

## **Frequently Asked Question on Seasonal Influenza Vaccine**

### **What is influenza?**

Influenza is an infectious disease caused by various types of influenza virus. In Hong Kong, the two subtypes of influenza A virus, H1N1 and H3N2, and influenza B virus, are most commonly seen. Influenza occurs in Hong Kong throughout the year, but is usually more common in periods from January to March and from July to August. The virus mainly spreads by respiratory droplets. The disease is characterised by fever, sore throat, cough, headache, muscle aches, runny nose and general tiredness. It is usually self-limiting with recovery in two to seven days. However, it can be a serious illness to the weak and frail, such as elderly persons, and may be complicated by bronchitis, pneumonia or even death in the most serious cases. Serious influenza infection can occur even in healthy individuals.

### **What is the difference between seasonal and pandemic influenza?**

Seasonal influenza refers to the viruses that circulate in the human population and cause widespread illnesses during each influenza season. Pandemic influenza occurs infrequently, when a new influenza virus emerges which is markedly different from those recently circulating in the human population. It causes disease in people and spreads easily between people because they have little or no immunity to it.

### **Why is seasonal influenza vaccination important?**

Seasonal influenza vaccination is one of the effective means to prevent seasonal influenza and its complications.

## Who should receive seasonal influenza vaccination?

In 2012-2013, the Scientific Committee on Vaccine Preventable Diseases recommends the following target groups for seasonal influenza vaccination in Hong Kong :

- Pregnant women
- Elderly persons living in residential care homes
- Long-stay residents of institutions for the disabled
- Persons aged 50 years or above
- Persons with chronic medical problems\* include obese individuals with body mass index (BMI) 30 or above
- Children between the age of 6 months and less than 6 years
- Health care workers
- Poultry workers
- Pig farmers and pig-slaughtering industry personnel

\*People with chronic medical problems mainly refer to those who have chronic cardiovascular (except hypertension without complication), lung, metabolic or kidney diseases, obesity# (BMI 30 or above), who are immunocompromised, children and adolescents (aged 6 months to 18 years) on long-term aspirin therapy, and those with chronic neurological condition that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk for aspiration or those who lack the ability to care for themselves.

# Obesity is considered as an independent risk factor for influenza complication and thus people with BMI 30 or above are included for seasonal influenza vaccination.

Members of the public can consult their family doctors to receive seasonal influenza vaccination for personal protection.

**I do not belong to any recommended target group for 2012/13 seasonal influenza vaccine. Should I receive 2012/13 seasonal influenza vaccine?**

Given influenza vaccines are safe and effective and that serious influenza infection can occur even in healthy individuals, seasonal influenza vaccination is suitable for personal protection against clinical influenza for all persons except those with known contraindications. Members of the public can consult their family doctors to receive seasonal influenza vaccination for personal protection.

**Why should pregnant women receive seasonal influenza vaccination?**

Influenza vaccination in pregnant women has shown benefits for both mother and child in terms of reduced acute respiratory infections. The World Health Organization considers inactivated seasonal influenza vaccine is safe in pregnancy and there is no evidence showing such vaccine can cause abnormality in foetus even if given during the first trimester. However, pregnant women should not receive live attenuated influenza vaccine because it contains a live virus. Pregnant women should consult obstetric and gynecology doctors for any queries.

**Why should obese persons (BMI = 30 or above) receive 2012/13 seasonal influenza vaccine?**

Local and overseas evidence suggested that obesity is an independent risk factor for severe influenza A(H1N1) 2009 infection such as intensive care unit utilization or death. As the influenza A(H1N1) 2009 virus is expected to continue to circulate as seasonal influenza virus for some years, obese individual with BMI 30 or above is regarded as having a chronic medical problem recommended for 2012/13 influenza vaccination.

### **Why should persons aged 50 or above receive 2012/13 seasonal influenza vaccine?**

Persons aged 50-64 should receive seasonal influenza vaccination for the 2012/13 influenza season because (i) local influenza epidemiology in the 2010/11 season showed that people aged 50–64 years, irrespective of chronic medical problems, were having a higher risk of Influenza A(H1N1) 2009 virus-related intensive care unit admission and death, and (ii) the likelihood that influenza A(H1N1) 2009 strain will continue to circulate in 2012/13 season.

Seasonal influenza vaccination is recommended for elderly persons aged 65 years or above because of their high risk of complications, hospital admissions and death from influenza.

### **Why should pig farmers and pig-slaughtering industry personnel receive 2012/13 seasonal influenza vaccine?**

Researchers previously detected influenza A(H1N1) 2009 (formerly known as Human Swine Influenza) viruses in pigs sampled in Hong Kong. Local experts consider that the virus detected in pigs was transmitted from humans to pigs. Seasonal influenza vaccination of the pig-related industry workers would prevent emergence of new influenza A virus in either human or pig hosts.

