

Meningococcal Conjugate (Groups A, C, Y and W-135) Vaccine (MenC-ACYW)

Revision Date: May 4, 2018

Rationale for update: Update to licensing for Nimenrix as per product monograph.

Please consult the Product Monograph ^{1,2,3} for further information about the vaccine.			
	Menactra®	Menveo®	Nimenrix®
Manufacturer	Sanofi Pasteur Limited	Novartis Vaccines and Diagnostics Inc.	Pfizer Canada Inc.
Licensed use	Individuals 9 months to 55 years of age. Although licensed for children nine months of age and older, the National Advisory Committee on Immunization (NACI) does not recommend this vaccine for children younger than two years of age. ²	Individuals 2 months to 55 years of age. There is no data on the use Menveo® in infants younger than two months of age. ² The National Advisory Committee on Immunization (NACI) recommends the vaccine for high-risk infants and children 2 – 23 months of age. ⁴	Individuals 6 weeks to 55 years of age.
Off-license use	High-risk adults 56 years of age and older. ^{4,5}		
Indications for use of provincially funded vaccine	<p>Pre-exposure:</p> <p>Students in Grade 9 – routine program in Alberta.</p> <p>Notes:</p> <ul style="list-style-type: none"> • Students should receive the vaccine regardless of previous meningococcal immunization received in a routine infant/preschool program.⁴ • Students, who are eligible in Grade 9 (starting in 2010-2011 school-year) but did not receive the vaccine, continue to be eligible to receive this vaccine up to the end of Grade 12 if they present to public health. <p>Laboratory workers routinely exposed to <i>Neisseria meningitides</i>,⁴ if they are involved in conducting subculture identification, susceptibility testing, serological and/or molecular characterization and deep freeze for storage. Laboratory workers who do only initial specimen plants are not eligible.</p> <p>Individuals at high risk of invasive meningococcal disease (IMD) due to underlying medical conditions as listed (see Menveo® for at risk children younger than 24 months of age):</p> <ul style="list-style-type: none"> ➤ Asplenia - anatomical or functional (including sickle-cell disease).² ➤ Acquired complement deficiency due to receipt of the terminal complement inhibitor eculizumab (Soliris®).⁴ <p>Note: Individuals prescribed eculizumab (Soliris®) should receive meningococcal vaccine at least two weeks before receiving the first dose of Soliris®⁴ if possible.</p> <ul style="list-style-type: none"> ➤ Congenital complement, properdin, factor D or primary antibody deficiencies.⁴ 		

	<ul style="list-style-type: none"> ➤ Hematopoietic stem cell transplant (HSCT) recipients. See: <ul style="list-style-type: none"> ▪ Immunization for Child Hematopoietic Stem Cell Transplant Recipients and ▪ Immunization for Adult Hematopoietic Stem Cell Transplant Recipients. ➤ HIV infection especially if it is congenitally acquired.⁴ ➤ Solid organ transplant candidates and recipients. See: <ul style="list-style-type: none"> ▪ Immunization for Children Expecting Solid Organ Transplant at 18 Months of Age or Older (Catch-up Schedule) and ▪ Immunization for Adult Solid Organ Transplant Candidates and Recipients. <p>Note: Case-by-case assessment is required for immunization of individuals who are immunocompromised. Medical consultation with the attending physician/infectious-disease specialist is strongly recommended.</p> <p>Post-exposure:</p> <p>Close contacts and/or outbreak control when serogroups A, Y or W-135 are identified.⁴</p> <p>Notes:</p> <ul style="list-style-type: none"> • Results of the index case serogroup should be known before proceeding with immunization. • Contacts of meningococcal serogroup C who are eligible for meningococcal conjugate quadrivalent vaccine (MenC-ACYW) e.g., students in Grade 9, 10, 11 or 12 who have not already received their adolescent MenC-ACYW vaccine, should receive MenC-ACYW not meningococcal conjugate C vaccine (MenconC). • Other contacts of meningococcal serogroup C. See Biological Products - Meningococcal Conjugate C Vaccine. • Contacts of meningococcal serogroup B see Meningococcal B Multicomponent Recombinant Vaccine - BEXSERO®. <p>For disease information, contact assessment, chemoprophylaxis and reporting guidelines, refer to <i>Public Health Notifiable Disease Management Guidelines – Meningococcal Disease, Invasive</i>⁶</p>
Dose	0.5 mL
Route	Intramuscular injection
Schedule	<p>Pre-exposure:</p> <p>Grade 9 students – routine</p> <ul style="list-style-type: none"> ❖ 1 dose <p>Note: Students who have previously received MenC-ACYW (e.g., for travel or close contact of IMD):</p> <ul style="list-style-type: none"> ➤ If MenC-ACYW vaccine was received when younger than 12 years of age, offer the vaccine in Grade 9. ➤ If MenC-ACYW vaccine was received at 12 years of age or older, the vaccine is not indicated in Grade 9.

