the vaccine may not be as effective, it will still reduce the risk of 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 is 80% effective in preventing death [5,6,7].

During the 2019/2020 influenza season, influenza vaccine effectiveness estimates in Ireland were high at 70.6% [95% CI: 40.7 to 85.4] for all influenza. The introduction of quadrivalent influenza vaccines in Ireland for the 2019/2020 season provided a high level of protection against medically attended laboratory confirmed influenza presenting to general practice (personal communication with HPSC).

**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.[4]

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
- Pregnant women(vaccine can be given at any stage of pregnancy)
- Children aged 2- 12 years old (new recommendation for the 2020/2021 season)
- 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 hyposplenism and all cancer patients
- Children and adults with Down Syndrome
- Morbid obesity i.e. body mass index (BMI) ≥40
- Children aged 6 months and older with any condition that can affect respiratory 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**.**
- 
- Healthcare workers
- Residents of nursing homes, old people's homes, and other long stay institutions where rapid spread is likely to follow introduction of infection
- Household contacts of at-risk persons
- Out of home caregivers to at-risk persons
- People with close regular contact with pigs, poultry or water fowl.

See https://www.hse.ie/eng/health/immunisation/hcpinfo/fluinfo/ and https://www.hse.ie/eng/health/immunisation/hcpinfo/guidelines/chapter11.pdf

**Who should NOT get seasonal influenza vaccine?**

Most people can get the influenza 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) (other than ovalbumin see https://www.hse.ie/eng/health/immunisation/hcpinfo/guidelines/chapter11.pdf

People with severe neutropenia (absolute neutrophil count <0.5 x $10^9$/L) should not receive any vaccines, to avoid an acute vaccine-related febrile episode.

*Checkpoint Inhibitors:*
There are currently no international consensus statements on the use of influenza vaccines in people receiving combination immune checkpoint inhibitor treatment for cancer. Until further evidence emerges, patients on combination checkpoint inhibitors (e.g. ipilumumab plus nivolumab) **should not** receive any influenza vaccines, because of a potential association with immune-related adverse reactions See: https://www.hse.ie/eng/health/immunisation/hcpinfo/guidelines/chapter11.pdf

**Can people with an egg allergy get the seasonal influenza vaccine?**

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

- Egg allergy: Those with confirmed egg anaphylaxis or egg allergy can be

given influenza vaccine with an ovalbumin content <0.1 micrograms per dose in a primary care or school setting *with the exception of those who have required admission to ICU for a previous severe anaphylaxis to egg.*

- LAIV has an ovalbumin content of ≤0.024 micrograms per dose and egg free QIV vaccines have an ovalbumin content of ≤0.06 micrograms per dose.
- LAIV is the preferred vaccine for children who have required admission to ICU for a previous severe anaphylaxis to egg as the intranasal route is less likely to cause systemic reactions; it should be given in hospital.

- Those requiring inactivated influenza vaccine who have had a previous ICU admission for a severe anaphylaxis to egg should be referred for specialist assessment with regard to vaccine administration in hospital.

**When should vaccination be postponed?**

There are very few reasons why vaccination should be postponed.
However, 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 to the Quadrivalent Influenza Vaccine 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 influenza and should pass in a day or so. **The influenza vaccine cannot give you the flu.**

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

The most common side effect from the Live Attenuated Influenza Vaccine, which is administered to children nasally, is nasal congestion. Malaise, decreased appetite, headache, muscle aches and fever can also be common.

Similarly to the QIV, very rarely, less common side effects of the LAIV that can occur after vaccination include allergic reactions and Guillain-Barré syndrome (GBS). GBS is a severe paralytic illness. However, the risks of developing GBS are higher following influenza illness.

**Does the vaccine cause influenza?**

There are two types of influenza vaccine- Quadrivalent Influenza vaccine which is administered to adults via an injection. This vaccine is not live so it is not possible to get influenza from this type of infleunza vaccine.

The vaccine that has been introduced for children for the 2020/2021 influenza season is a Live Attenuated Influenza Vaccine which is administered through a nasal spray. While this is a live vaccine,

there is no evidence suggesting this vaccine causes influenza in children.

**Can I still get influenza despite having the vaccine?**

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

**Where can I get the influenza vaccine?**

You can get the influenza vaccine from:

- Your GP
- A local pharmacy
- An occupational health department or peer vaccinator if you work in healthcare.

