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1.0 DEFINITIONS

A contraindication is a condition in a recipient that increases the risk for a serious adverse event. In general, a vaccine should not be administered when a contraindication is present.

In Canada, the only contraindication applicable to all vaccines is a history of an anaphylactic reaction to a previous dose of vaccine or to a vaccine component. Severe immunosuppression and pregnancy are contraindications to live vaccines only.

A precaution is a condition in a recipient that might increase the risk for a serious adverse reaction or might compromise the ability of the vaccine to produce immunity. When a precaution is present, further assessment and a risk-benefit analysis may be necessary.

**Table 1: Contraindications and Precautions for Vaccine Administration**

Issue of concern	Type of vaccine ^①	
	Inactivated	Live
History of anaphylactic reaction to a previous dose of the vaccine or any of its antigens	Contraindication	Contraindication
History of anaphylactic reaction to a vaccine component	Contraindication if the specific vaccine contains that particular component	
Severely immunocompromised ^②	Precaution	Contraindication
Pregnancy ^②	None	Contraindication
Severe bleeding disorder ^②	Precaution	Precaution
Recent administration of blood product containing antibodies ^③	None	Precaution
Recent administration of live virus vaccine ^④	None	Precaution
History of Guillain-Barre syndrome (GBS) that occurred within 8 weeks of receipt of influenza vaccine or a tetanus-containing vaccine and for which no other cause is identified	Influenza vaccine Tetanus-containing vaccines	
Prior history of Guillain-Barre syndrome (GBS) at any time	Menactra® ^⑤	

From <http://www.phac-aspc.gc.ca/publicat/cig-gci/index-eng.php>

^①Refer to [BC Communicable Disease Manual, Chapter 2, Section VII - Biological Products](#) for contraindications and precautions specific to each biological product.

^②Further information regarding each condition and associated precaution or contraindication can be found in [BC Communicable Disease Manual, Chapter 2, Section III - Immunization of Special Populations](#).

^③Specific information regarding recent administration of blood product containing antibodies is available in [BC Communicable Disease Manual, Chapter 2, Section VII - Biological Products](#).

^④Injectable live virus vaccines must be administered on the same day or separated by a minimum interval of 4 weeks. There is no minimum interval between administration of an oral live virus vaccine and an injectable live virus vaccine.

^⑤This is a **relative** contraindication to Menactra® vaccine. Immunization in this situation may be considered if the benefit of vaccination with Menactra® outweighs the potential risk of recurrence of GBS if vaccine is given.



2.0 ASSESSMENT FOR CONTRAINDICATIONS AND PRECAUTIONS

Assess every client for the presence of contraindications and precautions prior to any immunization.

Assess the following factors before administering any vaccine:

- history of anaphylactic reaction to any antigens or components contained in the vaccine
- adverse events previously experienced following receipt of the same vaccine
- past and current state of health, specifically any condition that may affect the immune system.

Include the following factors if administering a live vaccine:

- history of receipt of immune globulin, blood transfusion or blood product in the past year
- receipt of a live vaccine in previous 4 weeks
- pregnancy, or planning a pregnancy in the next month.

If administering a live vaccine to an infant < 12 months of age, assess for a family history of congenital immunodeficiency which may be manifested as overwhelming infection following natural infection or receipt of a live vaccine with or without death.

Assess for history of Guillain-Barre syndrome (GBS). GBS that occurs within 8 weeks of a dose of influenza vaccine or a tetanus-containing vaccine and for which no other cause is identified is a contraindication to further doses of the associated vaccine. **Any** prior history of GBS is a **relative** contraindication to Menactra® vaccine. Immunization in this situation may be considered if the benefit of vaccination with Menactra® outweighs the potential risk of recurrence of GBS if vaccine is given. [Refer to BC Communicable Disease Control Manual, Chapter 2, Section III Immunization of Special Populations, Individuals with Neurologic Disorders.](#)

If, after consideration of these factors, a clear decision cannot be reached, seek direction from a designated regional immunization expert. The family physician may also be consulted if there are questions pertaining to the health status of the individual. If further consultation is required contact the day's on call clinical person at Epidemiology Services (BCCDC), phone (604) 707-2517.



