

Newfoundland and Labrador Immunization Manual	
Section 3	Routine Immunization Products

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3.1 Immunization with Diphtheria, Pertussis, Tetanus, Polio and Hib vaccine (DTaP-IPV-Hib)

Policy

The Newfoundland and Labrador schedule provides DTaP-IPV-Hib for children at age 2, 4, 6, and 18 months. If the child's immunization schedule has been interrupted, see Section 2 of this manual or the CIG. This vaccine is effective when given starting at 8 weeks of age. If a child presents to clinic and is within days of the monthly date, vaccine should be administered at that time, otherwise this is a lost opportunity for immunization and the child may be vulnerable to disease.

Description of Vaccine

Preparation of toxoids (diphtheria and tetanus), acellular vaccine (pertussis), inactivated vaccine (polio), and Hib vaccine.

DTaP-IPV-Hib is indicated for routine primary and booster immunization of infants and children up to two years of age. Can be given to children up to the age of 59 months. Immunizes against diphtheria, tetanus, pertussis, polio and *Haemophilus influenzae* type b disease.

Related Information

- See product monograph for exact description of vaccine
- See Canadian Immunization Guide (current edition) for latex and product information
- Control of Communicable Diseases Manual (current edition)

Dose: 0.5 ml

Route: Intramuscular

Site: Vastus lateralis in newborns, preterm infants and infants less than 12 months of age.
Vastus lateralis or the deltoid muscle can be used for toddlers and older children.
Deltoid muscle is the preferred injection site in adolescents and adults.

Procedure and Preparation for Injection: Follow product monograph

Screening Guidelines: See section 1.5 for additional screening information

Screening Questions:

- Has the child reached the fifth birthday?
Yes: Do not give vaccine. Hib is not indicated for routine childhood immunization once a child has reached the fifth birthday.
- Does the child have a mild illness, with or without a fever?
Yes: Give vaccine and advise parent to give fever reducing medication as per recommended dose immediately after immunization and every four to eight hours as necessary.

- Is the child on antibiotic medication?
Yes: Give vaccine. Antibiotic medication is not a contraindication to immunization, provided that the child is well enough to be immunized.
- Is the child allergic to any component of the vaccine, as listed in the product monograph?
Yes: Defer immunization and consult with the MOH/designate. It may be necessary to immunize in a controlled setting.
- Has the child had a reaction following a previous dose of DTaP-IPV- Hib or any of the constituents of these vaccines?
Yes: Determine the nature and severity of the reaction. Consult with MOH/designate as required.
- Is there a history of febrile or afebrile seizure for either the child or a family member?
Yes: Give vaccine. Advise that fever reducing medication as per the recommended dose given just after immunization will reduce the likelihood of a febrile response.
- Has the child been previously immunized with oral polio vaccine (OPV)?
Yes: Give vaccine. A series that has been started with OPV may be completed with the IPV preparation that is in DTaP- IPV- Hib vaccine.

Not Contraindications

- High fever within 48 hours following last dose of DTaP-IPV-Hib vaccine.
- Persistent/inconsolable crying for 3 hours or more after last dose of DTaP-IPV-Hib vaccine
- Pre-existing neurological conditions
- Previous pertussis disease
- Coagulation disorder (use appropriate gauge needle)
- Prematurity
- Family history of sudden infant death syndrome
- Convulsion within 48 hours of prior dose of DTaP-IPV-Hib
- Minor illness with or without a fever

Contraindications

- Moderate to severe acute illness with or without a fever
- Children over 59 months of age
- Allergy to any component of the vaccine or to a previous dose of DTaP-IPV-Hib consult MOH, controlled setting may be indicated.

Consult Medical Officer of Health

- For children who have experienced hypotonic hyporesponsive episodes following previous immunization with DTaP-IPV-Hib.

3.2 Immunization with Diphtheria, Tetanus, Pertussis and Polio (DTaP-IPV or Tdap-IPV)

Policy

The Newfoundland and Labrador schedule provides DTaP-IPV or Tdap-IPV for children at age 4 to 6 years, as a booster to the primary series. If child's immunization schedule has been interrupted, see Section 2 of this manual or the CIG. The Tdap-IPV product has a lower concentration of the diphtheria component, however provides protection as a booster dose.

Description of Vaccine

Combined preparation of toxoids (diphtheria and tetanus), acellular vaccine (pertussis) and inactivated vaccine (polio).

DTaP-IPV or Tdap-IPV is indicated for booster immunization of children age 4 to 6 years. Immunizes against diphtheria, tetanus, pertussis, and polio.

Related Information

- See product monograph for exact description of vaccine
- See Canadian Immunization Guide (current edition) for latex and product information
- Control of Communicable Diseases Manual (current edition)

Dose: 0.5 ml

Route: Intramuscular

Site: Vastus lateralis in newborns, preterm infants and infants less than 12 months of age.
Vastus lateralis or the deltoid muscle can be used for toddlers and older children.
Deltoid muscle is the preferred injection site in adolescents and adults.

Procedure and Preparation for Injection: Follow product monograph

Screening Guidelines: See section 1.5 for additional screening information

Screening Questions

- Is the child allergic to any component of the vaccine, as listed in the product monograph?
Yes: Defer immunization and consult with the MOH/designate. It may be necessary to immunize in a controlled setting.
- Does the child have a moderate to severe illness, with or without a fever?
Yes: Defer immunization with DTaP-IPV or Tdap-IPV vaccine until the child is well.
- Is the child on antibiotic medication?
Yes: Give vaccine. Antibiotic medication is not a contraindication to immunization, provided that the child is well enough to be immunized.