## Influenza Vaccine and Pregnancy

**Why do pregnant women need to get the seasonal influenza vaccine?**

Pregnant women should be given the influenza vaccine as they are at higher risk of serious complications from influenza. Many pregnant women don't realise that they are at higher risk of influenza and its complications. Research indicates that pregnancy may increase the risk of influenza because of changes in heart rate, lung capacity and in the immune system.

Influenza in pregnancy is associated with premature (early) birth and reduced foetal growth (reduced growth of the baby in the mother's womb). Premature birth can lead to long-term medical and social consequences.

The influenza vaccine protects pregnant women during pregnancy and provides ongoing protection to their new-born baby during their first six months of life.

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 and it can be given at any stage of pregnancy. Seasonal influenza vaccines have been given for more than 60 years. Reactions to the vaccine are generally mild, and serious side effects are very rare. Seasonal influenza vaccine has been recommended for several years for all pregnant women in Europe and the USA.

**Will my baby be protected if I am vaccinated?**

Vaccination during pregnancy can protect your baby in the womb and for up to 6 months after birth. It also helps prevent you from getting influenza and passing it on to your baby.

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

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

**Should a woman who was pregnant at the end of the 2019/2020 influenza campaign who received seasonal influenza vaccine then and who has not yet delivered her baby receive the 2020/2021 influenza vaccine?**

Yes, you should have a dose of the seasonal influenza vaccine now to give you immunity from the influenza strains expected this winter. This is because there are new strains of influenza in the 2020/2021 vaccine and immunity to the 2019/2020 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. 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 reason - don't assume it's the influenza 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 the influenza vaccine is offered to health care workers to prevent the spread of influenza to vulnerable patients and to staff. Health care workers should get the influenza vaccine to protect themselves, their families, and their patients.

During the 2019/2020 influenza season, in HSE funded, managed and staffed health care facilities there was an increase in influenza vaccine uptake in both hospital staff (58.9% in 2019/2020 compared to 53.2% in 2018/2019) and in long term/residential care facility (LTCF) staff (45.5% in 2019/2020 compared to 41.9% in 2018/2019). In hospitals, the highest uptake was in medical and dental staff and the lowest uptake among general support staff. In LTCFs, the highest uptake was in medical and dental staff and the lowest uptake in Other Patient & Client Care staff.

Please see https://www.hse.ie/eng/health/immunisation/pubinfo/flu-vaccination/healthcare-workers/
For further information on influenza vaccine and healthcare workers.

## Influenza Vaccine and Children

For the 2020/2021 season, the seasonal influenza vaccination programme has been expanded to include all children aged 2-12 years (this is the only additional target group). The vaccine offered to this group will be the Quadrivalent Live Attenuated Influenza (LAIV) vaccine. Up to 10% of children under 15 years of age attend their GP with influenza during an average influenza season. The programme aims to reduce morbidity and mortality from influenza in children, and reduce transmission of influenza to others, thus reducing the influenza-related burden on health services. Nine European countries, as well as US, Canada and Australia recommend influenza vaccine for children.

Efforts should be made to explain to parents that LAIV is recommended as it is more effective than the Quadrivalent vaccination in children. This is especially important for children who have an underlying medical condition to give the best l protection from influenza infection

**How the vaccine is given:**

The vaccine is given through a single spray in each nostril of your child's nose. Your child can breathe normally while the vaccine is being given, there is no need for a child to sniff or take a deep breath.
The vaccine is not painful and is absorbed quickly. It will still work even if a child has a runny or blocked nose.
Most children will only need one vaccine each year. Some children who have chronic conditions such as chronic heart conditions or lung conditions may need two vaccines. These are given 4 weeks apart if they have never had a influenza vaccine previously.

**Who should not get the nasal influenza vaccine:**

Your child should not get the vaccine if they:

- have had a severe allergic reaction to a previous dose of the influenza vaccine or any of its ingredients
- have severe asthma or if they have been wheezy or needed their inhaler more than usual in the 3 days before the vaccination
- are taking medicines called salicylates, which include aspirin
- have a severely weakened immune system because of certain medical conditions or treatments
- are living with someone who has a severely weakened immune system - for example, a person who has to live in insolation in the months following a bone marrow transplant
- have a condition which means they have a leak of the CSF (the fluid that surrounds the brain and spinal cord)

Your child may not be able to have the nasal influenza vaccine if they have had a cochlear implant. The advice of the specialist looking after your child will be needed to see if your child can have the nasal influenza vaccine.

If your child cannot have the nasal influenza vaccine, you should speak to your GP or pharmacist about getting the vaccine as an injection.

