

Immunization with Influenza Vaccine (Inf)

Background

Influenza is a respiratory infection caused by either the type A or type B influenza viruses, and occurs in populations worldwide. Although it is generally a self-limiting, acute illness of several days duration, some people with chronic disease and the elderly are at increased risk for life-threatening complications. Immunization of persons particularly those in high risk groups can reduce the morbidity and mortality associated with influenza.

The sub-types of both A and B viruses change subtly from year to year, and the vaccine that is prepared annually changes to include the virus strains that are anticipated to predominate. For this reason, immunization must be repeated each year in order to give the best protection to individuals in high risk populations.

Vaccine for the influenza season is available for distribution in the fall and is administered through public health, healthcare occupational health services and physicians' offices. Regional Health Authorities should begin estimating required amounts early in the year, so that the vaccine can be ordered by the province and then distributed to the RHAs in the fall.

Refer to provincial website for more information on the influenza program and influenza management.

Policy

The Newfoundland and Labrador immunization schedule recommends and provides influenza vaccine for all persons and in particular for those who are at increased risk for complications from influenza. The publicly-funded influenza vaccine is administered **only** through public health, healthcare occupational health services and physician's offices just prior to and throughout the influenza season in fall and winter.

Providers wishing to provide alternative influenza vaccine products will be required to purchase the vaccine for their respective clinical setting.

http://www.health.gov.nl.ca/health/publichealth/cdc/infoforpros_edu.html

Description of vaccines

For 2014-15, two influenza vaccines will be available in Newfoundland and Labrador (NL), both of which are trivalent products; the Trivalent Inactivated Influenza Vaccine (TIV) and the Live Attenuated Influenza Vaccine (LAIV). The composition of the products changes annually based on the World Health Organization (WHO) recommendations. Please refer to the individual product monograph for details. The available products used in NL include:

Trivalent Inactivated Influenza Vaccine (TIV) has been in use for many years in NL. It is an inactivated vaccine that is injected intramuscularly. The trade names include

Fluviral®, Agriflu® and Vaxigrip®. Other trade names may also be available during the influenza season. This vaccine will be provided for all persons over 6 months of age and older and will be distributed to providers in public health, physicians and healthcare occupational health services.

Live Attenuated Influenza vaccine (LAIV) was introduced in NL in 2013. It is a live attenuated vaccine that is administered by the intranasal route. The trade name is Flumist®. Each pre-filled glass sprayer contains 0.2 mL dose (given as 0.1 mL in each nostril). The spray is colorless to pale yellow, clear to slightly cloudy. This vaccine will be used for children aged 2 to 17 years of age and will be primarily distributed through public health clinics.

Related Information

- See product monograph for exact description of vaccine
- See National Advisory Committee on Immunization statement 2014 -2015 found at: <http://www.phac-aspc.gc.ca/naci-ccni/index-eng.php> press enter to hyperlink
- See Canadian Immunization Guide online for latex and product information
- Control of Communicable Diseases Manual (current edition)

Trivalent Inactivated Influenza Vaccine (TIV)

Indicated in the NL program for all persons 6 months of age and older

Dose

Recommended dose may change per influenza season or by product. Always verify dose with the NACI statement and product monograph.

Table 3.12-1: Dosage for TIV by Age

Age	TIV Dosage Route	Number of doses required
6 months to 8 years**	0.5ml IM	1 or 2*
≥9 years	0.5ml IM	1

*Children 6 months to less than 9 years who have never before received the seasonal influenza vaccine require two doses of TIV with a minimum interval of 4 weeks between doses. Eligible children < 9 years of age who have properly received one or more doses of TIV in the past are recommended to receive one dose per season thereafter of either vaccine.

** TIV may be given at 6 months to 8 years of age; LAIV may also be used from 2 years to 8 years

Route: Intramuscular

Site: The anterolateral thigh is the recommended site in infants between 6 months to under 12 months of age; and the deltoid region of the upper arm for those ≥12 months of age.

Reconstitution Procedure and Preparation for Injection: See product monograph.

