



## 2023-2024 Northern Hemisphere Seasonal Influenza Vaccination Frequently Asked Questions – Table of Contents

1. Why should I get vaccinated against seasonal influenza? .....	3
2. Who are eligible for free 2023-2024 northern hemisphere seasonal influenza vaccination provided by the Health Bureau? How can I get vaccinated? .....	3
3. What are the required documents for vaccination? .....	5
4. Why should I get vaccinated against seasonal influenza every year? .....	5
5. Can pregnant women get flu shot? .....	5
6. Can a breastfeeding mother get flu shot? .....	5
7. Do people who have previously received the 2022-2023 influenza vaccine between September 2022 and August 2023 still need to get the 2023-2024 northern hemisphere seasonal influenza vaccine? .....	6
8. For people who have previously received the 2022-2023 influenza vaccine between September 2022 and August 2023, how long should the administration of 2023-2024 northern hemisphere influenza vaccine be spaced apart? .....	6
9. How long does it take the vaccine to provide protection? .....	6
10. Who needs two doses of vaccine? .....	6
11. What are the points to be observed when receiving flu vaccination? .....	6
12. Who should not receive the influenza vaccine? .....	7
13. What are the side effects of influenza vaccination? .....	7
14. Do flu vaccines cause Guillain-Barré syndrome? .....	8
15. What is the composition of the 2023-2024 northern hemisphere influenza vaccine? .....	8
16. What is the difference between a trivalent and a quadrivalent flu vaccine? .....	8
17. What are the indications and contraindications of different vaccines? .....	8
18. Do side effects vary between different types of vaccines? .....	9
19. May people who have taken antiviral drugs recently get flu vaccine? .....	10



20. Can an immunocompromised person get flu vaccination? .....	10
21. Can people with asthma get flu vaccination? .....	10
22. If a child has not eaten eggs before, does he/she need to eat some eggs before getting the flu vaccine? .....	10
23. Is it a must to seek medical advice before getting influenza vaccination? .....	10
24. Can I receive influenza vaccine together with other vaccines? .....	10
25. What is Influenza? How many types of influenza viruses are there? .....	11
26. When is the flu season in Macao? .....	11
27. What is the source of flu? How is it transmitted to people? .....	11
28. Who are the susceptible population to flu? Why? .....	11
29. How long is the incubation period for flu? .....	11
30. What are the differences between influenza and common cold? What are the symptoms of flu? .....	12
31. Does flu have any complications? .....	12
32. How serious is flu? Is it fatal? .....	12
33. How to diagnose and treat flu? .....	12
34. Why does the Health Bureau give priority vaccination to the frontline health care workers and chronic patients? .....	12
35. Do influenza viruses always experience antigenic drift? Are they dangerous? .....	13
36. How should we prevent influenza infection? .....	13



## 2023-2024 Northern Hemisphere Seasonal Influenza Vaccination Frequently Asked Questions

### 1. Why should I get vaccinated against seasonal influenza?

Ans: Influenza vaccination is the most effective means in preventing influenza. In general, influenza is self-limiting with recovery in 2 - 7 days in most people; however, in high-risk groups like pregnant women, children, the elderly, people with chronic illness and obese individuals (body mass index, BMI  $\geq 30$ ), influenza infection is more likely to cause serious complications or even death. Vaccination against seasonal influenza can prevent influenza infection and lower the risk of developing serious complications and death associated with the flu.

### 2. Who are eligible for free 2023-2024 northern hemisphere seasonal influenza vaccination provided by the Health Bureau? How can I get vaccinated?

