Yukon Immunization Program Manual

Section 8 - Biological Products

MMR & MMRV Vaccines

SECTION 8 – BIOLOGICAL PRODUCTS

Contents

2024 March	
Measles/Mumps/Rubella Vaccine (Live Attenuated Viral) Priorix® **Supplier: GlaxoSmithKline, Priorix®**	
INDICATIONS	**INITIAL SERIES**
(1) Infants at 12 months of age	**(3) Dose 1:** 0.5 ml **SC** **Dose 2:** 0.5 ml **SC** at 4-6 years ❶ (school entry) if not received previously Children entering school who require both a 2nd dose of MMR and of varicella vaccine may be immunized using combination MMRV (measles, mumps, rubella, varicella) vaccine.
(2) Select special populations	**(2)** As indicated in Section 5 – Immunization of Special Populations.
(3) Infants from 24 weeks but <12 months of age, if travelling to endemic areas. http://www.who.int/immunization/monitoring_surveillance/burden/vpd/surveillance_type/active/measles_monthlydata/en/	**(4) One dose of** 0.5 ml **SC** (upon return, give 2 additional doses at routine times)
(5) All individuals who require protection against measles, mumps, OR rubella **(see special considerations p.35)**	**(6) Dose 1:** 0.5 ml **SC** **Dose 2:** 0.5 ml **SC** (4 weeks later)
ADMINISTRATION	• Product needs to be reconstituted. Use the diluent provided with the vaccine. • Administer the entire volume of reconstituted product, which may be 0.5 – 0.7 mL
SEROLOGICAL TESTING	Serological testing is not routinely recommended before or after immunization.
BOOSTER DOSE	No booster doses are recommended at this time.
CONTRAINDICATIONS	1. History of anaphylactic reaction to a previous dose of a measles/mumps/rubella-containing vaccine, to any component of the product (See SPECIAL CONSIDERATIONS). 2. Persons whose immune status may be suppressed as the result of disease or therapy consult the appropriate physician (i.e., either the primary care physician most familiar with the client's current medical status or a medical specialist) and consult the Immunization Program Manager or CMOH prior to administration. For high risk/immunocompromised clients only: separate the administration of MMR and varicella vaccine by least 4 weeks (See SPECIAL CONSIDERATIONS).

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CONTRAINDICATIONS (continued)	3. Family history of congenital immunodeficiency. See Yukon Immunization Program Manual, Section 4, Contraindications and Routine Precautions for Immunization. 4. Pregnancy: Counsel female recipients to avoid pregnancy for 1 month following immunization. Risk is theoretical and not observed. Inadvertent immunization during pregnancy is not considered a medical indication for therapeutic abortion and the pregnant woman should be reassured that teratogenicity from the vaccine has not been observed. 5. Physician-diagnosed significant thrombocytopenia after first dose of a MMR vaccine with no other cause identified. In such individuals the risk of recurrence of thrombocytopenia following a second dose of measles-containing vaccine is not known. Testing to confirm immunity to measles and mumps, the components for which a 2nd dose is recommended to ensure optimal protection, may help inform the decision.
VACCINE COMPONENTS	**Potential allergens:** neomycin sulphate, egg protein (SEE SPECIAL CONSIDERATIONS). **Other components:** amino acids, lactose, mannitol, sorbitol.
PRECAUTIONS	• MMR immunization should be given on the same day or delayed until 4 weeks after administration of any other live vaccine. • For immunocompromised clients only: separate administration of MMR and varicella vaccine by at least 4 weeks. For additional information see Special Populations, Section 5 • Do TB skin testing on the same day as MMR immunization, or delay TB skin testing for ≥ 4 weeks. • Recent administration of an immune globulin preparation or blood product (see CIG, 2013, Recent Administration of Human Immune Globulin Products http://www.phac-aspc.gc.ca/publicat/cig-gci/p01-10-eng.php

