Pocket Guide for Immunizers:

Influenza Immunization 2024 – 2025

The purpose of this pocket guide is to serve as a tool for health care providers to learn more about seasonal influenza vaccines in Canada and make strong recommendations to their patients.

Influenza is a contagious respiratory disease. Influenza in humans is caused by the influenza A and influenza B viruses. Seasonal influenza epidemics occur annually in Canada, mainly in the late fall and winter months. It is estimated that, in a given year, influenza causes 12,200 hospital stays and 3,500 deaths in Canada.

Influenza can cause mild to severe illness. While most people will recover within 7 to 10 days, others are at greater risk of experiencing severe complications, such as pneumonia, cardiovascular problems, and the worsening of existing or underlying chronic health conditions. Groups at higher risk of severe influenza infection include children aged 0 to 59 months, adults aged 65 years and older, people with chronic illnesses, pregnant women and pregnant people, residents of long-term care facilities, and those in underserved communities.

With new strains of the influenza virus circulating each year, **annual flu vaccination is recommended** for everyone, especially those at higher risk of severe illness. Additionally, getting vaccinated is a crucial strategy for managing **healthcare capacity** during the busy **fall and winter months**, when flu activity and other respiratory viruses are at their peak.

This pocket guide references recommendations made in the ***Statement on Seasonal Influenza Vaccine for 2024-2025***, the ***Supplemental guidance on influenza vaccination in adults 65 years of age and older***, and the ***Addendum to the statement on seasonal influenza vaccine for 2024-2025: Transition from quadrivalent to trivalent influenza vaccines*** from the National Advisory Committee on Immunization (NACI). This pocket guide also references recommendations made in the *Canadian Immunization Guide* chapters ***Influenza vaccines*** and ***Basic immunology and vaccinology***. Supplementary documents referenced in this guide also include: ***Avian influenza A(H5N1): For health professionals*** from the Public Health Agency of Canada.

Pocket Guide for Immunizers:
Influenza Immunization 2024-2025

What vaccines are available?

Categories of Influenza Vaccines in Canada

There are three categories of influenza vaccines authorized for use in Canada: inactivated influenza vaccines (**IIV**), recombinant influenza vaccines (**RIV**), and live attenuated influenza vaccines (**LAIV**).

Formulations of Influenza Vaccines

Influenza strains predicted to be circulating in a given influenza season are incorporated into **trivalent influenza vaccines** and **quadrivalent influenza vaccines**. **Trivalent influenza vaccines** protect against three different influenza virus strains (typically two strains of influenza A and one strain of influenza B). **Quadrivalent influenza vaccines** protect against four different influenza virus strains (typically two strains of influenza A and two strains of influenza B).

Please note that naturally-occurring influenza B/Yamagata strains have **not been detected globally since March 2020**. As a result, the World Health Organization recommended the **removal** of the B/Yamagata component from influenza vaccines for the 2024-2025 Northern Hemisphere season. As quadrivalent and adjuvanted trivalent influenza vaccines are publicly available in Canada for the 2024-2025 influenza season, people 6 months of age and older should receive **any available, age-appropriate trivalent or quadrivalent influenza vaccine**.

Types of Influenza Vaccines

There are three types of influenza vaccines. **Standard-dose influenza vaccines** provide protection against influenza and are offered for persons 6 months of age and older. **High-dose influenza vaccines** contain **four times** the amount of antigen than the amount contained in standard-dose influenza vaccines. They are specifically made and recommended for persons 65+ to improve their immune response to the vaccine. **Adjuvanted influenza vaccines** contain an adjuvant, an ingredient added to some vaccines to help produce a stronger immune response in vaccine recipients. They are specifically made and recommended for children 6-23 months and persons 65+ to improve their immune response to the vaccine.

Pocket Guide for Immunizers:

Influenza Immunization 2024-2025

Table 1: Preparations authorized for use in Canada

Class Code	Class Details	Authorized Ages for Use	Vaccine Brand Name	Vaccine Code
IIV3-Adj	Inactivated trivalent influenza vaccines – adjuvanted (created using egg-based manufacturing)	65 years of age and older	Fluad®	IIV3-Adj-Seqirus
		6 to 23 months of age	Fluad Pediatric®	IIV3-Adj-Pediatric-Seqirus
IIV4-SD	Inactivated quadrivalent influenza vaccines – standard dose (created using egg-based manufacturing)	5 years of age and older	Afluria® Tetra	IIV4-SD-Seqirus
		6 months of age and older	Flulaval® Tetra	IIV4-SD-GSK
		6 months of age and older	Fluzone® Quadrivalent	IIV4-SD-Sanofi
		6 months of age and older	Influvac® Tetra	IIV4-SD-VC
IIV4-cc	Similar to IIV4-SD, except created using cell culture-based manufacturing (cc)	6 months of age and older	Flucelvax® Quad	IIV4-cc-Seqirus
IIV4-HD	Similar to IIV4-SD, except contains four times the amount of antigen (high-dose)	65 years of age and older	Fluzone® High-Dose Quadrivalent	IIV-HD-Sanofi
RIV4	Recombinant quadrivalent influenza vaccine (created using recombinant manufacturing)	18 years of age and older	Supemtek™	RIV4-Sanofi
LAIV4	Live-attenuated quadrivalent influenza vaccine (created using egg-based manufacturing)	2 to 59 years of age	FluMist® Quadrivalent	LAIV4-AstraZeneca

Note: Throughout the rest of this guide, vaccines will be referred to by vaccine code when there is a specific recommendation within the class, and by class code when there is not.

What is the recommended dosage and how is it given?

IIV4-SD (including IIV4-cc-Seqirus) vaccines are administered as a 0.5 mL dose intramuscularly (IM).

IIV4-SD-VC may be administered by IM or deep subcutaneous injection.

IIV3-Adj-Pediatric-Seqirus is administered as a 0.25 mL dose by IM injection.

I**IV3-Adj-Seqirus** is administered as a 0.5 mL dose by IM injection.

IIV-HD-Sanofi is administered as a 0.7 mL dose by IM injection.

RIV4-Sanofi is administered as a 0.5 mL dose by IM injection.

LAIV4-AstraZeneca is given as a nasal spray at a dose of 0.2 mL (0.1 mL in each nostril).

How do I choose which vaccine to give?

Recommendations on which influenza vaccine to use can be based on age (please see chart below). For information on who should not receive influenza vaccines, or specifically LAIV4, please see the sections titled **Who should not receive influenza vaccines?** and **Who should not receive LAIV4?**

Table 2: Recommendations for use of influenza vaccines by age group

Age Group	Influenza Vaccines: Recommendations for Use
6 to 23 months of age	• An **IIV4-SD**, **IIV3-Adj-Pediatric-Seqirus**, or **IIV4-cc** should be administered in this age group, with the exception of **IIV4-SD-VC**.
2 to 17 years of age	• An **IIV4-SD**, **IIV4-cc**, or **LAIV4** should be administered in this age group, although **IIV4-SD-VC** should not be used in children under 3 years of age.
18 to 59 years of age	• An **IIV4-SD**, **IIV4-cc**, **RIV4**, or **LAIV4** should be administered in this age group. • Please take into consideration that there is some evidence that **IIV may provide better efficacy than LAIV in healthy adults**.
60 to 64 years of age	• An **IIV4-SD**, **IIV4-cc**, or **RIV4** should be administered in this age group.
65 years of age and older	• An **IIV4-HD**, **IIV3-Adj**, or **RIV4** should be offered in this age group. • If these vaccines are not available, then an **IIV4-SD** or **IIV4-cc** can be administered. • If there is a **limited supply** of IIV4-HD, IIV3-Adj, or RIV4, these vaccines should be prioritized for adults 65+ who are **most likely to experience** severe influenza infection, such as people aged 75+, people with comorbidities, and people residing in nursing homes or other chronic care facilities.

Pocket Guide for Immunizers:
Influenza Immunization 2024-2025

Who should receive influenza vaccines?

Recommendations on who should receive the influenza vaccines can be made at the **individual level** and **program level**. Individual-level recommendations are meant for immunizers so that they can advise individual patients on how to protect themselves against influenza. Program-level recommendations take into account factors that benefit population health, and are meant for provinces and territories making decisions on how to structure influenza immunization programs.

Individual-level Decision-making

Anyone over the age of **6 months** should receive an annual influenza vaccine, with a special focus on groups for whom influenza vaccines are particularly recommended (see Table 3). Anyone **9 years of age and older** requires only **one dose** per season.

Please note: Children **6 months up to and including 8 years of age** receiving the influenza vaccine for the first time in their lives should receive **two doses** of the seasonal influenza vaccine with a minimum interval of **4 weeks** between doses. Children who received **one or more doses of an influenza vaccine in the past** should receive only **one dose** of an influenza vaccine in every season thereafter.