Ans: The Health Bureau offers free seasonal influenza vaccination to the following populations:

Eligible Groups	Detailed Arrangement
People between the age of 6 months and less than 18 years (Children not attending nursery school and persons studying outside of Macao), People aged 50 and above	To be vaccinated at Health Centres or Health Stations, vaccination station of Conde de São Januário General Hospital, vaccination station of Kiang Wu Hospital, OPD of University Hospital or Workers' Medical Clinic (Medeiros).
Pregnant women Patients with chronic cardiovascular, pulmonary, metabolic, renal or immunocompromised diseases, including obese individuals (with body mass index BMI $\geq 30$ )	Pregnant women or patients being followed-up in Conde de São Januário General Hospital shall receive vaccination with prescription by their attending physician; others may visit the vaccination station of Conde de São Januário General Hospital, Health Centres or Health Stations for vaccination.
Health care workers	Governmental and non-governmental medical organizations with relatively large number of staff to get vaccinated themselves, with vaccines offered by the Health Bureau.  Other medical professionals holding valid Macao SAR Resident Identity Card, Health Bureau patient card number and Health Bureau licence



	renewal receipt can be vaccinated at the vaccination station of Conde de São Januário General Hospital, Health Centres or Health Stations.
Residents and staff of residential institutions	Personnel of Health Centres will visit the institutions to provide vaccination services according to the information provided by the Social Welfare Institute.
Others for whom vaccination is considered necessary by the Health Bureau, including Macao residents working in government departments, large-scale public utilities and casinos, as well as students, faculty and staff of local higher education institutions	<p>For government departments or public entities with relatively large number of staffs, mass vaccination will be arranged by Health Centres and Health Stations after the Health Bureau has collected the name lists from respective bodies.</p> <p>Personnel of other organizations and individuals who failed to join the mass vaccination may get vaccinated at the vaccination station of Conde de São Januário General Hospital, Health Centres or Health Stations by presenting their Macao SAR Resident Identity Card and staff card/ proof of occupation/ student card.</p>
Children of local nurseries, students, teachers and staff members of kindergartens, primary and secondary schools	<p>Personnel of Health Centres and Health Stations will visit nurseries/schools to provide mass vaccination services.</p> <p>Children of nursery schools, students, teachers and staff members of kindergartens, primary and secondary schools who failed to join the mass vaccination may bring along their identity document, proof of nursery admission, student card, teacher's card, staff card/ proof of occupation to Health Centres or Health Stations, vaccination station of Conde de São Januário General Hospital, vaccination station of Kiang Wu Hospital, OPD of University Hospital or Workers' Medical Clinic (Medeiros) for vaccination. Among these locations, the vaccination station of Kiang Wu Hospital, OPD of University Hospital and Workers' Medical</p>



	Clinic (Medeiros) are only open to Macao residents aged between 6 months and <18 years, as well as those aged 50 years and above.
People with urgent need to travel abroad	To bring along their Macao SAR Resident Identity Card and proof of urgent need (such as admission document from school or flight ticket) to a Health Centre or Health Station for vaccination.

### 3. What are the required documents for vaccination?

Ans: All eligible persons must hold a valid identity document issued by the Macao SAR Government, the number of Health Bureau Patient Card (also known as “gold card”), as well as a staff card/proof of occupation/student card certifying their eligibility for free vaccination. The certificate accepts the physical certificate or the electronic card in the card package of One Account. For those who do not have a Health Bureau Patient Card number, please approach a Health Centre or Health Station for application.

### 4. Why should I get vaccinated against seasonal influenza every year?

Ans: As the effectiveness of influenza vaccine declines throughout the year, and due to the frequent mutation and antigenic drift of influenza viruses, the vaccination should be repeated every year to maintain adequate immunity.

### 5. Can pregnant women get flu shot?

Ans: The 2023-2024 northern hemisphere seasonal influenza vaccines provided by the Health Bureau are inactivated vaccines which are safe in pregnancy. WHO recommends influenza vaccination to pregnant women as the highest priority. Influenza vaccination in pregnant women has shown benefits for both mother and child in terms of reduced flu infections, and reduced risk of developing serious complications in infected pregnant women. In general, inactivated flu vaccination is safe and effective for pregnant women, and can be administered at any trimester during pregnancy, and there is no evidence showing such vaccine can cause abnormality in foetus even if given during the first trimester.