Screening Guidelines: See section 1.5 for additional screening information

Screening Questions for TIV

- Does the individual have a history of anaphylactic reaction to a previous dose of any type of influenza vaccine or any component of the vaccine as listed in the product monograph?
Yes: Do not administer TIV. Influenza vaccine of any type is contraindicated for those with a history of anaphylactic reaction to a previous dose of any type of influenza vaccine.
- Does the individual report an egg allergy?
Yes: Administer, egg allergy is no longer a contraindication to receiving influenza vaccine. For more information see the 2014-15 NACI statement: <http://www.phac-aspc.gc.ca/naci-ccni/index-eng.php>
- Has the individual developed Guillain-Barre Syndrome (GBS) within six weeks of influenza immunization?
Yes: Do not administer any further doses of TIV.
- Does the individual have a history of severe ocular-respiratory syndrome (ORS) after previous receipt of an influenza vaccine?
Yes: Do not administer and consult with MOH for direction.
- Does the individual have a moderate to severe acute illness?
Yes: Defer immunization until symptoms have abated.
- Does the individual have a minor acute illness, with or without a fever?
Yes: Immunization should not be delayed because of minor acute illness, with or without fever as these are not contraindications to receiving influenza vaccine.

Not Contraindications

- Minor illness with or without a fever
- Antibiotic use
- Coagulation disorder (use appropriate gauge needle)
- Egg allergy history

Contraindications

- Anaphylaxis to a previous dose of influenza vaccine or to any of the components of the vaccine
- Moderate to severe acute illness with or without a fever
- History of Guillain-Barre Syndrome (GBS) within 6 weeks of previous influenza immunization

Consult Medical Officer of Health

- If person had an allergic reaction to any components of the vaccine or has had an allergic reaction to a previous dose of the vaccine.

Live Attenuated Influenza vaccine (LAIV)

Indicated in the NL program for healthy persons aged 2 to 17 years of age

Dose

Recommended dose may change per influenza season or by product. Always verify dose with the NACI statement and product monograph.

Table 3.12-2: Dosage of LAIV by Age

Age	LAIV Dosage Route	Number of doses required
2 years to 8 years	0.2ml IN (0.1 mL per nostril)	1 or 2*
≥9 years	0.2ml IN (0.1 mL per nostril)	1

*Children 2 years to less than 9 years of age who have never before received the seasonal influenza vaccine require two doses of LAIV with a minimum interval of 4 weeks between doses. Eligible children < 9 years of age who have properly received one or more doses of TIV or LAIV in the past are recommended to receive one dose per season thereafter of either vaccine.

Route: Intranasal

Site: approximately 0.1mL in each nostril

Screening Guidelines: See section 1.5 for additional screening information.

Screening Questions for LAIV:

- Does the individual have a history of anaphylactic reaction to a previous dose of any type of influenza vaccine or any component of the vaccine as listed in the product monograph?
Yes: Do not administer the LAIV. Influenza vaccine of any type is contraindicated for those with a history of anaphylactic reaction to a previous dose of any type of influenza vaccine.
- Is the individual allergic to eggs, gentamicin, gelatin or any other component in the vaccine as listed in the product monograph?
Yes: Do not administer the LAIV. LAIV is contraindicated for individuals with these allergies. They should be offered TIV.
- Does the individual have severe asthma (on high dose inhaled or oral steroids) or history of medically attended wheezing in the last 7 days?
Yes: Do not administer the LAIV. LAIV is contraindicated for individuals with severe asthma (defined as currently on oral or high dose inhaled glucocorticosteroids or active wheezing).
- Is the individual immunocompromised due to disease or treatment?
Yes: Do not administer the LAIV. LAIV is contraindicated for individuals immunocompromised due to disease or treatment. They should be offered TIV.
- Is the individual a HCW working with severely immunocompromised individuals or working with an individual living with a severely immunocompromised individual?

Yes: Do not administer LAIV. LAIV is a vaccine that contains a weakened strain of influenza virus and could be potentially transmitted to another severely immunocompromised person through contact with respiratory secretions and can cause serious infection. Vaccine recipients should attempt to avoid, whenever possible, close association with severely immunocompromised for at least 2 weeks following vaccination with LAIV. They should be offered TIV.