Program-level Decision-making

NACI recommends that the groups in Table 3 be prioritized to receive influenza vaccines.

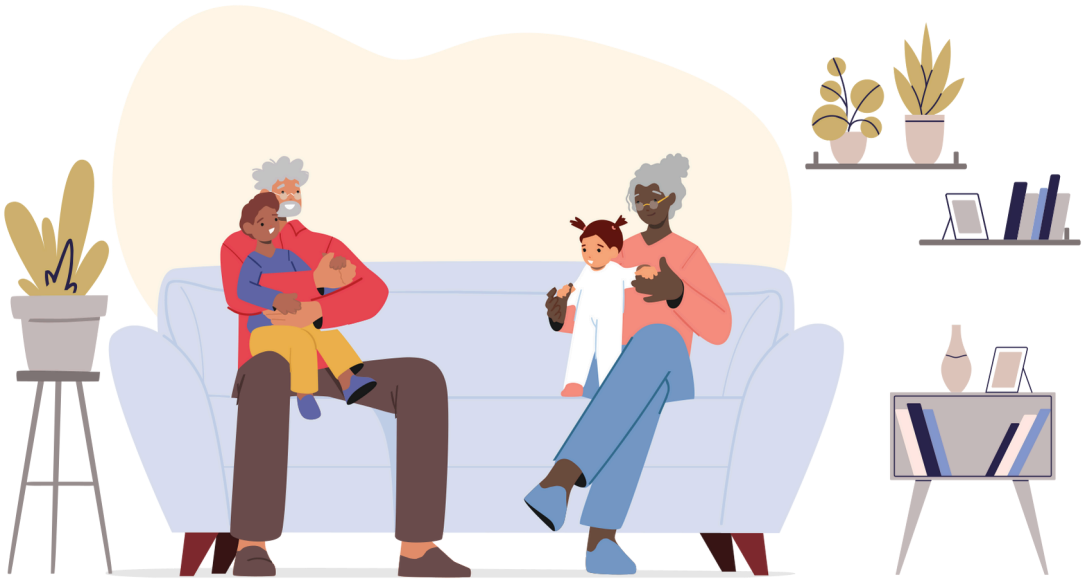

Table 3: Groups for whom influenza vaccination is particularly recommended

People at high risk for influenza-related complications or hospitalization	People capable of transmitting influenza to those at high risk

• All children 6 to 59 months of age
• Adults and children with the following chronic health conditions:
  ◦ cardiac or pulmonary disorders (includes bronchopulmonary dysplasia, cystic fibrosis, and asthma)
  ◦ diabetes mellitus and other metabolic diseases
  ◦ cancer and immune-compromising conditions
  ◦ renal disease
  ◦ anemia or hemoglobinopathy
  ◦ neurologic or neurodevelopmental conditions (excluding migraines and psychiatric conditions without neurological conditions)
  ◦ morbid obesity (BMI of 40kg/m2 and over)
• Children/adolescents 6 months to 18 years of age with chronic conditions treated for long periods with acetylsalicylic acid
• All pregnant women and pregnant people
• People of any age living in nursing homes or other chronic care facilities
• Adults 65 years of age and older
• People part of an underserved community
	• Health care and other care providers in facilities and community settings who could transmit influenza to people most at risk of severe influenza infection
	• Household contacts of individuals at high risk (irrespective of whether the at-risk person has been vaccinated against influenza), including:
	  ◦ household contacts of infants less than 6 months of age
	  ◦ household contacts of pregnant women and pregnant people expecting to give birth during the influenza season
	• People providing regular child care to children 0 to 59 months of age
	• People providing services within closed or relatively closed settings to persons at high risk
	
	Other high-risk groups
	
	• People providing essential community services
	• People who are in direct contact with poultry infected with avian influenza during culling operations
	
	**There have been outbreaks of avian influenza A(H5N1) in farmed birds across Canada. Canada continues to monitor detections of the virus in humans and animals globally. There is currently no publicly available avian influenza vaccine in Canada.*

Who should not receive influenza vaccines?

Influenza vaccines should **not** be administered to people in the following groups:

- People who have had an anaphylactic reaction to a previous dose of influenza vaccine, or any of the vaccine components of a specific influenza vaccine (with the exception of egg).
  - People who have had an anaphylactic reaction to one of the components in a specific influenza vaccine may be offered another influenza vaccine that does not contain the implicated component. This must be done in consultation with an allergy specialist.
- People who have developed Guillain-Barré Syndrome (GBS) within 6 weeks of a previous influenza vaccination, unless another cause was found for GBS.