3.0 SEVERE ALLERGY TO VACCINE COMPONENTS

Allergic reaction may be caused by:

- Vaccine antigen
- Residual animal protein
- Antimicrobial agents (e.g., neomycin or polymyxin)
- Preservatives
- Stabilizers
- Or other vaccine components

Refer to [BC Communicable Disease Manual, Chapter 2, Biological Products](#) or individual product inserts for complete list of components of each biological product.

No licensed vaccine contains penicillin or penicillin derivatives.

3.1 ANAPHYLACTIC REACTION TO EGGS

The most common animal protein allergen found in vaccines is egg protein.

Egg protein is found in influenza, yellow fever, and one of the rabies vaccines (RabAvert®), which are prepared using embryonated chicken eggs.

Persons with histories of anaphylactic reaction to eggs should generally not receive these vaccines.

Prior to immunizing with influenza or RabAvert® vaccine, ask client about history of egg allergy. In a post-exposure situation, a history of egg allergy is not a contraindication to RabAvert® vaccine. However, immunization with another rabies vaccine is preferable. If RabAvert® is the only vaccine available, administer it within a health care setting that is capable of managing anaphylaxis. Instruct client to wait 30 minutes after immunization and to report any signs of anaphylaxis immediately.

Egg allergy is **not** a contraindication to MMR vaccine. Individuals with a history of anaphylactic hypersensitivity to eggs (urticaria, swelling of the mouth and throat, difficulty breathing or hypotension) can receive MMR vaccine. MMR vaccine may contain trace quantities of egg protein, but the amount is not felt to be enough to cause an allergic reaction.

Prior egg ingestion is not a prerequisite for immunization with an egg-containing vaccine.

The inability to eat eggs for any reason other than severe allergy is not a contraindication to immunization with an egg-containing vaccine.

Atopic diseases are not a contraindication to immunization with an egg-containing vaccine.

For more information, refer to <http://www.phac-aspc.gc.ca/publicat/ciq-gci/p02-04-eng.php>



4.0 LATEX ALLERGY

Assess clients for a previous anaphylactic reaction to latex when the biological product vial stopper or needle shield contains latex.

Latex is sap from the commercial rubber tree. Latex is processed to form natural rubber latex and dry natural rubber. Both products contain the same plant impurities (plant proteins and peptides) found in natural latex that are believed to trigger allergic reactions.

Dry natural rubber is used in some syringe plungers, vial stoppers, and needle shields.

It is possible the allergenic proteins could be introduced into the product being administered during immunization and cause an anaphylactic reaction.

Synthetic rubber and synthetic latex do not contain natural rubber or natural latex and, therefore, do not contain the impurities linked to allergic or anaphylactic reactions.

The most common type of latex sensitivity is contact-type allergy, usually as a result of prolonged contact with latex-containing gloves. Contact dermatitis is **not** a contraindication to immunization with a latex-containing vaccine.

While injection-procedure-associated latex allergies among patients with diabetes mellitus have been described, allergic reactions (including anaphylaxis) after vaccination procedures are rare.

If a person reports an anaphylactic allergy to latex, do not administer vaccines supplied in vials or syringes that contain natural rubber. Refer to [Section 4.1 Latex Content in Vaccines](#) on following page to determine whether product being administered has any latex content.