	<p>Eligible laboratory workers</p> <ul style="list-style-type: none">❖ 1 dose (booster doses every five years as long as risk continues).⁴ <p>Individuals at high risk of IMD due to underlying medical conditions:</p> <p>2 months – 11 months of age (use <u>Menveo® only</u>)</p> <ul style="list-style-type: none">❖ Dose 1: 2 months of age❖ Dose 2: 4 months of age❖ Dose 3: 6 months of age❖ Dose 4 : 12 months of age (and at least eight weeks after 3rd dose).^{1,4} <p>Notes:</p> <ul style="list-style-type: none">• The first dose should not be administered before eight weeks of age.⁴• Booster dose three years after the last dose (12 – 23 months of age) followed by every five years as long as risk continues.⁴• Meningococcal conjugate C vaccine (MenconC) is not recommended in addition to Menveo® for infants and children at high risk for IMD.⁴ <p>12 months – 23 months of age (use <u>Menveo® only</u>)</p> <ul style="list-style-type: none">❖ Two doses administered eight weeks apart.⁴❖ Booster dose three years after the 2nd dose followed by every five years as long as risk continues.⁴ <p>Two years of age and older:</p> <ul style="list-style-type: none">❖ Two doses administered eight weeks apart.^{2,7}❖ Booster doses every 3-5 years:<ul style="list-style-type: none">➢ Six years of age and younger at time of initial immunization: <i>administer a booster dose three years after the last dose followed by a booster dose every five years.</i>⁴➢ Seven years of age and older at time of initial immunization: <i>administer a booster dose every five years.</i>⁴ <p>Notes:</p> <ul style="list-style-type: none">• The interval between doses may be reduced to four weeks if accelerated immunization is indicated.⁴• Individuals at high risk for IMD, who previously received meningococcal polysaccharide vaccine and continue to be at high risk for IMD, should be re-immunized with the appropriate quadrivalent conjugate vaccine.⁴ The interval between the polysaccharide vaccine and MenC-ACYW should be at least six months.⁴ Booster doses of MenC-ACYW should be administered as outlined above.• When meningococcal conjugate monovalent C vaccine (MenconC) has been administered previously, the minimum interval between MenC-ACYW and MenconC should be at least four weeks.⁴ <p>Post-exposure (contacts of A, Y and W-135)</p> <p>2 months – 11 months of age (use <u>Menveo® only</u>)</p> <ul style="list-style-type: none">❖ Unimmunized: 3 doses administered eight weeks apart with another dose between 12 and 23 months of age and at least eight weeks from the previous dose.⁴
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	<ul style="list-style-type: none"> ❖ Previous immunization MenconC: administer Menveo® series as for unimmunized regardless of when the last dose of MenconC was administered.⁴ ❖ Previous immunization with MenC-ACYW: administer one dose of Menveo® if at least four weeks after a previous dose and complete the series.⁴ <p>12 months – 23 months of age (use Menveo® only)</p> <ul style="list-style-type: none"> ❖ Unimmunized: Two doses of Menveo® with an interval of at least eight weeks between the doses.⁴ ❖ Previously immunized with MenconC, administer two doses of Menveo® with an interval of at least eight weeks between the doses regardless of when the previous dose of MenconC was administered.⁴ ❖ Previously immunized with MenC-ACYW at younger than one year of age or at high risk for IMD due to underlying medical condition, administer one dose of Menveo® if at least four weeks since last dose. Otherwise, re-immunize if at least one year since the last dose of MenC-ACYW.⁴ <p>Two years of age and older:</p> <ul style="list-style-type: none"> ❖ Unimmunized: one dose.⁴ ❖ Previously immunized: if previously immunized with MenconC administer one dose of MenC-ACYW (Menveo® or Menactra® or Nimenrix®) regardless of when the last dose of MenconC was administered.⁴ ❖ Previously immunized with MenC-ACYW at younger than one year of age or if at high risk of IMD due to underlying medical condition, administer one dose of MenC-ACYW if at least four weeks since last dose. Otherwise, immunize with one dose if at least one year since the last dose of MenC-ACYW.⁴
Contraindications	<ul style="list-style-type: none"> • Known severe hypersensitivity to any component of the vaccine. • Anaphylactic or other allergic reactions to a previous dose of vaccine containing meningococcal conjugate vaccine.
Precautions	<ul style="list-style-type: none"> • Will not protect against infections caused by organisms other than serogroups A, C, Y and W-135 <i>N. meningitidis</i>. <p>Note: NACI now recommends that Menactra® or Menveo® may be administered to people with a previous history of Guillain-Barré Syndrome (GBS).⁷ A previous history of GBS is not a contraindication to receiving Nimenrix®.</p>
Possible reactions	<p>Common:</p> <ul style="list-style-type: none"> • Redness, swelling, and/or pain at the injection-site.^{1,2,3} • Headache, fatigue, malaise, arthralgia, diarrhea, anorexia, chills, fever, vomiting, rash, irritability, drowsiness and hives.^{1,2,3} <p>Uncommon:</p> <ul style="list-style-type: none"> • Insomnia, crying, hypoesthesia, dizziness, pruritus, myalgia, pain in extremity, malaise.³ <p>Rare:^{1,2,3}</p> <ul style="list-style-type: none"> • Anaphylaxis