- Is the child seven years of age?
Yes: Do not give DTaP-IPV, Tdap-IPV may be administered, see delayed schedule in section 2.
- Has the child been previously immunized with oral polio vaccine (OPV)?
Yes: Give DTaP-IPV or Tdap-IPV. A series that has been started with OPV may be completed with the IPV preparation that is in DTaP-IPV or Tdap-IPV vaccine.

Not Contraindications

- High fever within 48 hours following last dose of a vaccine
- Persistent/inconsolable crying for 3 hours or more after last dose of a vaccine
- Pre-existing neurological conditions
- Previous pertussis disease
- Coagulation disorder (use appropriate gauge needle)
- Prematurity
- Family history of sudden infant death syndrome
- Convulsion within 48 hours of prior dose of DTaP-IPV or Tdap-IPV
- Minor illness with or without a fever

Contraindications

- Moderate to severe acute illness with or without a fever
- Allergy to any component of DTaP-IPV-Hib vaccine (consult MOH, controlled setting may be indicated)
- Children aged 7 years or older

Consult Medical Officer of Health

- For children who have experienced hypotonic hyporesponsive episodes following previous immunization with DTaP-IPV-Hib.

3.3 Immunization with Tetanus Diphtheria and Pertussis (Tdap)

Policy

The Newfoundland and Labrador schedule provides Tdap to the following cohorts:

- Children in Grade 9, at age 14 - 16 years. If child's immunization schedule has been interrupted, see Section 2 of this manual or the CIG.
- Health care workers see Section 8.4 of this manual for further description.
- Adult one dose of Tdap if never received previously in adolescence.
- Adult dose of Tdap ten years after adolescent booster, Td to be administered every ten years thereafter.
- Tdap may be used in control of outbreaks of pertussis upon advice of the MOH/designate.

Tdap and Pregnancy

- Tdap is recommended for pregnant women during each pregnancy irrespective of prior immunization history.
- Tdap is recommended between 27 and 32 weeks gestation. This option is supported by the strongest safety and effectiveness data, and allows enough time for the antibody response to fully develop in pregnancy.
- Evidence also supports providing Tdap vaccine over a wider range of gestational ages from 13 weeks up to the time of delivery in view of unique patient considerations.

Description of Vaccine

Combined preparation of toxoids (diphtheria and tetanus), acellular vaccine (pertussis). Tdap is indicated for booster immunization of children age 14-16 years, but may be used for children aged 7 years and over. Tdap protects against tetanus, diphtheria and pertussis.

Related Information

- See product monograph for exact description of vaccine
- See Canadian Immunization Guide (current edition) for latex and product information
- Control of Communicable Diseases Manual (current edition)

Dose: 0.5 ml

Route: Intramuscular

Site: Deltoid

Procedure and Preparation for Injection: Follow product monograph

Screening Guidelines: See section 1.5 for additional screening information

Screening Questions

- Is the person allergic to any component of the vaccine, as noted in the product monograph?
Yes: Defer immunization and consult with the MOH/designate. It may be necessary to immunize in a controlled setting.
- Has the person had a reaction following a previous dose of Tdap or any of the constituents of these vaccines?
Yes: Determine the nature and severity of the reaction. Consult with MOH/designate as required.
- Does the person have a moderate to severe illness, with or without a fever?
Yes: Defer Tdap until the person is well.
- Has the person received Td immunization recently?
Yes: Proceed with Tdap immunization if it is 10 years post-adolescent Tdap. There is no longer a time interval required between the administration of Td and Tdap.
- Has the person received Tdap immunization prior to entering grade 9?
Yes: There is no interval required between two doses of Tetanus and Diphtheria containing vaccines. Proceed with offering Tdap immunization with grade 9 cohort.

Not Contraindications

- Minor illness with or without a fever
- Antibiotic medication
- Coagulation disorder (use appropriate gauge needle)
- No previous doses of pertussis vaccine
- Previous pertussis illness
- Inhaled steroids

Contraindications

- Allergy to any component of Tdap or a previous dose of DTaP-IPV-Hib or DTaP-IPV
- Moderate to severe acute illness with or without a fever

Consult Medical Officer of Health

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

3.4 Immunization with Tetanus and Diphtheria Vaccine (Td)

Policy

The Newfoundland and Labrador schedule provides Td as a booster dose every 10 years for adults who have had a completed primary series and an adult dose of Tdap. This product is replaced by the Tdap product to ensure all adults receive at least one dose of the pertussis containing vaccine.

Description of Vaccine

Combined preparation of tetanus and diphtheria toxoids. Td is indicated for booster immunization of adults. Immunizes against diphtheria and tetanus.

Related Information

- See product monograph for exact description of vaccine
- See Canadian Immunization Guide (current edition) for latex and product information
- Control of Communicable Diseases Manual (current edition)

Dose: 0.5ml

Route: Intramuscular

Site: Deltoid

Procedure and Preparation for Injection: Follow product monograph

Screening Guidelines: See section 1.5 for additional screening information

Screening Questions

- Does the person have an allergy to any component of the vaccine as listed in the product monograph?
Yes: Defer immunization and consult with the MOH/designate as required. It may be necessary to immunize in a controlled setting.
- Has the person had a reaction following a previous dose of tetanus containing vaccine or any of the constituents of the vaccine?
Yes: Determine the nature and severity of the reaction. Consult with MOH/designate as required
- Does the person have knowledge of having received a tetanus and diphtheria toxoid containing vaccine in the last ten years?
No: Proceed with immunization.
Yes: Determine client's eligibility for tetanus containing vaccine.
- Does the person have a moderate to severe illness, with or without a fever?
Yes: Defer immunization with Td vaccine until the person is well.