### 6. Can a breastfeeding mother get flu shot?

Ans: Breastfeeding women are recommended to receive inactivated flu vaccination. As infants



younger than 6 months old are too young to be vaccinated, it is especially important for their breastfeeding mothers to get the flu shot which can reduce influenza infections in infants.

**7. Do people who have previously received the 2022-2023 influenza vaccine between September 2022 and August 2023 still need to get the 2023-2024 northern hemisphere seasonal influenza vaccine?**

Ans: **Yes**. The antigenic components of the 2023-2024 northern hemisphere influenza vaccine have been updated from the last season's influenza vaccine. The new flu vaccine is believed to better match the circulating viruses for the 2023-2024 season. Hence, no matter having received the 2022-2023 influenza vaccine or not, eligible individuals can still get the 2023-2024 northern hemisphere influenza vaccine.

**8. For people who have previously received the 2022-2023 influenza vaccine between September 2022 and August 2023, how long should the administration of 2023-2024 northern hemisphere influenza vaccine be spaced apart?**

Ans: According to the general guidelines on influenza vaccination, vaccines of the same type should be administered at a minimum interval of 1 month apart.

**9. How long does it take the vaccine to provide protection?**

Ans: It takes about 2-3 weeks after vaccination for antibodies to develop in the body and provide protection against influenza virus infection. Effectiveness of the vaccine depends on the degree of similarity between the viruses used in the vaccine and those in circulation, which usually varies from 6-12 months.

**10. Who needs two doses of vaccine?**

Ans: Persons aged 9 or above and those who have previously been vaccinated require only one dose; for children under 9 years of age who have not been vaccinated before, a second dose should be given after an interval of at least 4 weeks.

**11. What are the points to be observed when receiving flu vaccination?**

Ans: The abovementioned vaccines (and other common flu shots available in the Macao market) are inactivated vaccines, and therefore, share the general characteristics of inactivated vaccines:



- 1) can be administered concurrently with other vaccines (but there should be a minimum interval of 1 month between two doses of the same influenza vaccine);
- 2) are not affected by blood transfusion or immunoglobulin administration;
- 3) can be administered to immuno-compromised persons (however, antibody response might be suboptimal);
- 4) should be administered by intramuscular injection;
- 5) should be stored at 2-8°C and should never be frozen.

## 12. Who should not receive the influenza vaccine?

Ans: The rate of adverse events associated with influenza vaccine is extremely low, and is on the same par with the vaccines included in the “Macao Immunization Programme”. However, people with the following conditions should be evaluated by medical staff as to whether they are suitable for vaccination :

- 1) People who have had allergic reactions or severe adverse reactions to previous influenza vaccines.
- 2) People who have severe allergy to eggs or chicken (develop swelling of oral lips, urticaria, asthma/dyspnea, etc. after consuming eggs, ovalbumin or chicken).
- 3) Anyone hypersensitive to certain antibiotics such as neomycin and gentamicin, or to formaldehyde, cetyltrimethylammonium bromide, sodium chloride, potassium chloride, disodium phosphate dehydrate, potassium dihydrogen phosphate, calcium chloride dehydrate, magnesium chloride hexahydrate, octoxinol-9, water for injection, etc..
- 4) People hypersensitive to polysorbate 80 (commonly used in food additives).
- 5) People who have allergic reactions to any of the ingredients of the vaccine (**please refer to prescribing information of the vaccine for details**).
- 6) Immunisation should be postponed in patients with moderate or severe febrile disease or acute illnesses.