### **What kinds of seasonal influenza vaccines are there in Hong Kong?**

There are two types of seasonal influenza vaccines in Hong Kong. The "flu shot" is an inactivated influenza vaccine containing dead virus and is given by injection. The live attenuated influenza vaccine (sometimes referred to as LAIV) contains weakened viruses and is a nasal-spray vaccine.

### **What are the difference between live attenuated seasonal influenza vaccine and inactivated seasonal influenza vaccine?**

Both inactivated seasonal influenza vaccine and live attenuated seasonal influenza vaccine are effective, but their age indications are different. Most inactivated influenza vaccine are recommended for use among persons aged 6 months or above, including those who are healthy and those with chronic medical problems; while live attenuated influenza vaccine is only recommended for use among healthy non-pregnant and non-immunocompromised persons aged 2-49 years and should not be given to people with underlying medical problems that may predispose them to complications following influenza infection. Healthy, non-pregnant and non-immunocompromised persons aged 2-49 years can choose to receive either inactivated or live attenuated influenza vaccine if the recipient has no contraindication.

### **What is the recommended 2012/13 seasonal influenza vaccine composition?**

The vaccine recommended by the Scientific Committee on Vaccine Preventable Diseases in 2012-2013 contains the following:

- an A/California/7/2009 (H1N1)-like virus (formerly known as Human Swine Influenza)
- an A/Victoria/361/2011 (H3N2)-like virus
- a B/Wisconsin/1/2010-like virus

### **Does the 2012/13 seasonal influenza vaccine contain human swine influenza virus?**

As recommended by the World Health Organization, the 2012/13 seasonal influenza vaccine contains human swine influenza virus (A/California/7/2009 (H1N1)-like virus). According to the World Health Organization, human swine influenza vaccines match the excellent safety profile of seasonal influenza vaccines, which have been used for more than 60 years.

### **Who should not receive inactivated seasonal influenza vaccination?**

People who are allergic to a previous dose of inactivated influenza vaccine or other vaccine components (e.g. neomycin, polymyxin) are not suitable to have inactivated seasonal influenza vaccination. Individuals with diagnosed or suspected egg allergy who are considering an influenza vaccination should be evaluated by a specialist (allergist/immunologist) for evaluation of egg allergy and for administration of inactivated influenza vaccine if clinically indicated. Those with bleeding disorders or on warfarin may receive the vaccine by deep subcutaneous injection. If an individual suffers from fever on the day of vaccination, the vaccination should be deferred till recovery.

### **Who should not receive live attenuated seasonal influenza vaccine?**

Persons with one of the following conditions should not receive live attenuated seasonal influenza vaccine:

- persons with a history of hypersensitivity, including anaphylaxis, to previous live attenuated influenza vaccine dose, to any of the components of the vaccine or to eggs
- adults and children who have chronic medical problems
- adults and children who have immunosuppression
- children aged 2-4 years whose parents or caregivers report that a health-care provider has told them during the preceding 12 months that their child had wheezing or asthma, or whose medical record indicates a wheezing episode has occurred during the preceding 12 months
- children or adolescents aged 6 months to 18 years receiving aspirin or other salicylates
- pregnant women

If an individual suffers from fever on the day of vaccination, the vaccination should be deferred till recovery. If nasal congestion is present that might limit delivery of the vaccine to the nasal lining, then delaying of vaccination until the nasal congestion is reduced should be considered.

## **What is Guillain Barré syndrome? Can influenza vaccination cause Guillain Barré syndrome?**

Guillain-Barré Syndrome (GBS) is a rare neurological disorder causing paralysis and even respiratory difficulties. Most people recover completely but some have chronic weakness. GBS can also develop following a variety of infections, including influenza. So far no clear association has been found between GBS with seasonal influenza vaccine.

## **Can I receive seasonal influenza vaccine if I had history of Guillain-Barré Syndrome?**

As it is unknown whether influenza vaccination is causally associated with increased risk of recurrent Guillain-Barré Syndrome (GBS), precaution should be made to ascertain the temporal relationship if there is a history of GBS. People with a history of GBS developed within 6 weeks after receiving influenza vaccine should consult doctor before receiving either live attenuated or inactivated influenza vaccine.

## **Does seasonal influenza vaccine cause influenza?**

The viruses in the inactivated influenza vaccine are dead viruses while the viruses in live attenuated influenza vaccine are weakened, therefore both vaccines cannot cause influenza. However, some people develop side effects after vaccination.