If your child is 6 months to 2 years of age and is in a high-risk group for influenza, they'll be offered a influenza vaccine injection. This is because the nasal spray is not licensed for children under the age of 2.

***Source:** HSE, FAQ on LAIV, 2020.*

### Which influenza vaccine should be given to children who have Down Syndrome?

Children who are in a medically at-risk group, including children with Down Syndrome, should receive nasal Live Attenuated Influenza Vaccine if they are aged 2-12 years (unless there is a contradiction). Children aged 6 months to <2 years, and aged 13 years and older and are in a medically at-risk group, including children with Down Syndrome, should receive Quadrivalent Inactivated Influenza Vaccine (QIV), given intramuscularly. Further information for healthcare professionals can be found here.

### Can children who are living with someone who is taking chemotherapy for cancer or is on immunomodulatory therapy receive LAIV?

Yes. The advice about not giving the LAIV vaccine to children living with someone who is severely immunosuppressed, is only for children who are living with someone who is requiring isolation after a HSCT (haematopoietic stem cell/bone marrow transplant).Anyone who has had a HSCT has to spend months in isolation while their immune system rebuilds. They have no immunity and there is a theoretical risk they could develop an infection from the LAIV vaccine. There is no recommendation for children to avoid other vulnerable people including if they are living with a parent or sibling who is on chemotherapy or immunomodulatory therapy. Such children can receive LAIV.

Note: Children who are vaccinated with LAIV can "shed" very small amounts of the weakened virus that is in the vaccine for a few days after vaccination. But the weakened viruses do not cause influenza infection in others, or in the person vaccinated.

The National Immunisation Advisory Committee states the following:

*"Millions of doses of LAIV have been administered in the US for over 10 years and serious illness amongst immunocompromised contacts inadvertently exposed to vaccine virus has never been observed"*

## Antiviral Drugs

### What are antiviral drugs?

Antiviral drugs are prescription medicines (pills, liquid, and an inhaled powder) that fight against the influenza virus in your body. Antiviral drugs are not sold over-the- counter. You can only get them if you have a prescription from your doctor. Antiviral drugs are different from antibiotics, which fight against bacterial infection.

Oseltamivir and zanamivir (unlicensed available as inhaler) are two antiviral drugs that can shorten the course of influenza infection if given early in the illness, reduce the risk and severity of complications and provide short-term protection against influenza. Oseltamivir and zanamivir (unlicensed available as inhaler) are used for the treatment of influenza A and B in adults and children when influenza is circulating in the community

For detailed information on indication, contraindications, dosing and side effects, consult the package insert.

### What are the benefits of antiviral drugs?

When treatment with antiviral medicines is started within two days of becoming sick with influenza symptoms, they can lessen symptoms and shorten the time you are sick by about one day. They may reduce the risk of complications such as ear infections in children, and pneumonia and hospitalisations in adults.
For people at high risk of serious influenza complications, early treatment with an antiviral drug can mean the difference between having milder illness instead of more severe illness that might require a hospital stay. For adults hospitalised with influenza illness, early antiviral treatment can reduce their risk of death

### Who should take antiviral medications?

It's very important that influenza antiviral drugs are started as soon as possible to treat hospitalised influenza patients, people who are very sick with the influenza but who do not need to be hospitalised, and people who are at high risk of serious influenza complications based on their age or health if they develop influenza symptoms. Most people who are otherwise healthy and get the influenza do not need to be treated with antiviral medications.

### For how long should antiviral drugs be taken?

To treat influenza, oseltamivir and zanamivir (unlicensed available as inhaler) are usually prescribed to be taken twice daily for 5 days. However patients hospitalised with influenza may need antiviral treatment for longer than 5 days. Further information on antiviral guidance is available on the HPSC website.

## Further information:

**Information on influenza:**
https://www.hpsc.ie/a-z/respiratory/influenza/seasonalinfluenza/

**Information on how to manage influenza-like illness and influenza:**
http://undertheweather.ie/
http://undertheweather.ie/ailment/flu

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

**National Immunisation Office.** See www.hse.ie

**Immunisation Guidelines of Ireland.** See
https://www.hse.ie/eng/health/immunisation/hcpinfo/guidelines/

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7) Centers for Disease Control and Prevention USA 2018. Influenza chapter in Epidemiology and Prevention of Vaccine-Preventable Diseases. The Pink Book-Course Textbook- 13th edition. https://www.cdc.gov/vaccines/pubs/pinkbook/index.html


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