- Has this adult had an adult dose of Tdap?
No: Give Tdap if there has been ten years since the adolescent dose of Tdap, then Td as booster every ten years thereafter.
- Do the vaccine depot have Td vaccine available?
No: Tdap vaccine can be administered if Td vaccine isn't available.

Not Contraindications

- Minor illness with or without a fever
- Antibiotic medication
- Coagulation disorder (use appropriate gauge needle)
- Inhaled steroids

Contraindications

- Allergy to any component of Td or a previous dose of DTaP-IPV-Hib
- Acute moderate to severe illness with or without a fever

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

3.5 Immunization with Hepatitis B Vaccine (HB)

Policy

The Newfoundland and Labrador schedule provides hepatitis B vaccine for children in grade six as a two dose schedule. The hepatitis B vaccine is indicated for active immunization against hepatitis B, pre-exposure, and post-exposure management. See Section 5 in Newfoundland and Labrador Immunization Manual for the policy related to the immunization program for high-risk groups.

Description of Vaccine

Recombinant vaccine containing purified hepatitis B surface antigen (HBsAg).

Related Information

- Product monograph for exact description of vaccine and latex content
- Canadian Immunization Guide (current edition)
- Control of Communicable Diseases Manual (current edition)

Dose: Please see Canadian Immunization Guide (CIG).

Route: Intramuscular

Site: Vastus lateralis in newborns, preterm infants and infants less than 12 months of age.
Vastus lateralis or the deltoid muscle can be used for toddlers and older children.
Deltoid muscle is the preferred injection site in adolescents and adults.

Procedure and Preparation for Injection: Follow product monograph.

Screening Guidelines: See section 1.5 for additional screening information.

Screening Questions

- Is the person allergic to any component of the vaccine, as listed in the product monograph?
Yes: Defer immunization and consult with the MOH/designate. It may be necessary to immunize in a controlled setting.
- Has the person had a reaction following a previous dose of hepatitis B vaccine or any of the constituents of the vaccine?
Yes: Determine the nature and severity of the reaction. Consult with MOH/designate as required.
- Does the person have a moderate to severe illness, with or without a fever?
Yes: Defer immunization with HB vaccine until person is well.
- If the person is in grade 6 but is not yet 11 years old do we give the HB vaccine?
Yes: Eligibility for HB vaccine is determined by grade level not age. The grade 6 cohort routinely receives 1.0 ml of HB vaccine at 0 & 6 months.

Not Contraindications

- Minor illness with or without a fever
- Antibiotic medication
- Coagulation disorder (use appropriate gauge needle)
- Breastfeeding

Contraindications

- Allergy to any component of hepatitis B vaccine
- Acute moderate to severe illness with or without a fever

Consult Medical Officer of Health

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

3.6 Immunization with Human Papillomavirus Vaccine (HPV-9)

Policy

The Newfoundland and Labrador schedule provides the HPV-9 vaccine for students in Grade 6 given in a two dose schedule.

Product Description

GARDASIL®9 is a Recombinant Human Papillomavirus 9-valent Vaccine. This vaccine is indicated for males and females ages 9 through 26 years for the prevention of y HPV types 6, 11, 16, 18, 31, 33, 45, 52 and 58 and diseases associated with HPV

Related Information

- See product monograph for exact description of vaccine
- See Canadian Immunization Guide (current edition) for latex and product information
- Control of Communicable Diseases Manual (current edition)

Dose: Administered in two (2) separate 0.5mL doses, using 0 and 6 months schedule.
See product monograph and CIG for interrupted vaccine schedule.

Route: Intramuscular

Site: Deltoid

Reconstitution Procedure and Preparation for Injection: See product monograph.

Screening Guidelines: See section 1.5 for additional screening information.

Screening Questions

- Has the person had a reaction following a previous dose of HPV vaccine or to any component of the vaccine, as listed in the product monograph?
Yes: Determine the nature and severity of the reaction. Do NOT give HPV vaccine in the case of previous anaphylactic reactions. Consult with MOH/designate as required.
- Has the individual developed symptoms of hypersensitivity after receiving a HPV vaccine?
Yes: Do not administer any further doses.
- Does the individual have a moderate to severe illness, with or without a fever?
Yes: Defer immunization with vaccine until individual is well.
- Is the individual pregnant?
Yes: Do not give vaccine.
- Is the individual considered immunocompromised?
Yes: Regardless of age immunocompromised individuals need (3) three doses of HPV vaccine at 0, 2 & 6 months. Two dose schedule do not apply.

- Is the individual 15 years or older when HPV vaccine series was started?
Yes: Will need (3) three doses of HPV vaccine at 0, 2 & 6 months.

Not Contraindications

- Minor illness with or without a fever
- Individual is on an antibiotic
- Breastfeeding
- Coagulation disorder (use appropriate gauge needle)

Contraindications

- Anaphylaxis to a previous dose of HPV vaccine or to any of the components of the vaccine
- Pregnancy
- Moderate to severe illness with or without a fever

Consult Medical Officer of Health

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

3.7 Immunization with Influenza (Inf) Vaccine

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, young children 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 and the general population.

Vaccine for the influenza season is available for distribution in the fall and is administered through public health, healthcare occupational health services, physicians' offices and pharmacies. Regional Health Authorities (RHA) should begin estimating required amounts early in the year, so that the vaccine can be ordered by the province and 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 6 months of age and older, particularly those who are at increased risk for complications from influenza. The publicly-funded influenza vaccine is administered **only** through public health clinics, RHA occupational health services, physician's offices and pharmacies just prior to and throughout the influenza season in fall and winter. Pharmacists in NL began delivery of influenza vaccine during the 2014-15 season and use the publicly funded influenza vaccine for recipients of the Newfoundland and Labrador Prescription Drug Program (NLPDP) only.