### **What are the possible side effects of the inactivated seasonal influenza vaccine?**

Inactivated seasonal influenza vaccine is very safe and usually well tolerated apart from occasional soreness, redness or swelling at the injection site. Some recipients may experience fever, muscle and joint pains, and tiredness beginning 6 to 12 hours after vaccination and lasting up to two days. If fever or discomforts persist, please consult a doctor. Immediate severe allergic reactions like hives, swelling of the lips or tongue, and difficulties in breathing are rare and require emergency consultation.

Influenza vaccination may be rarely followed by serious adverse events such as Guillain-Barré syndrome (1 to 2 case per million vaccinees), meningitis or encephalopathy (1 in 3 million doses distributed) and severe allergic reaction (anaphylaxis) (9 in 10 million doses distributed). However, influenza vaccination may not necessarily have causal relations with these adverse events.

### **What are the possible side effects of the live attenuated seasonal influenza vaccine?**

The most common adverse reactions following live attenuated seasonal influenza vaccine administration ( $\geq 10\%$ ) are runny nose or nasal congestion in all ages, fever  $> 37.8$  °C in children 2-6 years of age, and sore throat in adults. In children, side effects can include headache, muscle aches. In adults, side effects can also include headache, tiredness/weakness, muscle aches and cough. Fever is not a common side effect in adults. Serious problems from live attenuated seasonal influenza vaccine are rare.

### **How do seasonal influenza vaccines work?**

The seasonal influenza vaccine induces development of antibodies against influenza virus infection in the body.

### **Does the seasonal influenza vaccine work right away?**

No. It takes about two weeks after vaccination for antibodies to develop in the body and provide protection against influenza virus infection. For prevention against influenza, vaccinated individuals should maintain good personal and environmental hygiene practices, balanced diet, regular exercise, adequate rest, and no smoking.

### **How much protection does the seasonal influenza vaccine provide?**

Seasonal influenza vaccine is about 70 to 90% effective in preventing illness from seasonal influenza in healthy adults when the vaccine and circulating viruses are well-matched. For prevention against influenza, vaccinated individuals should maintain good personal and environmental hygiene practices, balanced diet, regular exercise, adequate rest, and no smoking.

### **Is it necessary to get vaccinated against seasonal influenza every year?**

Yes. The circulating seasonal influenza strains may change from time to time. In accordance with the circulating strains, the seasonal influenza vaccine composition is updated every year to enhance protection. The immunity built up in a vaccinated person in the prior season will decrease over time and may become too low to provide protection in next season. In addition, the vaccine compositions of 2012/13 seasonal influenza vaccine are different from those in 2011/12.

### **How many doses of seasonal influenza vaccination will my child need?**

To ensure adequate immunity against seasonal influenza, children under 9 years old who have never received any seasonal influenza vaccine are recommended to be given 2 doses of seasonal influenza vaccine with a minimum interval of 4 weeks. Children below 9 years, who have received seasonal influenza vaccine in the 2011/12 season or before are recommended to receive one dose in the 2012/13 season. Healthy children aged 2 or above can choose to receive either inactivated or live attenuated influenza vaccine.

### **If a child under the age of 9 years is getting seasonal influenza vaccine for the first time and requires 2 doses, does the same type of vaccine have to be used for both doses?**

No, the first and second doses do not have to match; live attenuated or inactivated vaccine can be used for either dose. The doses should be separated by at least 4 weeks.

### **Can pneumococcal vaccines be received together with seasonal influenza vaccine?**

Yes. Pneumococcal vaccines can be given with seasonal influenza vaccine at the same clinic visit, but should be administered with a different syringe and at a different injection site if inactivated influenza vaccine is used.

### **Can my child receive the seasonal influenza vaccination if he / she has received / will receive other immunisation?**

Injectable inactivated influenza vaccine does not interfere with the effectiveness of other vaccines, it can be given at the same time or at different time with either inactivated vaccine (e.g. Hepatitis B vaccine) or live vaccine (e.g. Measles, mumps and rubella vaccine). Different vaccines should be given at different injection sites if inactivated influenza vaccine and other vaccines are given at the same time.

Inactivated vaccines can be administered either simultaneously or at any time before or after nasal spray live attenuated influenza vaccine administration. Other live vaccines can be administered on the same day as live attenuated influenza vaccine. However, other live vaccines not administered on the same day as live attenuated influenza vaccine should be administered at least 4 weeks apart. Parents should consult doctor for any queries.

### **My child has asthma. Should he / she avoid the influenza vaccination in case it gives him / her an attack?**

Children having asthma are not contraindicated to receive inactivated influenza vaccine. People suffering from lung diseases such as asthma are recommended to receive inactivated seasonal influenza vaccine because of an increased risk of complications associated with influenza. However, children having asthma and people suffering lung diseases should not receive live attenuated influenza vaccine.