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PRECAUTIONS (continued)	• Woman who receive Rhlg postpartum and are eligible for MMR vaccine should generally wait 3 months before being vaccinated with this vaccine. However, if there is a risk of exposure to measles, mumps or rubella, a risk of pregnancy in the 3-month postpartum period, or a risk of the vaccine may not be given later, MMR vaccine may be given prior to discharge with a second dose at the recommended interval if indicated. If MMR vaccine is given within 3 months of receipt of Rhlg, serologic testing for rubella should be done 3 months postpartum and at least 1 month after the final dose. Women who have not mounted an antibody response should be revaccinated**.**
ADVERSE EVENTS	**Local**: Pain, redness, swelling, induration, wheal and flare reaction, urticarial. **Systemic**: Moderate fever, rash, malaise, headache, and nausea, myalgia, and paraesthesia; thrombocytopenia; encephalitis. Acute transient arthritis or arthralgia is uncommon in children, but frequency and severity increases with age. 25% of rubella susceptible post-pubertal females may experience arthralgia, and 10% may have arthritis-like signs and symptoms. Rubella vaccine does not cause chronic arthropathy.
SPECIAL CONSIDERATIONS	• In view of the cumulative data indicating the safety of MMR immunization in people with a history of anaphylactic hypersensitivity to hens' eggs NACI recommends that such individuals should be immunized according to guidelines without special precaution. As for all vaccines, NACI recommends immunization by personnel with the capability to manage adverse events including anaphylaxis following immunization.

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SPECIAL CONSIDERATIONS (continued)	**Consider as immune** who have had any of the following:
	Measles; consider as immune:
	• Birth date before January 1, 1970 (January 1, 1957 for health care workers) ❷;
	• Birth date on or after January 1, 1970 (January 1, 1957 for health care workers) ❷ AND
	  ○ Laboratory evidence of immunity to; or
	  ○ Documentation of 2 doses of a live measles-containing vaccine at ≥ 12 months of age and given at least 4 weeks apart.
	Mumps; consider as immune:
	• Birth date before January 1, 1970 (January 1, 1957 for health care workers) ❷
	• Birth date on or after January 1, 1970 (January 1, 1957 for health care workers) AND
	  ○ Prior clinical diagnosis of acute mumps and laboratory confirmation of same; or
	  ○ Documentation of 1 dose of a live mumps-containing vaccine for any susceptible adult born ≥1970. The following populations require documentation of 2 doses: children as per routine schedule; students of post-secondary educational settings and travellers to outside of North America. Health care workers require documentation of 1 dose if born between January 1, 1957 and December 31, 1969; 2 doses if born on or after 1970. To be considered valid all doses must be given at 12 months of age and older. If 2 doses are required they must be separated by 4 weeks.
	Rubella; consider as immune:
	Health care workers:
	• There is no age above which immunity against rubella can be assumed for health care workers.
	All Others:
	• Birth date before January 1, 1957
	• Birth date on or after January 1, 1957 AND
	• Documented receipt of one dose of live rubella virus vaccine (most often given as MMR)
	• Laboratory evidence of rubella immunity; or laboratory confirmed acute rubella infection.

❶ In special circumstances and in discussion with immunization providers, clients may receive their second dose of MMR vaccine as soon as 18 months of age provided that at least 4 weeks have passed since their first dose of MMR vaccine. However, clients should follow the routine schedule (doses at 12 months and 4-6 years) as closely as possible for the best immune response. Special circumstances may include but are not limited to hard to reach populations or travel interfering with the immunization schedule. Consultation with the Yukon Immunization Program is not required.

❷ These persons are generally assumed to have acquired immunity to measles or mumps from natural infection. There may be susceptible individuals in this age group, however, and those without a history of measles or mumps vaccine or disease may be considered susceptible and offered MMR vaccine per the routine schedule.

PROGRAM NOTES

- Minimum age of 18 months for the second dose of MMR vaccine added March 2024.

The following tables summarize the number of doses of MMR vaccine recommended for Yukon residents based on its constituent components:

Health care workers

Year of birth	Measles	Mumps❷	Rubella❶	MMR vaccine
Prior to 1957	0 doses	0 doses	1 dose	1 dose
1957 – 1969	2 doses	1 dose		2 doses
1970+		2 doses		2 doses

All others

Year of birth	Measles	Mumps❷	Rubella❶	MMR vaccine
Prior to 1957	0 doses	0 doses	0 doses	0 dose
1957 – 1969			1 dose	1 dose
1970+	2 doses	1 or 2 doses		2 doses

❶One dose of MMR for rubella protection is recommended for all health care workers regardless of age, and for adults born after 1956 who do not have documentation of receiving 1 dose of rubella containing vaccine on / after their first birthday or laboratory evidence of immunity or laboratory confirmed rubella.
❷At least one dose of mumps vaccine is recommended for any susceptible adult born in 1970 and later. The following should receive two doses: children as per routine schedule, non-immune health care workers, students of post-secondary educational settings and travelers to outside of North America. Health Care workers should receive 1 dose if born between January 1, 1957 – December 31, 1969; 2 doses if born on or after 1970.