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

Several types of influenza vaccines are available in Canada. The NL public health program supplies predominantly quadrivalent inactivated influenza vaccine as well as an adjuvant trivalent inactivated vaccine for use in long term care and personal care homes. The composition of the products changes annually based on the World Health Organization (WHO) recommendations. Please refer to the individual product monograph for details.

Quadrivalent Inactivated Influenza Vaccine (QIV) was introduced in the 2015-16 season. It contains two types of A virus strains and two types of B virus strains. This is the main product used for all individuals 6 months of age and older and is supplied in multidose vials as well as single dose prefilled syringes.

Trivalent Inactivated Influenza Vaccine (TIV) had been in use for many years in NL. The vaccine contains three inactivated subtypes of influenza virus. In 2015-16 a TIV product was available with an adjuvant and was used for residents of Long Term Care and Personal Care Home settings who are 65 years of age and older. The addition of the adjuvant provides a higher efficacy level in seniors at high risk for complications related to influenza and will continue for this season.

The available products in NL include:

Type	Preparation	Route	CRMS code
Adjuvanted Inactivated influenza vaccine	Trivalent – with adjuvant	IM	Inf-3A
Inactivated influenza vaccine	Quadrivalent	IM	Inf-4

Related Information

- See product monographs for exact description and latex content of each vaccine
- See National Advisory Committee on Immunization/CIG 2018-19 seasonal influenza vaccine statement at:
<https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-statement-seasonal-influenza-vaccine-2018-2019.html>
- Control of Communicable Diseases Manual (current edition)

Quadrivalent Inactivated Vaccine (QIV)

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.

Dosage for QIV by Age:

Age	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 QIV with a minimum interval of 4 weeks between doses. Eligible children < 9 years of age who have properly received one or more doses of seasonal influenza vaccine in the past are recommended to receive one dose per season thereafter of either vaccine.

Route: Intramuscular

Site: Vastus lateralis in newborns, preterm infants and infants less than 12 months of age.
Vastus lateralis or the deltoid muscle can be used for toddlers and older children.
Deltoid muscle is the preferred injection site in adolescents and adults.

Reconstitution Procedure and Preparation for Injection: Once a multi-dose vial has been entered it must be discarded after **28 days** regardless of the expiry date, unless a shorter time has been specified by the manufacturer then this date would supersede. See product monograph for more specific reconstitution and injection preparation procedures.

Adjuvanted Trivalent Inactivated Influenza Vaccine (ATIV)

- Indicated for use in Long Term Care Facilities and Personal Care Homes for residents aged 65 years and older.

Dosage, Route and Site: 0.5 ml IM in the deltoid region of the upper arm.

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

Screening Guidelines: See section 1.5 for routine screening information.

Screening Questions for Inactivated Influenza Vaccines (QIV, TIV or ATIV)

- 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. Influenza vaccine of any type is contraindicated for those with a history of an anaphylactic reaction to a previous dose of any type of influenza vaccine.
- Has the individual developed Guillain-Barre Syndrome (GBS) within six weeks of influenza immunization?
Yes: Do not administer any further influenza vaccine without consultation with the MOH.
- Does the individual have a history of severe ocular-respiratory syndrome (ORS) after previous receipt of an influenza vaccine?
Yes: Do not administer any further influenza vaccine without consultation with the MOH.
- 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
- 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.
- History of Guillain-Barre Syndrome (GBS) within 6 weeks of previous influenza immunization
- History of severe ocular-respiratory syndrome (ORS) after previous receipt of an influenza vaccine?

Influenza vaccine is particularly recommended for the following persons:

(But is available for all those 6 months of age and older)

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 & asthma);
 - diabetes mellitus and other metabolic diseases;
 - cancer, immune compromising conditions (due to underlying disease and/or therapy);
 - renal disease;
 - anemia or hemoglobinopathy;
 - neurologic or neurodevelopment conditions;
 - morbid obesity (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 ≥ 60 years of age. (NL decision)
- All children 6 to 59 months of age (< 5 years of age).
- Aboriginal Peoples

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; and
 - 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

3.8 Immunization with Measles, Mumps and Rubella (MMR)

Policy

The Newfoundland and Labrador schedule provides MMR vaccine to the following individuals who are unable to receive MMRV:

- Children who have had varicella infection after one year of age and thus do not require MMRV at 12 or 18 months of age.
- Children born prior to January 1st 2013 who are not eligible for MMRV at age 18 months
- Adolescents over the age of 12 years and adults who have not been immunized or are considered to be at risk for infection (see CIG or section 2 of this manual for delayed or interrupted schedules).
- HCW who are considered non-immune to measles, mumps or rubella.

Related Information

- See product monograph for exact description of vaccine
- See Canadian Immunization Guide (current edition) for latex and product information
- Control of Communicable Diseases Manual (current edition)

Dose: 0.5 ml

Route: Subcutaneously

Site: Subcutaneous tissue in the upper arm
Note: This must be different anatomical site at least 2.5 cm (1 inch) away than other vaccines.

Procedure and Preparation for Injection: Follow product monograph

Screening Guidelines: See section 1.5 for additional screening information

Screening Questions

- Is the child 12 months of age or older?
Yes: Give MMRV 12 and 18 months of age
- Was the child born prior to January 1, 2013?
Yes: Give MMR, eligibility for MMRV at 18 months is defined by date of birth.
- Is the person equal to or older than 13 years?
Yes: Do not give MMRV, give MMR and univalent Var as there is no indication for use of MMRV in persons equal to or older than age 13 years of age. Persons 13 years & older will require two doses of univalent varicella vaccine 4 weeks apart to complete the series.

