

Pocket Guide for Immunizers: Meningococcal Vaccination

The purpose of this pocket guide is to serve as a tool for health care providers to learn more about meningococcal vaccines, enabling them to make strong recommendations to their patients.



Invasive meningococcal disease (IMD) is endemic in Canada, though incidence is low outside of sporadic focal epidemics. The disease occurs most frequently in children under the age of 5, followed by teenagers aged 15-19 and older Canadians over the age of 60. Those with underlying medical conditions are at increased risk, as are those whose travel or work increases their likelihood of exposure.

IMD has a rapid onset and kills 10% of those affected, even with treatment. Up to 20% of those who survive IMD will be left with long-term disability such as hearing loss, neurological damage, and limb amputation.

Almost all cases of IMD in Canada are caused by five meningococcus bacteria (*N. meningitidis*) serogroups. Highly effective vaccines exist for all five. In addition to the individual protection provided by immunization, widespread vaccination creates herd immunity, keeping the population at large safe from outbreaks.

Immunization is the single most effective tool available to protect against this deadly disease.

This pocket guide references recommendations made in the *Canadian Immunization Guide Chapter on Meningococcal Vaccine* from the National Advisory Committee on Immunization (NACI).

What vaccines are available?

There are seven meningococcal vaccines authorized for use in Canada, falling into three classes corresponding to which of the serogroups (A, B, C, Y, and W135) they are protective against.

Table 1: Meningococcal vaccines authorized for use in Canada

Class Code	Class Details	Vaccine Brand Name	Vaccine Code
Men-C-ACYW	Quadrivalent conjugate vaccines protecting against serogroups A, C, Y, and W135	Menactra®	Men-C-ACYW-DT
		MENVEO	Men-C-ACYW-CRM
		NIMENRIX	Men-C-ACYW-TT
Serogroup B	Vaccines protecting against serogroup B	BEXSERO	4CMenB
		Trumenba®	MenB-fHBP
Men-C-C	Monovalent conjugate vaccines protecting against serogroup C	MENJUGATE Liquid	Men-C-C-CRM
		NeisVac-C® Vaccine	Men-C-C-TT

Note: Throughout the rest of this guide, vaccines will be referred to by vaccine code when there is a specific recommendation within the class, and by class code when there is not. Serogroup B vaccines are not interchangeable.

What is the recommended dosage and how is it given?

For all authorized preparations, dosage is 0.5mL, administered intramuscularly (IM).

Who should receive the meningococcal vaccine?

Healthy infants and children (2 months to 11 years)

- Routine immunization with a **Men-C-C** vaccine is recommended during infancy.
- Immunization with **4CMenB** may be considered on an individual basis for children **2 months of age and older**, depending on individual preferences and local prevalence of serogroup B.
- Immunization with **MenB-fHBP** may be considered on an individual basis for children **10 years of age and older**, depending on individual preferences and local prevalence of serogroup B.
- [See Table 2 for schedule.](#)

Healthy adolescents and young adults (12 to 24 years)

- Routine immunization with either a **Men-C-C** or **Men-C-ACYW** vaccine is recommended, depending on local epidemiology and programmatic considerations.
- Immunization with a **serogroup B** vaccine may be considered, depending on individual preferences and local prevalence of serogroup B.
- [See Table 2 for schedule.](#)

Individuals at increased risk

- Additional doses of meningococcal vaccines are recommended for individuals with underlying medical conditions that place them at higher risk of IMD, and for those at increased risk of exposure.
- Medical risk factors include: HIV, sickle cell disease, antibody deficiencies, functional or anatomic asplenia, combined T and B cell immunodeficiencies, and complement deficiency due to eculizumab (Soliris™).
- Increased risk of exposure can be due to profession (especially military and lab workers) or travel to areas with high rates of meningococcal disease (including sub-Saharan Africa and Hajj in Mecca, Saudi Arabia).
- [See Table 3 for schedule.](#)

Individuals who have been exposed to meningococcal disease

- Vaccination or revaccination of close contacts, especially household members, should be considered when the serogroup is vaccine preventable.
- [Consult public health officials for schedule and outbreak assessment](#), as recommendations will vary depending on serogroup and other factors.

Who should not receive the meningococcal vaccine?

These vaccines have a well-established history of safety, but there are some contraindications and situations which warrant extra precautions.

- Individuals who have previously experienced an anaphylactic reaction to the vaccine—or who have a proven history of immediate or anaphylactic hypersensitivity to any vaccine component—should not be given the vaccine.
- Individuals with suspected hypersensitivity or non-anaphylactic allergy to the vaccine or any of its components should be investigated further in consultation with an allergist. Immunization in a controlled setting may be advised.
- Immunization should be postponed for individuals with moderate or severe acute illness. In the case of minor illness, with or without fever, immunization may proceed normally.

What about those who have missed routine immunizations?

If an infant or child has missed a recommended routine dose of any of the vaccines, catching up is easy.

- One dose of **Men-C-C** vaccine is recommended in unimmunized children under 5 years of age, and may also be considered in unimmunized children aged 5 to 11 years.
- Immunization with **4CMenB** (for those aged 2 months or older) or **MenB-fHBP** (for those aged 10 years or older) may be considered on an individual basis, depending on individual preferences and local prevalence of serogroup B.



Can the meningococcal vaccines be given at the same time as other vaccines?