## 13. What are the side effects of influenza vaccination?

Ans: At present, the influenza vaccines provided by the Health Bureau are inactivated shots and have an excellent safety record, people will not get infected through vaccination. Common reactions of the vaccine include low-grade fever, fatigue, nausea, malaise, muscle pain, headache, swelling and redness at the injection site. These reactions usually disappear within 1-2 days without treatment. If symptoms persist or deteriorate, please seek medical attention at hospital promptly, and inform the doctor of the relevant vaccination history. Under extremely rare circumstances, people who are allergic to the ingredients of the vaccine may experience severe allergic reaction; therefore, people are required to be screened by health personnel before vaccination for contraindications and precautions.



#### 14. Do flu vaccines cause Guillain-Barré syndrome?

Ans: Guillain-Barré syndrome is associated with the swine flu vaccine used in the United States in 1976. Since 1977, surveillance and research have been continuously carried out by international scientists and institutions, which show that there is no definite causal relationship between Guillain-Barré syndrome and other influenza vaccines.

#### 15. What is the composition of the 2023-2024 northern hemisphere influenza vaccine?

Ans: WHO recommends that influenza vaccines for use in the 2023-2024 northern hemisphere influenza season contain the following:

- A/Victoria/4897/2022 (H1N1) pdm09-like virus;
- A/Darwin/9/2021 (H3N2)-like virus;
- B/Austria/1359417/2021 (B/Victoria lineage)-like virus; and
- B/Phuket/3073/2013 (B/Yamagata lineage)-like virus.

#### 16. What is the difference between a trivalent and a quadrivalent flu vaccine?

Ans: Both trivalent and quadrivalent inactivated influenza vaccines are effective and authorized for use in Macao. A trivalent vaccine protects against two type A and one type B strains; it helps to prevent most flu cases and has been widely used for years. A quadrivalent vaccine protects against two type A and two type B strains, broadening the level of protection by having another B virus in the vaccine.

#### 17. What are the indications and contraindications of different vaccines?

Ans:

	<b>Flu shot (trivalent/quadrivalent)</b>	<b>Nasal spray</b>
Indications	People over 6 months old (Some quadrivalent flu shots are only approved for individuals 3 years of age and older)	Non-pregnant healthy people from 2 through 49 years of age
Vaccine type	Inactivated	Live
Contra-indications	<ul style="list-style-type: none"><li>• People who have had allergic reactions or severe adverse reactions to previous</li></ul>	<ul style="list-style-type: none"><li>• Children &lt;2 years of age;</li><li>• Adults &gt;50 years of age.</li></ul>





	<p>influenza vaccines.</p> <ul style="list-style-type: none"> <li>• People who have severe allergy to eggs or chicken (develop swelling of oral lips, urticaria, asthma/dyspnea, etc.).</li> <li>• Anyone hypersensitive to certain antibiotics such as gentamicin, kanamycin, neomycin, formaldehyde, etc..</li> <li>• People hypersensitive to cetyltrimethylammonium bromide (CTAB) (widely used in personal care products, e.g. toothpaste and shampoo) and polysorbate 80 (commonly used in food additives).</li> <li>• People who have allergic reactions to any of the ingredients of the vaccine.</li> <li>• Immunisation should be postponed in patients with moderate or severe febrile illness.</li> </ul>	<ul style="list-style-type: none"> <li>• Chronic patients, including those with chronic heart or lung diseases like asthma or reactive airways disease; people with diabetes or kidney failure; people with low immunity; or patients who have used medication which can weaken the immune system.</li> <li>• Children &lt;5 years of age with a history of recurrent wheezing.</li> <li>• Children or adults on aspirin treatment.</li> <li>• Individuals who have had Guillain-Barré Syndrome after receiving flu vaccination.</li> <li>• Pregnant women.</li> <li>• People who have severe allergy to eggs or chicken (develop swelling of oral lips, urticaria, asthma/dyspnea, etc.) or have allergic reactions to any of the vaccine components.</li> </ul>
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Remarks: Should there be any queries, please consult the medical staff before vaccination.