- Is the individual less than 2 years of age or greater than 17 years of age?
Yes: Do not administer LAIV. In NL LAIV is currently being offered to healthy persons aged 2 years to 17 years of age only.
- Is the individual pregnant or could become pregnant in the next month?
Yes: Do not administer the LAIV. LAIV is contraindicated for pregnant women due to the lack of safety data available from the manufacture. They should be offered TIV.
- Is the individual breastfeeding?
Yes; Administer LAIV as it is not contraindicated in nursing mothers.
- Is the individual under 18 years old and receiving or have received aspirin containing therapy in the last 4 weeks?
Yes: Do not administer the LAIV. LAIV is contraindicated for individuals receiving aspirin or aspirin containing therapy because of the association of Reye's syndrome with aspirin and wild type influenza infection. They should be offered TIV. It is recommended that use of aspirin containing products in those less than 18 years of age be delayed for 4 weeks after receipt of LAIV.
- Does the individual have a history of Guillain-Barre syndrome (GBS) within 6 weeks of receipt of a previous dose of influenza vaccine without another cause being identified?
Yes: Do not administer LAIV. LAIV is contraindicated for individuals with a history of GBS within 6 weeks of receipt of a previous dose of influenza vaccine.
- Does the individual have a history of severe ocular-respiratory syndrome (ORS) after previous receipt of an influenza vaccine?
Yes: Defer immunization and consult with MOH for direction.
- Has the individual received any live vaccines in the past 4 weeks?
Yes: Do not administer LAIV. LAIV can be given at the same time as other live vaccines. If not given at the same time as other live vaccines, administration of the two live vaccines should be separated by at least 4 weeks.
- Is the individual due to have a tuberculosis skin test (TST) in the next 4 weeks?
Yes: A TST must be administered on the same day as LAIV, or delay TST by 4 weeks to avoid a false negative TST result.

- Is the individual currently taking antiviral medications, or has the individual received antiviral medications in the past 2 weeks?
Yes: Do not administer LAIV. If antivirals are administered from 48 hours before to 2 weeks after receipt of LAIV the antivirals will interfere with the immune response to LAIV.
Revaccinate when antivirals have been discontinued for at least 48 hours or offer TIV.
- The child's first dose of the influenza vaccine was TIV, is it safe to give the second dose as LAIV?
Yes: Both TIV and LAIV are interchangeable as the both the first and second dose respectfully.

Not Contraindications

- Minor illness
- Breastfeeding (NACI 2014-15 statement)
- Antibiotic use

Contraindications

- Anaphylaxis or severe reaction to a previous dose of influenza vaccine or any of the components of the vaccine
 - Egg allergy history
 - Allergy to any component to the vaccine
 - Moderate to severe illness with or without a fever
 - Persons less than 2 years of age or over 17 years of age
 - Pregnancy
 - History of Guillain-Barre Syndrome (GBS) within 6 weeks of previous influenza immunization
 - Any person with a history of ocular respiratory syndrome (ORS) post influenza vaccine
 - Aspirin therapy in those persons aged 2 years to 17 years of age
 - Severe asthma
 - Those persons with renal and pulmonary conditions who are having ongoing medical treatment
 - Those persons with other chronic medical condition/multiple conditions who require ongoing medical treatment or check - ups
 - Immunocompromised due to underlying disease, treatment or drug therapy
 - HCW working with or those persons living with a person who is severely immunocompromised
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- Any person who has received an anti-viral medication in the last 2 weeks or who is currently taking an antiviral medication
 - Significant nasal congestion as this may impede delivery of the vaccine

Consult Medical Officer of Health

- If person had an allergic reaction to any components of the vaccine or has had an allergic reaction to a previous dose of the vaccine

Influenza vaccine is particularly recommended for the following persons:

The Department of Health and Community Services recommends influenza vaccine for all persons, particularly those who are at increased risk for complications of influenza such as the following:

1. Adults and children with chronic conditions requiring regular medical follow-up or hospital care, including:
 - Respiratory disorders such as asthma or cystic fibrosis;
 - Cardiac disease;
 - Renal disease;
 - Metabolic disorders such as diabetes;
 - Mobility impairment such as may occur with arthritis;
 - Immunosuppression including that associated with medical treatments;
2. Persons who are obese with or without chronic health conditions;
3. Persons in residential care, including residents and staff;
4. Persons age 60 years and over;
5. Children aged six months to 59 months;
6. Health care workers including those in the community or chronic care facilities;
7. Aboriginal people;
8. Essential services workers (police, ambulance, firefighters or other persons in the community whose services may be considered essential);
9. Household contacts of people at high risk of influenza complications;
10. Pregnant women, particularly those in the third trimester;
11. Individuals who work in the live poultry or swine industry.