4.1 LATEX CONTENT IN VACCINES

VACCINES CONTAINING LATEX			
Product Description	Trade name	Presentation	Manufacturer
DTaP-HB-IPV-Hib	INFANRIX hexa™	single dose syringe	GlaxoSmithKline
Hepatitis A Vaccine inactivated	Havrix 720 Junior®	0.5mL syringe	GlaxoSmithKline
Hepatitis A Vaccine inactivated	Havrix 1440®	1mL syringe	GlaxoSmithKline
Hepatitis A Vaccine, purified, inactivated	Vaqta®	0.5mL single dose vial	Merck Frosst
		1.0mL single dose vial	
Hepatitis B Vaccine	Recombivax-HB®	1.0mL single dose vial, 10 µg/mL	Merck Frosst
Hepatitis B Vaccine (Renal/Kidney Dialysis)	Recombivax-HB®	1.0mL single dose vial, 40 µg/mL	Merck Frosst
Hepatitis B Vaccine, Pediatric(T-free)	Recombivax HB®	0.5mL single dose vial, 5µg/mL	Merck Frosst
Immune Serum Globulin	Baygam® (Bayer)	2.0mL vial	Bayer
Immune Serum Globulin	GamaSTAN®S/D Talecris	2.0mL vial	Talecris
Meningococcal Conjugate A/C/Y/W-135	Menactra®	0.5mL single dose vial	sanofi pasteur
Meningococcal C Conjugate Vaccine	Meningitec®	0.5mL single dose vials	Wyeth
Meningococcal Polysaccharide A/C/Y/W135 Vaccine	Menomune®	0.5mL single dose vial	sanofi pasteur
		10 dose vial	
Rabies Immune Globulin	HyperRab®	2.0mL vial	Talecris
Tetanus Immune Globulin	Baytet®(Bayer)	1 dose syringe, 250 U	Bayer
Tetanus Immune Globulin	HyperTET®(Talecris)	1 dose syringe, 250 U	Talecris
BCG Vaccine		10 dose vial	sanofi pasteur

“Latex Content in Vaccines” adapted from BCCDC Vaccine and Pharmacy Services March 2010 chart.

5.0 CONDITIONS THAT ARE NOT CONTRAINDICATIONS TO IMMUNIZATION

Antibiotics:

- Antibiotics have no effect on response to most inactivated or live vaccines used in Canada.
- Exceptions:
 - Live oral typhoid vaccine should be delayed until at least 24 hours after antibiotics active against *Salmonella typhi*.
 - Live attenuated varicella vaccine may have reduced effectiveness if given concurrently with antivirals effective against herpes viruses.

Convalescence from or exposure to an infection:

- No interference with response to vaccine.
- No increased risk of adverse events following immunization.
- E.g., a child who has been exposed to varicella may be safely immunized with varicella vaccine. A child who has had varicella disease immediately prior to presenting for 12 month immunizations may be safely immunized with all vaccines (including varicella).

Acute illness with or without fever:

- Note: Minor, moderate, or severe acute illness, with or without a fever, is **not** a contraindication to immunization.
- No interference with response to vaccine.
- No increased risk of adverse events following immunization.
- Minor illnesses such as teething, stomach upsets, and the common cold, with or without fever, frequently occur in young children and are **not** a contraindication to immunization. Such infections do not increase the risk of adverse events following immunization and do not interfere with immune responses to vaccines. While there is a theoretical risk that the occurrence of systemic adverse events may complicate the medical management of the other acute illness or that events associated with the acute illness may mistakenly be thought to be vaccine-related adverse events, the potential risk is much less important than the risk associated with missing an opportunity to give a recommended vaccine.

Breastfeeding:

- There are no contraindications or precautions to immunization of either the lactating mother or the breastfeeding infant.
- After immunization of either the mother or her infant, there is:
 - No reduction in maternal or infant immune response to vaccines
 - No increase in the risk of adverse events for either the mother or her infant.

Neonatal abstinence syndrome:

- There are no contraindications or precautions for immunization of infants with neonatal abstinence syndrome.



History of allergy that does not involve vaccine or component of vaccine:

- It is safe to immunize people with any of the following:
 - Non-specific allergies
 - Environmental allergies
 - Family history of allergies
 - Administration of allergy shots (desensitization therapy for allergy)
 - Allergies to commonly used antibiotics
 - Exception: vaccines containing neomycin and/or polymyxin are contraindicated in individuals with IgE-mediated allergies to these antibiotics.

Family history of adverse reactions to vaccines:

- Adverse reactions to vaccines are not known to be inherited.
 - Exception: a family history of congenital immunodeficiency. This may not be evident in infants < 12 months of age but may be documented as an overwhelming infection following natural infection or receipt of a live vaccine with or without death, including in older siblings or siblings born earlier. **Note:** Assess family history of these types of events prior to administering a live vaccine to an infant <12 months of age (i.e., MMR vaccine for an infant travelling to a measles endemic region). If such a history is present, live vaccines are contraindicated until child is assessed for immunodeficiency.

6.0 REFERENCES

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