- Has the child had an anaphylactic reaction to a previous dose of MMR or any of the components listed in the product monograph?
Yes: Do NOT give MMR; anaphylaxis to a previous dose is a contraindication, as is a severe allergy to any components of the vaccine. Consult with the MOH/designate.
- Does the child have a moderate to severe acute illness with or without a fever?
Yes: Defer MMR until person is well.
- Is the child immunocompromised?
Yes: MMR should not be given to any person who has severe immunodeficiency. See CIG and defer MMR and consult with the MOH/designate as required.
- Have the mom been taking immunosuppressant therapy during pregnancy?
Yes: Administer MMR vaccine to the child when indicated and age appropriate.
- Is the child taking steroids or corticosteroid therapy?
Yes: Defer MMR and consult with the MOH/designate as required. Depending on the route, dose and duration of therapy, there may be no need to delay administration of MMR. Low to moderate doses of steroid therapy has not been associated with compromised immunity.
- Is there a recent history of blood transfusion or immune globulin therapy?
Yes: Defer MMR. There is a requirement for an interval of at least 3 months between the administration of immune globulins or blood and live measles vaccination. See the CIG for additional information.
- Does the child have any febrile respiratory or active febrile illness (including TB)?
Yes: Defer MMR until person is well.
- Is there a possibility that the person may be pregnant?
Yes: Defer MMR until the postpartum. Advise that pregnancy should be avoided for **one** month following immunization (see CIG).
- If the child has received a dose of MMR prior to the first birthday should they still be given MMRV at 12 and 18 months of age?
Yes: Give MMRV at 12 and 18 months of age, a dose given prior to the first birthday is disregarded. Eligibility for MMRV is defined by age and date of birth.
- The person requires a tuberculosis skin test, can they receive MMR?
Yes: Can be done on the same day as the administration of the TST. MMR can suppress a positive TB skin test, therefore if TB testing is required it should be done the same day or delayed for 4 weeks after the MMR is given. Refer to CIG or Section 3 of the Newfoundland Tuberculosis Guideline for more information.

Not Contraindications

- Minor illness with or without a fever
- Coagulation disorder (use appropriate gauge needle)
- Contact with a case of active tuberculosis
- History of an allergy to eggs, chicken, feathers or egg products
- Breastfeeding
- Recently been exposed to measles
- Uncertain immunization history re. MMR

Contraindications

- Allergy to any component of MMR, MMRV or a previous dose of MMR or MMRV (consult MOH, controlled setting may be indicated)
- Pregnancy
- Moderate to severe acute illness with or without a fever
- Any febrile respiratory or active febrile illness (including TB)
- Persons who are immunocompromised
- Children younger than 12 months

Consult Medical Officer of Health

- For children taking steroids or corticosteroid therapy
- For children with an allergy to any component of MMR, MMRV or a previous dose of MMR or MMRV
- For children under age 12 months traveling to an area of endemic measles

3.9 Immunization with Measles, Mumps and Rubella & Varicella (MMRV)

Policy

The Newfoundland and Labrador provincial immunization schedule provides two doses of MMRV for children born on or after January 1st, 2013 given at age 12 and 18 months. The first dose of MMRV must be given on or after the first birthday.

Description of Vaccine

The combined measles, mumps, rubella and varicella vaccine is a live attenuated lyophilized preparation.

Related Information

- See product monograph for exact description of vaccine
- See Canadian Immunization Guide (current edition) for latex and product information
- Control of Communicable Diseases Manual (current edition)

Dose: 0.5 ml

Route: Subcutaneously

Site: Subcutaneous tissue in the upper arm

Note: This must be different anatomical site at least 2.5 cm (1 inch) away than other vaccines.

Procedure and Preparation for Injection: Follow product monograph

Screening Guidelines: See section 1.5 for additional screening information

Screening Questions

- Has the child had chickenpox after one year of age?
Yes: Do not give MMRV, only MMR is required. *Note:* if person has or had illness prior to one year give MMRV.
No: Unsure of history of varicella; give MMRV at 12 and 18 months of age.
- Has the child received a previous dose of MMRV or univalent varicella vaccine?
Yes: The recommended interval between 2 doses of varicella containing vaccines is at least 3 months. However a 4 week interval can be used if rapid complete protection is required.
No: Give MMRV at 12 and 18 months of age with a minimum interval of 4 weeks.
- Was the child born prior to January 1st 2013 but has not yet received the 18 month scheduled immunization; can this child receive MMRV at the 18 month clinic visit?
No: Eligibility is defined by birthdate thus any child born prior to January 1st 2013 is not eligible for the MMRV at this time but is eligible for MMR.