The **Men-C-C**, **4CMenB**, and **Men-C-ACYW** vaccines can be given simultaneously with other routine and age-appropriate vaccines.

MenB-fHBP can be given simultaneously with **Men-C-ACYW**, tetanus, diphtheria, pertussis, and HPV vaccines. Further study is needed on simultaneous administration of **MenB-fHBP** with other vaccines not listed above.

In all cases, if vaccines are administered simultaneously, a separate injection site and a different syringe must be used for each.

What about side effects and adverse reactions?

Severe adverse effects are rare following immunization and, in most cases, data does not suggest a causal relationship. Some mild to moderate reactions are more commonly seen.

- Injection site reactions occur about half the time following immunization with **Men-C-ACYW** or **Men-C-C** vaccines. Fever is reported with these vaccines uncommonly. Systemic reactions such as headache and malaise occur about half the time with **Men-C-ACYW**, and about 10% of the time with **Men-C-C**.
- Tenderness, sleepiness, and irritability are commonly reported with **serogroup B** vaccines.
- Higher rates of fever have been observed when **4CMenB** is given simultaneously with other routine infant vaccines.
- Irritability in infants following immunization is very common.
- In all cases, these reactions typically last no more than a few days.

IMMUNIZATION SCHEDULES

Table 2: Meningococcal immunization in healthy individuals

<p>Between 2 and 11 months of age</p>	<ul style="list-style-type: none"> • 1 or more doses of Men-C-C vaccine, depending on provincial or territorial program. • 4CMenB vaccine may be considered on an individual basis.
<p>Between 12 and 23 months of age</p>	<ul style="list-style-type: none"> • 1 dose of Men-C-C vaccine, regardless of any doses given during the first year of life. • 4CMenB vaccine may be considered on an individual basis.
<p>Between 12 and 24 years of age</p>	<ul style="list-style-type: none"> • 1 dose of either Men-C-C or Men-C-ACYW vaccine, depending on local epidemiology and programmatic considerations, including for those previously vaccinated as an infant or toddler. • Either serogroup B vaccine may be considered on an individual basis.

Notes on Table 2

Note #1:

Please refer to the Canadian Immunization Guide (CIG) chapter titled “Meningococcal vaccine” for regular updates on the immunization schedule for healthy individuals here:

<https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-4-active-vaccines/page-13-meningococcal-vaccine.html>

Note #2:

Most provinces and territories give 1 dose of **Men-C-C** vaccine at 12 months of age.

Table 3: Recommended immunization for individuals at high risk due to underlying medical conditions, travel, or potential workplace exposure, when not previously immunized with the relevant vaccine class (consult only the row applicable at time of immunization)

<p>2 to 11 months of age</p>	<ul style="list-style-type: none"> • FOR CHILDREN 2 TO 6 MONTHS OF AGE: 3 doses of Men-C-ACYW-CRM given 8 weeks apart • FOR CHILDREN 7 TO 11 MONTHS OF AGE: 2 doses of Men-C-ACYW-CRM given 8 weeks apart • 1 additional dose of Men-C-ACYW-CRM given between the ages of 12 and 23 months, at least 8 weeks after the most recent dose • 3 doses of 4CMenB given 8 weeks apart (or 2 doses if the first dose is received after 5 months of age)
<p>12 to 23 months of age</p>	<ul style="list-style-type: none"> • 2 doses of Men-C-ACYW-CRM given 8 weeks apart • 2 doses of 4CMenB given 8 weeks apart
<p>24 months to 9 years of age</p>	<ul style="list-style-type: none"> • FOR RISK DUE TO UNDERLYING MEDICAL CONDITION: 2 doses of Men-C-ACYW given 8 weeks apart • FOR RISK DUE TO TRAVEL OR WORK: 1 dose of Men-C-ACYW • 2 doses of 4CMenB given 8 weeks apart
<p>10 years of age and older</p>	<ul style="list-style-type: none"> • FOR RISK DUE TO UNDERLYING MEDICAL CONDITION: 2 doses of Men-C-ACYW given 8 weeks apart • FOR RISK DUE TO UNDERLYING MEDICAL CONDITION: 2 doses of 4CMenB given at least 4 weeks apart OR 3 doses of MenB-fHBP, with the first two doses 4 weeks apart and the third dose at least 6 months after the first dose • FOR RISK DUE TO TRAVEL OR WORK: 1 dose of Men-C-ACYW • FOR RISK DUE TO TRAVEL OR WORK: 2 doses of 4CMenB given at least 4 weeks apart OR 2 doses of MenB-fHBP given at least 6 months apart (with an optional additional intermediate dose given 4 weeks after the first dose)

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Notes on Table 3

Note #1:

In all cases of **Men-C-ACYW** dose spacing, doses may be given a minimum of 4 weeks apart if accelerated immunization is needed.

Note #2:

In all cases, a **Men-C-ACYW** booster dose should be given every 3 to 5 years for those first immunized at 6 years of age or younger, or every 5 years for those first immunized at age 7 or older.

Note #3:

4CMenB is not authorized for use in those 26 years of age and older. **Men-C-ACYW** is not authorized for use in those 56 years of age and older. In both cases, however, expert opinion is that use remains appropriate above those ages.

Note #4:

Travellers to the Hajj should consult additional information at:
<http://www.moh.gov.sa/en/Hajj/Pages/default.aspx>