### 18. Do side effects vary between different types of vaccines?

Ans: 1) **Flu shot:** It is an inactivated (killed) influenza vaccine, so you cannot get influenza from the vaccine. Most common side effects are mild, including low-grade fever, fatigue, nausea, muscle pain, headache, or pain and redness at the site of injection. These symptoms usually last for only one to two days. In very rare cases, individuals who are allergic to the ingredients of the vaccine may experience severe allergic reactions.

2) **Nasal spray:** It contains live but attenuated (weakened) influenza vaccine, some people may experience mild influenza-like symptoms after immunization. Most common side effects are mild, including runny nose, wheezing, headache, vomiting, muscle pain and fever in children, or runny nose, headache, sore throat and cough in adults. These symptoms usually last for only one to two days. In very rare cases, individuals who are allergic to the vaccine components may experience severe allergic reactions.



### 19. May people who have taken antiviral drugs recently get flu vaccine?

Ans: 1) Flu shot: People who have taken antiviral drugs may receive inactivated flu shot at the same time.

2) Nasal spray: For people who have recently taken antiviral drugs, the nasal spray flu vaccine should not be given until 48 hours after the last dose of antiviral medication was given; if a person takes antiviral drugs within two weeks of getting the nasal spray flu vaccine, he or she should get revaccinated (the antiviral drugs will have killed the vaccine viruses that are supposed to cause the immune response against those viruses).

### 20. Can an immunocompromised person get flu vaccination?

Ans: Immunocompromised people are recommended to receive inactivated flu shot, because when they get influenza, they will easily complicate with bacterial or viral pneumonia and have a high fatality rate.

### 21. Can people with asthma get flu vaccination?

Ans: People with asthma are recommended to receive **inactivated flu shot**. The airways of people with asthma are often inflamed and sensitive, if they get influenza, they are more likely to develop airway and pulmonary inflammation, and aggravate symptoms of asthma.

### 22. If a child has not eaten eggs before, does he/she need to eat some eggs before getting the flu vaccine?

Ans: No need, the person can directly receive the flu vaccine.

### 23. Is it a must to seek medical advice before getting influenza vaccination?

Ans: Generally, if nursing staff has ascertained that no contraindications exist (i.e. without acute febrile illness or allergy to any ingredients), doctor assessment is not necessary before getting the flu shot.

### 24. Can I receive influenza vaccine together with other vaccines?

Ans: Influenza vaccine can be administered concurrently at different injection sites with other



vaccines supplied by the Health Bureau, of which separate needles and syringes should be used. When more than one injection need to be administered at the same time, they are usually given in a different limb; if they are to be given in the same limb, they should be administered at least 1-2 inches apart to avoid overlap of local reactions.

## **25. What is Influenza? How many types of influenza viruses are there?**

Ans: Influenza, also known as the flu, is an acute contagious respiratory disease that is caused by influenza virus (family orthomyxoviruses). Subtypes of influenza are influenza A, influenza B and influenza C of which the first two types are most common. The influenza subtypes are classified by the antigenic properties of the surface glycoproteins. Frequent mutation of the genes encoding the surface glycoproteins, especially for influenza A virus, leads to the emergence of new subtypes that are responsible for epidemics or pandemics. Pandemic (H1N1) 2009 virus was one of the influenza A viruses.

## **26. When is the flu season in Macao?**

Ans: While influenza may occur throughout the year, it is epidemic mainly in winter and spring (October to April in the northern hemisphere). According to the Health Bureau, the annual peak period of influenza in Macao were normally from January to March.

## **27. What is the source of flu? How is it transmitted to people?**

Ans: The source of flu is mainly patients and asymptomatic persons. It is infectious 1 day before and up to 7 days after the onset of the disease, and is mostly contagious in the first 2-3 days. The virus exists in nasal discharge, saliva and sputum and is mainly spread through droplets or direct contacts.