- Has the child had an anaphylactic reaction to a previous dose of MMRV or any of the components as listed in the product monograph?
Yes: Do **NOT** give MMRV; anaphylaxis to a previous dose is a contraindication, as is a severe allergy to any components of the vaccine.
- Is the child immunocompromised?
Yes: MMRV should not be given to any person who has severe immunodeficiency. There are also warnings and precautions related to close contacts that are immunocompromised. See product monograph and CIG in this case and consult with the MOH/designate as required.
- Is the individual a post BMT/SCT recipient?
Yes: Regardless of age MMRV should not be administered. If Varicella protection is required, monovalent varicella vaccine is to be administered.
- Have the mom been taking immunosuppressant medications during pregnancy?
Yes: Administer MMRV vaccine to the child when indicated and age appropriate.
- Is the child taking steroids or corticosteroid therapy?
Yes: Defer MMRV and consult with the MOH/designate as required. Depending on the route, dose and duration of therapy, there may be no need to delay administration of MMRV. Low to moderate doses of steroid therapy has not been associated with compromised immunity.
- Is there a recent history of blood transfusion or immune globulin therapy?
Yes: Defer MMRV. There is a requirement for an interval of at least 3 months between the administration of immune globulins or blood and live measles vaccination. Please see the product monograph and CIG for additional information.
- Does the child have a moderate to severe acute illness with or without a fever?
Yes: Defer MMRV until person is well.
- Does the child have any febrile respiratory or active febrile illness (including TB)?
Yes: Defer MMRV until person is well.
- Does the vaccine recipient live with a person who is immunocompromised?
Yes: Administer MMRV as appropriate for age and eligibility. If the vaccine recipient develops a varicella-like rash, the rash should be covered and the vaccinee should avoid direct contact with the immunocompromised person for the duration of the rash. Secondary transmission from people with post-vaccination varicella-like rashes can occur rarely.
- Is the person equal to or older than 13 years of age?
Yes: Do not give MMRV, give MMR and Var as there is no indication for use of MMRV in persons equal to or older than age 13 years of age. Persons 13 years & older will require two doses of univalent varicella vaccine 4 weeks apart to complete the series
- Is there a possibility that the person may be pregnant?
Yes: Defer MMRV until the postpartum. Advise that pregnancy should be avoided for **one month** following immunization (see CIG).

- If the child has received a dose of MMR or MMRV prior to the first birthday should they still be given a dose at 12 and 18 months of age?
Yes: Give MMRV at 12 and 18 months of age, a dose given prior to the first birthday is disregarded.
- The person requires TB testing; can they receive MMRV?
Yes: Can be done on the same day as the administration of the TST. MMRV can suppress a positive TB skin test, therefore if TB testing is required it should be done the same day or delayed for 4 weeks after the MMRV is given. Refer to CIG or Section 3 of the Newfoundland Tuberculosis Guideline for more information.

Note: Salicylates should be avoided for 6 weeks after MMRV, as Reye's syndrome has been reported following the use of salicylates during natural varicella infection. Acetaminophen, Advil and Motrin are not salicylates.

Not Contraindications

- Minor illness
- Coagulation disorder (use appropriate gauge needle)
- Contact with a case of active tuberculosis
- History of an allergy to eggs, chicken, feathers or egg products
- Breastfeeding
- Recently been exposed to measles
- Uncertain immunization history re MMR or MMRV

Contraindications

- Allergy to any component of MMRV or a previous dose of MMRV (consult MOH, controlled setting may be indicated)
- Pregnancy
- Moderate to severe acute illness with or without a fever
- Any febrile respiratory or active febrile illness (including TB)
- Persons who are immunocompromised
- Persons equal to or older than 13 years should not receive MMRV

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

3.10 Immunization with Varicella (Var)

Policy

The Newfoundland and Labrador schedule provides varicella vaccine for children one year and older and adults, who have not had varicella disease, including:

- Children with a history of varicella illness prior to one year of age will receive MMRV at 12 and 18 months of age. Children with a history of varicella illness after one year will receive MMR at 12 and 18 months of age if eligible.
- At school entry (age 4-6 years) at the same visit as DTaP-IPV or Tdap-IPV, if not previously immunized.
- Health Care Workers who are determined to be non-immune (see section 8.4 of manual for eligibility).

Description of Vaccine

When reconstituted with sterile water one dose (0.5 ml) contains live attenuated virus for subcutaneous injection.

Related Information

- See product monograph for exact description of vaccine
- See Canadian Immunization Guide (current edition) for latex and product information
- Control of Communicable Diseases Manual (current edition)

Dose: 0.5 ml

Route: Subcutaneously

Site: Subcutaneous tissue in the upper arm
Note: This must be different anatomical site at least 2.5 cm (1 inch) away than other vaccines.

Procedure and Preparation for Injection: Follow product monograph

Screening Guidelines: See section 1.5 for additional screening information

Screening Questions

- Has the person had chickenpox after one year of age?
Yes: Do not give varicella containing vaccine.
No or unsure of history of chickenpox: Give varicella containing vaccine according to age of cohort.
- Has the person had an anaphylactic reaction to a previous dose of Varicella or any components as listed in the product monograph?
Yes: Do not give Varicella.

- Does the person have moderate to severe acute illness with or without fever?
Yes: Defer Var until the person is well. If the person is on chronic salicylic acid therapy or antiviral drugs consult CIG.
- Has the mom has been taking immunosuppressant medications during pregnancy?
Yes: Administer Varicella vaccine to the child when indicated and age appropriate.
- Is the person immunocompromised?
Yes: Varicella vaccine may be given in some cases, consult your local MOH/designate.
- Is the person taking corticosteroid therapy?
Yes: Defer Varicella vaccine and consult with the MOH/designate as required. Depending upon the route, dose and duration of therapy, there may be no need to delay the administration of Varicella vaccine. Low to moderate doses of steroid therapy has not been associated with compromised immunity.
- Is there a recent history of blood transfusion or immune globulin therapy?
Yes: Defer Varicella vaccine. There is a requirement of minimum of three months interval between the administration of immune globulins or blood and live vaccines. Refer to CIG for further information.
- Is there a possibility that the person may be pregnant?
Yes: Defer Varicella vaccine until the postpartum. Advise that pregnancy should be avoided for one month after live vaccine.
- The person requires TB testing, can they receive Var?
Yes: Can be done on the same day as the administration of the TST. Var can suppress a positive TB skin test, therefore if TB testing is required it should be done the same day or delayed for 4 weeks after the Var is given.
- The person has active untreated TB can they receive Varicella vaccine?
No: Consult with MOH/ designate.

