Public Health Agency of Canada | Agence de la santé publique du Canada

2018–2019 EDITION

SEASONAL INFLUENZA VACCINE

RECOMMENDATIONS FROM THE NATIONAL ADVISORY COMMITTEE ON IMMUNIZATION (NACI)

Canada

WHO SHOULD RECEIVE THE VACCINE?

All individuals 6 months of age and older, who do not have contraindications to the vaccine, with a particular focus on:

PEOPLE AT HIGH RISK OF INFLUENZA-RELATED COMPLICATIONS OR HOSPITALIZATION

- All pregnant women*.
- Adults and children with the following chronic health conditions:
  - cardiac or pulmonary disorders (including bronchopulmonary dysplasia, cystic fibrosis and asthma);
  - diabetes mellitus and other metabolic diseases;
  - cancer, immune compromising conditions (due to underlying disease, therapy or both);
  - renal disease;
  - anemia or hemoglobinopathy;
  - neurologic or neurodevelopment conditions**;
  - morbid obesity (body mass index [BMI] ≥40);
  - children and adolescents (age 6 months to 18 years) undergoing treatment for long periods with acetylsalicylic acid, because of the potential increase of Reye's syndrome associated with influenza.
- People of any age who are residents of nursing homes and other chronic care facilities.
- People ≥65 years of age.
- All children 6 to 59 months of age.
- Indigenous peoples.

* The risk of influenza-related hospitalization increases with length of gestation, i.e., it is higher in the third trimester than in the second.

** These neurologic or neurodevelopmental conditions include neuromuscular, neurovascular, neurodegenerative, neurodevelopmental conditions and seizure disorders (and, for children, include febrile seizures and isolated developmental delay), but exclude migraines and psychiatric conditions without neurological conditions.

PEOPLE CAPABLE OF TRANSMITTING INFLUENZA TO THOSE AT HIGH RISK

- Health care and other care providers in facilities and community settings who, through their activities, are capable of transmitting influenza to those at high risk of influenza complications.
- Household contacts (adults and children) of individuals at high risk of influenza-related complications (whether or not the individual at high risk has been immunized):
  - household contacts of individuals at high risk, as listed in the section above;
  - household contacts of infants <6 months of age as these infants are at high risk of complications from influenza but cannot receive influenza vaccine;
  - members of a household expecting a newborn during the influenza season.
- Those providing regular child care to children ≤59 months of age, whether in or out of the home.
- Those who provide services within closed or relatively closed settings to persons at high risk (e.g., crew on a ship).

OTHERS

- People who provide essential community services.
- People in direct contact during culling operations with poultry infected with avian influenza.

WHO SHOULD NOT RECEIVE THE VACCINE?

- People who have had an anaphylactic reaction to a previous dose of influenza vaccine; or
- People who have had an anaphylactic reaction to any of the vaccine components, with the exception of egg.

LIVE ATTENUATED INFLUENZA VACCINE (LAIV) IS CONTRAINDICATED FOR:

- Children less than 24 months of age, due to increased risk of wheezing.
- Individuals with severe asthma, as defined as currently on oral or high-dose inhaled glucocorticosteroids or active wheezing, or those with medically attended wheezing in the 7 days prior to the proposed date of immunization.
- Children and adolescents 2 to 17 years of age currently receiving aspirin or aspirin-containing therapy because of the association of Reye's syndrome with aspirin and wild-type influenza infection. It is recommended that aspirin-containing products in children less than 18 years of age be delayed for four weeks after receipt of LAIV.
- Pregnant women, because it is a live attenuated vaccine and there is a lack of safety data at this time. However, it is not contraindicated in breastfeeding mothers.
- Persons with immune compromising conditions, due to underlying disease, therapy, or both, as the vaccine contains live attenuated virus.

CO-ADMINISTRATION

All influenza vaccines, including LAIV, may be given at the same time as or at any time before or after administration of other live attenuated or inactivated vaccines.

Given the lack of data for immune interference, and based on expert opinion, NACI recommends that LAIV can be given together with or at any time before or after the administration of any other live attenuated or inactivated vaccine. NACI recognizes that some vaccine providers may choose to give LAIV and other live vaccines simultaneously or separated by at least 4 weeks to avoid any possibility of immune interference. Alternatively, an inactivated influenza vaccine (trivalent or quadrivalent) may be given.