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Measles, Mumps, Rubella and Varicella Vaccine (MMRV) PRIORIX-TETRA® **Supplier: GlaxoSmithKline Inc., PRIORIX-TETRA®**	
INDICATIONS	**INITIAL SERIES**
(1) School entry dose **(4 - 6 years of age)❶❷**	**(1)** Routinely as second dose at 4 to 6 years of age: **1 Dose given as 0.5 mL up to 0.7 mL SC** (see ADMINISTRATION)
ADMINISTRATION	• This product needs to be reconstituted. The reconstituted vaccine should be administered as soon as possible, but may be kept up to 8 hours in the refrigerator (2 to 8ºC) • The dose volume should be 0.5 mL after reconstitution. • This volume should be given via the SC route.
CONTRAINDICATIONS	1. History of anaphylactic reaction to a previous dose of measles, mumps, rubella or varicella-containing vaccine or any component of MMRV (See SPECIAL CONSIDERATIONS). 2. Persons with impaired immune function, including primary or secondary immunodeficiency disorders. Such individuals should be offered MMR and varicella vaccines by separate injection if indicated in Section 5: Special Populations. See also separate MMR and varicella vaccine product pages. 3. Pregnancy: Counsel female recipients to avoid pregnancy for 1 month following immunization. Risk is theoretical and has not been observed. Inadvertent immunization during pregnancy is not considered a medical indication for therapeutic abortion and the pregnant woman should be reassured that teratogenicity from the vaccine has not been observed. 4. Physician-diagnosed significant thrombocytopenia after first dose of MMR-containing vaccine with no other cause identified. In such individuals the risk of recurrence of thrombocytopenia following a second dose of measles-containing vaccine is not known. Testing to confirm immunity to measles and mumps, the components for which a 2nd dose is recommended to ensure optimal protection, may help inform the decision. 5. Active untreated TB. 6. Recent administration of an immune globulin preparation or blood product (see CIG, 2013, Recent Administration of Human Immune Globulin Products http://www.phac-aspc.gc.ca/publicat/cig-gci/p01-10-eng.php).

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REINFORCEMENT	No booster doses are recommended at this time.
SEROLOGICAL TESTING	Serological testing is not routinely recommended before or after immunization.
PRODUCT COMPONENTS	**Potential allergens:** neomycin sulphate, egg protein (See SPECIAL CONSIDERATIONS). **Other components**: amino acids, lactose, mannitol, sorbitol.
PRECAUTIONS	• Those ≤ 18 years of age should avoid taking salicylates for 6 weeks following immunization with MMRV. This is based on the association between salicylate use and wild type varicella infection; Reye syndrome has not been reported in association with varicella vaccine. NACI recommends that children and teens on chronic salicylate therapy should be considered for immunization with close subsequent monitoring. • MMRV immunization should be given on the same day or delayed until 4 weeks after administration of any other live vaccine. • TB skin testing should be completed on the same day as MMRV immunization or after an interval ≥ 4 weeks.
SPECIAL CONSIDERATIONS	NACI recommends that egg allergic individuals (including those who have experienced anaphylaxis following egg ingestion) can be immunized with MMR containing vaccine in any setting attended by immunization service providers who are following standard vaccine administration practices.
ADVERSE EVENTS	**Local:** pain, redness, swelling. **Systemic:** fever, irritability, rash, parotitis. Thrombocytopenia and encephalitis have been very rarely associated with MMR vaccines. Though not yet established through post marketing surveillance, any association with MMRV vaccine is expected to be similar.

❶ Yukon is offering MMRV for the purpose of the second dose of these products to children entering school (ages 4 to 6). Although MMRV is approved from ≥ 12 months to 12 years of age it is not recommended as a first dose in those < 4 years of age due to an increased risk of febrile seizures. In children < 2 years of age, who have a family or personal history of seizures of any etiology separate MMR and varicella vaccines should be used.

❷ In special circumstances and in discussion with immunization providers, clients may receive MMRV as the second dose of these products as soon as 18 months of age provided that at least 4 weeks have passed since their first doses of MMR and Varicella vaccine. However, clients should follow the routine schedule (doses at 12 months and 4-6 years) as closely as possible for the best immune response. Special circumstances may include but are not limited to hard-to-reach populations or travel interfering with the immunization schedule. Consultation with the Yukon Immunization Program is not required.

PROGRAM NOTES

- Minimum age of 18 months for MMRV vaccine added March 2024.