Note: Salicylates should be avoided for 6 weeks after Varicella vaccine, as Reye's syndrome has been reported following the use of salicylates during natural varicella infection. Fever reducing medication, Advil and Motrin are not salicylates.

Not Contraindications

- Minor illness with or without fever
- Contact with an active case of TB
- History of an allergy to eggs, chicken, feathers or egg products
- Breastfeeding
- Coagulation disorder (use appropriate gauge needle)
- Uncertain history of immunization or varicella disease
- Taking antibiotics

Contraindications

- Hypersensitivity to any component or the vaccine, or to a previous dose of Varicella vaccine
- Pregnancy
- Persons with active untreated TB
- Persons who are immunocompromised
- Moderate to severe acute illness with or without fever
- Persons who have had chickenpox after 1 year of age
- History of blood transfusions or immune globulin therapy within the last 3 months

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
- For persons who are immunocompromised
- For persons receiving corticosteroid therapy

3.11 Immunization with Meningococcal Conjugate (Men-C, Men-C-ACYW 135)

Policy

The Newfoundland and Labrador schedule provides meningococcal conjugate vaccine for children aged 12 months, born after January 1 2004. This vaccine is indicated for active immunization of children aged two months or older and adults or close contacts of a person with meningococcal type C disease.

The publicly funded program includes:

- One dose of Men-C-C given at 12 months of age or after, at the same clinic visit as MMRV or up to the end of grade 3 if the child has not received a previous dose of Men C-C.
- Children in grade 4 will receive one dose of Men-C-ACYW135.

Description of Vaccine

Each vial of Men-C-C vaccine contains 0.5mL suspension of the *Neisseria meningitidis* serogroup C oligosaccharide conjugate.

Each vial of Men-C-ACYW135 vaccine contains 0.5mL suspension of the *Neisseria meningitidis* serogroups A, C, Y and W135 capsular polysaccharide antigens individually conjugated to diphtheria toxoid protein.

Related Information

- See product monograph for exact description of vaccine
- See Canadian Immunization Guide (current edition) for latex and product information
- Control of Communicable Diseases Manual (current edition)

Dose: 0.5 ml

Route: Intramuscular

Site: Vastus lateralis in newborns, preterm infants and infants less than 12 months of age.
Vastus lateralis or the deltoid muscle can be used for toddlers and older children.
Deltoid muscle is the preferred injection site in adolescents and adults.

Procedure and Preparation for Injection: Follow product monograph

Screening Guidelines: See section 1.5 for additional screening information

Screening Questions

- Has the child had an anaphylactic reaction to a previous dose of meningococcal vaccine or are they allergic to a component of the vaccine as listed in the product monograph?
Yes: Do NOT give Men-C-C or Men-C-ACYW135 vaccine.

- Does the child have a moderate to severe acute illness with or without a fever?
Yes: Defer Men-C-C or Men-C ACYW135 vaccine until person is well.
- Is the child immunocompromised?
Yes: Men-C-C or Men-C-ACYW135 vaccine may be given but the person may not mount the same immune response.
- Has the child had a previous dose of polysaccharide meningococcal vaccine?
Yes: Men-C-C or Men-C-ACYW135 may be given as long as a six month period has passed since the original vaccination.
- Has the child received a previous dose of meningococcal conjugate vaccine?
Yes: While routinely given at 12 months of age Men-C-C can be given up to the end of grade three, followed by Men-C-ACYW135 in grade 4; the recommended interval between the two vaccines is 8 weeks; if an accelerated schedule is required the vaccine interval may a minimum of 4 weeks. If the Men-C-C was given prior to 12 months of age offer one dose of Men-C-C at 12 months of age.
- Has child previously received a dose of Men-C-ACYW135 prior to grade 4?
Yes: If the dose was given within a year, do not offer Men-C-ACYW135, if it has been more than a year offer the second dose of Men-C-ACYW135.

Not Contraindications

- Minor illness with or without a fever
- Coagulation disorder (use appropriate gauge needle)
- Active tuberculosis
- Contact with a case of active tuberculosis
- Previous dose of meningococcal polysaccharide vaccine or uncertain immunization history or meningococcal disease
- Taking antibiotics

Contraindications

- Known hypersensitivity to any component see above
- Pregnancy consult with MOH
- Moderate to severe acute illness with or without a fever
- Previous dose of meningococcal polysaccharide vaccine with the original dose received in the last 6 months

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

3.12 Immunization with Pneumococcal Conjugate Vaccine (Pneu-C-13)

Policy

The Newfoundland and Labrador schedule provides pneumococcal conjugate vaccine to the following:

1. One dose of Pneu-C-13 for all children at 2, 4, and 12 months.
2. One dose of Pneu-C-13 at 2, 4, 6 and 12 months for high risk children at increased risk for invasive pneumococcal disease or complications of pneumococcal infections. Those at high risk include, but are not limited to:
 - Chronic cardiac disease
 - Chronic respiratory disease (includes individuals requiring medical attention for asthma in the last 12 months)
 - Chronic renal disease
 - Chronic neurological disease with risk of an aspiration, or cerebrospinal fluid leak
 - Documented immune disorder associated with recurrent infections
 - Diabetes mellitus
 - Hodgkin's disease, lymphoma, multiple myeloma and induced immunosuppression
 - Bronchial pulmonary dysplasia or other severe respiratory disease related to prematurity
 - Asplenia or splenic dysfunction
 - Cirrhosis of the liver
 - Sickle-cell disease
 - Persons with cochlear implants
 - Aboriginal children who live in remote and rural communities.
3. For children age 7 months through 59 months of age not previously immunized with pneumococcal vaccine the following schedule applies:

Age at First Dose	Total number of 0.5 mL doses
7-11 months of age	3*
12-23 months of age	2†
≥ 24 months through 5 years of age (prior to the 5 th birthday)	1

*2 doses at least 4 weeks apart; third dose after the one-year birthday, separated from the second dose by at least 2 months.