In general, immunization should be **postponed** for people with serious acute illness. Influenza vaccines can be administered to people with minor or moderate acute illness, with or without fever.

Who should not receive LAIV4?

In addition to the contraindications above, it is recommended that LAIV4 should not be administered to the groups outlined in Table 4.

Table 4: Contraindications and precautions related to LAIV4

People who should not receive LAIV4	Additional precautions for LAIV4

• People with immune-compromising conditions
  ◦ **Note:** This excludes children with stable HIV infection on highly active antiretroviral therapy (HAART) and with adequate immune function.
• People with severe asthma (defined as currently on oral or high-dose inhaled glucocorticosteroids or active wheezing) or medically attended wheezing in the 7 days prior to the proposed date of vaccination
  ◦ **Note:** LAIV4 is not contraindicated for people with a history of stable asthma or recurrent wheezing which is not active.
• Children less than 24 months of age, due to increased risk of wheezing
• Children 2 to 17 years of age currently receiving aspirin or aspirin-containing therapy
• Pregnant women and pregnant people
  ◦ **Note:** LAIV4 is not contraindicated in breastfeeding individuals.
	• LAIV4 should not be administered until 48 hours after antiviral agents active against influenza are stopped.
	• Antiviral agents, unless medically indicated, should not be administered until 2 weeks after receipt of LAIV4 so that the antiviral agents do not kill the replicating vaccine virus.
	• LAIV4 should be deferred, and an IIV can be used, in cases where significant nasal congestion might impede delivery of LAIV4 to the nasopharyngeal mucosa.
	• LAIV4 recipients should avoid close contact with people with severe immune-compromising conditions for at least 2 weeks following vaccination (there is a theoretical risk of transmitting a vaccine virus and causing infection).
	• People under 18 years of age should avoid using aspirin-containing products for at least 4 weeks after receipt of LAIV4.
	• Healthcare workers should not receive LAIV4; an IIV or RIV should be used instead.

Note on Table 4

For more information on LAIV and the theoretical risk of transmitting a vaccine virus, please refer to the NACI statement Recommendations on the Use of Live, Attenuated Influenza Vaccine (FluMist®): Supplemental Statement on Seasonal Influenza Vaccine for 2011–2012.

Pocket Guide for Immunizers:

Influenza Immunization 2024-2025

Can influenza vaccines be given at the same time as other vaccines?

All seasonal influenza vaccines, including LAIV4, may be administered at the same time as, or any time before or after, administration of other vaccines (either live or inactivated). This includes COVID-19 vaccines for those aged 6 months of age and older.

Based on expert opinion, NACI recommends that LAIV4 can be given together with, or at any time before or after the administration of, any other live attenuated or inactivated vaccine. However, NACI recognizes that some vaccine providers may continue to choose to give LAIV4 and other live vaccines separated by at least 4 weeks as a professional preference.

Remember

In all cases, if vaccines are administered simultaneously, a separate injection site and a different syringe must be used for each.

What about side effects and adverse reactions?

Seasonal influenza vaccines have a stable and safe profile. Serious adverse events are rare following influenza vaccination, and in most cases, there is not enough data to suggest a causal association. Mild to moderate side effects are more common.

IM-administered Influenza Vaccines

Injection site reactions are common but are generally mild and short-lived. **Systemic reactions** (e.g., headache, fatigue) are more commonly seen after administration with an IIV-HD compared to IIV-SD, but these reactions are generally mild and short-lived as well. **Recombinant vaccines** appear to have a similar safety profile to IIVs.

LAIV4

The most common side effects experienced by recipients of LAIV4 are **nasal congestion** and **runny nose**.

Guillain-Barré Syndrome (GBS) and Oculorespiratory Syndrome (ORS)

GBS and ORS are adverse events following immunization (AEFIs) of particular interest to the National Advisory Committee on Immunization (NACI) and should be reported if there is a suspected case of either.

GBS is rare, but there is a small attributable risk of GBS after immunization with an influenza vaccine. However, the risk of experiencing GBS after influenza infection is notably higher than that from receiving an influenza vaccine.

ORS was identified during the 2000-2001 influenza season. ORS is rare and characterized by the presence of bilateral red eyes and one or more associated respiratory symptoms that start within 24 hours of influenza vaccination. It is not an allergic reaction. Individuals who have experienced ORS **without lower respiratory tract symptoms** may safely be revaccinated with influenza vaccines. Individuals who experienced ORS **with lower respiratory tract symptoms** should have an expert review.