## **28. Who are the susceptible population to flu? Why?**

Ans: All people are equally susceptible. Infection produces immunity to the specific infecting virus, but the duration and breadth of immunity depend on the degree of antigenic drift and the number of previous infections. Thus, people will get repeated infections.

## **29. How long is the incubation period for flu?**

Ans: Usually 1-3 days after infection.



**30. What are the differences between influenza and common cold? What are the symptoms of flu?**

Ans: Common cold is the commonest upper respiratory infectious disease. It is mainly caused by rhinovirus, coronavirus, parainfluenza virus, respiratory syncytial virus and adenovirus. The onset of the disease is slow, with mild symptoms and low fever. Its clinical manifestations are mainly acute rhinitis and catarrhal symptoms of the upper respiratory tract.

The clinical manifestations of influenza include sudden onset of rigors, high fever, headache, myalgia, malaise and extreme tiredness; respiratory symptoms, such as running nose, sore throat and cough, are mild. The disease usually recovers within one week. Diagnostic confirmation relies on laboratory tests (virus isolation and serological test).

**31. Does flu have any complications?**

Ans: Yes, some of the complications caused by flu include bacterial infections of the upper respiratory tract (e.g. acute tonsillitis), bacterial tracheitis, bacterial bronchitis and bacterial pneumonia.

**32. How serious is flu? Is it fatal?**

Ans: In severe cases (i.e. influenza viral pneumonia), patients may present with high fever, exhaustion, restlessness, bloody sputum and later on dyspnea, cyanosis. When the antibiotic drugs become ineffective, one may die of respiratory and circulatory failure.

**33. How to diagnose and treat flu?**

Ans: The diagnosis is confirmed according to the typical clinical manifestations and laboratory examinations during the epidemic period. Seasonal flu can be treated by antiviral drugs (oseltamivir/ Tamiflu, zanamivir, amantadine or rimantadine).

**34. Why does the Health Bureau give priority vaccination to the frontline health care workers and chronic patients?**

Ans: Although symptoms of influenza for healthy adults are more severe than common cold, persons will usually recover within 7 days. Elderly persons, patients having cardiac, pulmonary, renal or metabolic diseases or immunocompromised patients who will easily complicate with bacterial or viral pneumonia have a high fatality rate. On the other hand, health care workers who often have contact with patients will easily get infected. They will then transmit the virus



to other patients who have close contact with them and who are at great risk to acquire diseases.

### **35. Do influenza viruses always experience antigenic drift? Are they dangerous?**

Ans: Influenza A and B always experience antigenic drift. If the antigens have experienced great changes (i.e. antigenic shift) or were transmitted to human from mutated animal source (e.g. avian/ swine flu), it would have a pandemic due to lack of immunity. During the past 100 years, there were respectively several flu pandemics in 1889, 1918, 1957 and 1968. Thousands of lives were lost during each pandemic. The attack rate in general community is about 10-20%, while in some densely populated areas, such as school or nursing homes, the rate is more than 50%.

### **36. How should we prevent influenza infection?**

Ans:

- 1) Annual influenza vaccination is an effective preventive measure recommended by World Health Organization (WHO).
- 2) Lead a healthy lifestyle, including balanced diet, regular exercise, adequate rest and no smoking.
- 3) Keep windows open, maintain good indoor ventilation.
- 4) Avoid crowded places with poor ventilation.
- 5) Cover nose and mouth with disposable tissues when sneezing or coughing, and then dispose of used tissues in a lidded rubbish bin and wash hands immediately; if no tissue paper is available, cover nose and mouth with a sleeve or the crook of an elbow, not the palms.
- 6) Wash hands properly and frequently with liquid soap, especially when contaminated by respiratory secretions. Dry hands with disposable towel or hand dryer; do not share towels. Avoid contact with eyes, nose and mouth before handwashing.
- 7) If develop respiratory symptoms, wear a mask and seek medical attention promptly. Do not go to work, school or crowded public places.