	<p>For Menactra® only:</p> <ul style="list-style-type: none"> The following additional adverse events have been reported from post-marketing surveillance: Hypersensitivity reactions including anaphylaxis, lymphadenopathy, urticaria, erythema, pruritus, transverse myelitis, vasovagal syncope, facial palsy, acute disseminated encephalomyelitis, GBS, thrombocytopenia, paraesthesia, dizziness, convulsion, myalgia and large injection site reactions including extensive limb swelling.¹ <p>For Menveo® only:</p> <ul style="list-style-type: none"> The following additional adverse events have been reported from post-marketing surveillance: Hypersensitivity reactions including anaphylaxis, ear pain, vertigo, vestibular disorder, eyelid ptosis, injection site pruritus including extensive swelling of the injected limb and cellulitis, febrile convulsion, tonic convulsion, facial paresis, dizziness, balance disorder and oropharyngeal pain.² <p>For Nimenrix® only:</p> <ul style="list-style-type: none"> The following additional adverse events have been reported from post-marketing surveillance: Extensive limb swelling at injection site, frequently associated with erythema, sometimes involving the adjacent joint or swelling of the entire injected limb.³ <p>Refer to: <i>Adverse Events Following Immunization (AEFI), Policy for Alberta Immunization Providers.</i>⁸</p>
Pregnancy	Conjugate meningococcal vaccines have not been studied in pregnant women; however, in specific situations as outlined above the vaccine should be administered when indicated. ^{1,2,3,4}
Lactation	Breastfeeding women should receive vaccine if indicated. ⁴

References

- Sanofi Pasteur Limited. (2017 November, 28). Menactra®: Meningococcal (Groups A, C, Y and W-135) Diphtheria Toxoid Conjugate Vaccine. *Product Monograph*.
- GlaxoSmithKline Inc. (2017, April 18). Menveo®: Meningococcal (Groups A, C, W-135 and Y) Oligosaccharide CRM₁₉₇ Conjugate Vaccine. *Product Monograph*.
- Pfizer Canada Inc. (2018 February 19). Nimenrix®: Meningococcal Polysaccharide (Groups A, C, W-135 and Y) Conjugate Vaccine. *Product Monograph*.
- National Advisory Committee on Immunization. (2018). *Canadian Immunization Guide* (Evergreen ed.). Ottawa, ON: Public Health Agency of Canada. www.canada.ca/en/public-health/services/canadian-immunization-guide.html
- Alberta Advisory Committee on Immunization. (2011, May 31). Record of decisions
- Alberta Health. Meningococcal disease, invasive. In *Public Health Notifiable Disease Management Guidelines*. www.health.alberta.ca/professionals/notifiable-diseases-guide.html
- National Advisory Committee on Immunization. (2013, January). Update on the use of quadrivalent conjugate meningococcal vaccines. *Canada Communicable Disease Report*, 39 (ACS-1).
- Alberta Health. (2016, December). *Adverse Events Following Immunization (AEFI), Policy for Alberta Immunization Providers*. <https://open.alberta.ca/dataset/d86b52a9-45f4-4948-8a06-53b2c045135e/resource/7598f59a-3dfc-4c70-9065-c3bf5b4ee363/download/AIP-AEFI-Policy.pdf>