†2 doses at least 2 months apart

4. The Pneumococcal Conjugate 13 and Pneumococcal Polysaccharide 23 vaccine program is available for children age ≥24 months and other cohorts who are at increased risk for disease; see section 5.4 of the Newfoundland and Labrador Immunization Manual for a description of these groups.

Description of Vaccine

Each 0.5 ml of Pneu-C-13 contains 13 pneumococcal serotypes with diphtheria CRM197 Protein

Related Information

- See product monograph for exact description of vaccine
- See Canadian Immunization Guide (current edition) for latex and product information
- Control of Communicable Diseases Manual (current edition)

Dose: 0.5 ml

Route: Intramuscular

Site: Vastus lateralis in newborns, preterm infants and infants less than 12 months of age.
Vastus lateralis or the deltoid muscle can be used for toddlers and older children.
Deltoid muscle is the preferred injection site in adolescents and adults.

Procedure and Preparation for Injection: Follow product monograph.

Screening Guidelines: See section 1.5 for additional screening information.

Screening Questions

- Has the child had an anaphylactic reaction to a previous dose of Pneu-C-13 or component of the vaccine as listed in the product monograph?
Yes: DO NOT give Pneu-C-13.
- Does the child have a moderate to severe illness, with or without a fever?
Yes: Defer immunization with vaccine until child is well.
- Does the person require both Pneu-P-23 and Pneu-C-13 vaccine?
Yes: Minimum interval between doses of conjugate pneumococcal vaccine or conjugate pneumococcal and Pneu-P-23 vaccine is 8 weeks. If Pneu-P-23 and Pneu-C-13 are both required then give the Pneu-C-13 first followed by a dose of Pneu-P-23 (if the child is 2 years or older) at least 8 weeks later. If Pneu-P-23 have been administered, the Pneu-C-13 dose should be administered at least 1 year later.

For clarity on Pneumococcal vaccine scheduling refer to the CIG:
<http://www.phac-aspc.gc.ca/publicat/cig-gci/p04-pneu-eng.php>

Not Contraindications

- Mild illness
- Child is on an antibiotic
- Coagulation disorder (use appropriate gauge needle)

Contraindications

- Anaphylaxis to a previous dose of Pneu-C-13 or to any of the components of the vaccine or the stopper.
- Acute moderate to severe illness with or without a fever

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

3.13 Immunization with Rotavirus vaccine (Rot-5)

Policy

The Newfoundland and Labrador provincial immunization schedule provides three doses of pentavalent rotavirus vaccine for children born on or after April 1 2018 given at 2, 4, and 6 months of age.

Product Description

Rot-5 is an oral vaccine that contains live, attenuated human rotavirus. The suspension is presented in a mono-dose oral applicator for oral application.

Related Information

- See product monograph for exact description of vaccine
- See Canadian Immunization Guide (current edition) for latex and product information
- Control of Communicable Diseases Manual (current edition)

Dose: 2 ml administered **orally**. Give entire contents of oral applicator.
See product monograph for interrupted vaccine schedule.

Route: Oral. **Do not inject Rot-5.**

Site: PO

Screening Guidelines: See section 1.5 for additional screening information.

Screening Questions

- Has the child reached 15 weeks of age?
Yes: Do not give first dose of Rotavirus vaccine. Vaccination should not be initiated in infants aged 15 weeks or older, as the safety of providing the first dose of Rotavirus vaccine in older infants is not known.
- Has the child reached 8 months of age?
Yes: Do not give Rotavirus vaccine. All doses of Rotavirus vaccine must be completed before 8 months of age.
- Has the mom been taking immunosuppressant medications during pregnancy?
Yes: Rotarix and other live vaccines are deferred. Temporary immunosuppression in the infant may last up to 6 months after the mother's last dose of immunosuppressant medication. Attending physician should be consulted during pregnancy to determine if a live vaccine can be given to the infant.
- Has the child had a reaction following a previous dose of this or other rotavirus vaccines or to any component of the vaccine?
Yes: Do NOT give vaccine. Consult with MOH for direction.
- Does the child have a severe illness, with a fever?
Yes: Defer immunization until child is well.

- Does the child have vomiting or diarrhea?
Yes: Defer immunization until child is well.
- Does the child have a history of intussusception?
Yes: Do NOT give vaccine.
- Does the child have an uncorrected congenital malformation of the gastrointestinal tract that could lead to intussusception?
Yes: Do NOT give vaccine.
- Does the child have Severe Combined Immunodeficiency disorder (SCID)?
Yes: Do NOT give vaccine.
- Does the child have a suspected or known immunocompromising condition or receiving immunosuppressive therapy/treatment?
Yes: Consult with MOH for direction.

Not Contraindications

- Minor illness without a fever
- Individual is on an antibiotic
- Breastfeeding
- Consumption of food or water before or after the vaccine

Contraindications

- History of intussusception.
- Uncorrected congenital malformations of the gastrointestinal tract that would predispose for intussusception.
- Severe Combined Immunodeficiency (SCID).
- History of hypersensitivity to the Rot-5 vaccine or any ingredient in the vaccine formulation or component of the container.

Consult Medical Officer of Health

- Allergy to any component of the vaccine or to a previous dose of rotavirus vaccine. Consult MOH, controlled setting may be indicated.
- If the child has a suspected or known immunocompromising condition or is receiving immunosuppressive therapy/treatment.
- If the mother has been taking immunosuppressant therapy during pregnancy she should consult with her attending physician to determine whether a live vaccine can be given to the infant.