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CHOICE OF INFLUENZA VACCINE

Recipient by age group	Vaccine types available for use†	Comments
Children 6–23 months of age	TIV QIV Adjuvanted TIV	As TIV, QIV and adjuvanted TIV are authorized for this age group NACI recommends that, given the burden of influenza B disease, QIV should be used. If QIV is not available, either unadjuvanted or adjuvanted TIV should be used.
Children 2–17 years of age	TIV QIV Quadrivalent LAIV	In children without contraindications to the vaccine, any of the following vaccines can be used: LAIV, QIV, or TIV. The current evidence does not support a recommendation for the preferential use of LAIV in children and adolescents 2–17 years of age. Given the burden of influenza B disease in children and the potential for lineage mismatch between the predominant circulating strain of influenza B and the strain in a trivalent vaccine, NACI continues to recommend that a quadrivalent formulation of influenza vaccine be used in children and adolescents 2 –17 years of age. If a quadrivalent vaccine is not available, TIV should be used. LAIV is contraindicated for children with immune compromising conditions. LAIV, TIV or QIV can be used in children with chronic health conditions and without contraindications (see the Canadian Immunization Guide Chapter on Influenza and Statement on Seasonal Influenza Vaccine for 2018–2019, sections on Contraindications and Precautions (Section II) and Choice of vaccine product for children 2 to 17 years of age (Section V) for more details).
Adults 18–59 years of age	TIV QIV Quadrivalent LAIV	TIV and QIV are the recommended products for adults with chronic health conditions. TIV and QIV, instead of LAIV, are recommended for health care workers. LAIV is contraindicated for adults with immune compromising conditions.
Adults 60–64 years of age	TIV QIV	TIV and QIV are authorized for use in this age group.
Adults ≥65 years of age	TIV QIV Adjuvanted TIV High-dose TIV	NACI recommends that high-dose TIV should be offered over standard-dose TIV to persons ≥65 years of age. NACI concludes that, given the burden of disease associated with influenza A(H3N2) and the good evidence of better efficacy compared to standard-dose TIV in this age group, high-dose TIV should be offered over standard-dose TIV to persons ≥65 years of age. There is insufficient evidence to make comparative recommendations on the use of MF59-adjuvanted TIV and QIV over standard-dose TIV.
Pregnant women	TIV QIV	LAIV is not recommended because of the theoretical risk to the fetus from administering a live virus vaccine.

† **TIV:** Trivalent inactivated influenza vaccine
QIV: Quadrivalent inactivated influenza vaccine
LAIV: Live attenuated influenza vaccine

RECOMMENDED DOSAGE & ROUTE, BY AGE, FOR THE 2018–2019 SEASON

Age group	TIV or QIV without adjuvant* Intramuscular	TIV without adjuvant, high-dose (Fluzone® High-Dose) Intramuscular	MF59-adjuvanted TIV (Fluad Pediatric® or Fluad®) Intramuscular	LAIV (FluMist® Quadrivalent) Intranasal	Number of doses required
6–23 months	0.5 mL**	-	0.25 mL	-	1 or 2***
2–8 years	0.5 mL	-	-	0.2 mL (0.1 mL per nostril)	1 or 2***
9–17 years	0.5 mL	-	-	0.2 mL (0.1 mL per nostril)	1
18–59 years	0.5 mL	-	-	0.2 mL (0.1 mL per nostril)	1
60–64 years	0.5 mL	-	-	-	1
≥65 years	0.5 mL	0.5 mL	0.5 mL	-	1

* TIV without adjuvant: Influvac® (≥3 years), Fluviral® (≥6 months), and Agriflu® (≥6 months);
QIV without adjuvant: Afluria® Tetra (≥5 years), Flulaval® Tetra (≥6 months), and Fluzone® Quadrivalent (≥6 months).

** This information may differ from the product monograph. Published and unpublished evidence suggest moderate improvement in antibody response in infants, without an increase in reactogenicity, with the use of full vaccine doses (0.5 mL) for unadjuvanted inactivated influenza vaccines. This moderate improvement in antibody response without an increase in reactogenicity is the basis for the full dose recommendation for unadjuvanted inactivated vaccine for all ages.

*** Children 6 months to <9 years of age who have never received the seasonal influenza vaccine require two doses of influenza vaccine, with a minimum interval of four weeks between doses. Eligible children <9 years of age who have properly received one or more doses of seasonal influenza vaccine in the past should receive one dose per influenza vaccination season thereafter.

SOURCE: 2018 Public Health Agency of Canada. An Advisory Committee Statement, National Advisory Committee on Immunization (NACI), Canadian Immunization Guide Chapter on Influenza and Statement on Seasonal Influenza Vaccine for 2018–2019 (See under Influenza for full document as well as related addenda available at **www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci.html**).

 | ISBN: 978-0-660-27651-9 | Cat.: HP40-223/2018E-PDF | Pub.: 180281