Purchase of non-funded meningococcal vaccines

The Immunisation Advisory Centre

What is meningococcal disease?

Meningococcal disease is caused by the bacterium *Neisseria meningitidis*. At least 12 groups have been identified, including groups A, B, C, Y and W. In Aotearoa New Zealand, Group B causes the highest incidence of cases, increasing from 43-45% in 2018-2019, to around 80% of cases in 2021 and 2022. Group C caused 5-8% of cases over 2018-2019, and has since decreased. In 2022, Group Y caused 14% of cases, and group W caused 5%. Meningococcal group A rarely causes disease in New Zealand.

How do you catch it?

Meningococcal bacteria are commonly carried in the nose and throat, and do not usually cause disease. Carriage rates are highest in older teenagers and young adults. The bacteria can be transferred from person to person through contact with saliva, e.g. intimate kissing. In rare cases, the bacteria can invade and rapidly lead to severe disease. The underlying reasons for why invasion occurs in some individuals are not well understood.

How serious is it?

If meningococcal bacteria pass into the blood, the disease usually progresses very quickly. A person with meningococcal disease may develop:

» Meningitis (inflammation of the membranes around the brain).
» Septicaemia (blood infection).
» Pneumonia (lung infection).

One to two people out of every 10 who survive meningococcal disease have long-term complications, e.g. extensive skin scarring, limb amputation, hearing loss, seizures, or brain injury. Even when the disease is identified and treated early, one to two people out of every 10 will die.

Who is at risk?

The groups with the highest rates of meningococcal disease are over 2015–2019 in NZ are shown in table 1.

Table 1: Groups with the highest rates of meningococcal disease in New Zealand by age and ethnicity over 2015–2019*

Meningococcal group B disease	Meningococcal groups C, W & Y disease	By ethnicity
» Infants and children aged under 5 years » Adolescents aged 15—19 years		» Pacific peoples » Māori

*Over 2018–2019, a high rate of group B and groups C, W & Y disease cases were also seen in young adults aged 20—29 years.

What increases the risk?

» Having another respiratory infection, e.g. influenza.
» Exposure to tobacco smoke or binge drinking.
» Living in close proximity to others, e.g. in a crowded household, at boarding school, in university halls of residence, group accommodation or long-term institutional care.
» Being in a household or other close contact of someone carrying the bacteria or with the disease, e.g. those who have been intimate, or infants and children attending an early childhood education centre.
» Having a medical condition or receiving treatment that affects the immune system, e.g. functional asplenia, post-splenectomy, or taking disease modifying immunosuppressive medication.
» Age and ethnicity.

Vaccines to protect against meningococcal disease

Meningococcal vaccines are classified by the type of vaccine and by the meningococcal bacteria groups they protect against. In NZ, conjugate vaccines protect against groups A, C, W and Y (Menactra® or Nimenrix®) or group C only (NeisVac-C®), and the multicomponent recombinant vaccine protects against group B only (Bexsero®).

- Bexsero protects against Meningococcal group B
  - » Group B has caused 43-81% of cases in NZ during 2018–2022
- NeisVac-C protects against meningococcal group C
  - » Group C caused 5–8% of cases over 2018–2019 and has since decreased
- Menactra, MenQuadfi and Nimenrix protect against meningococcal groups A, C, W and Y.
  - » In 2022, Group Y caused 14% of typed cases, and group W caused 5%.

The MeNZB™ vaccine used in NZ from 2004 to 2011 targeted one type of meningococcal group B disease.

Meningococcal vaccines currently available on the National Immunisation Schedule

Bexsero is funded for all infants up to 12 months of age (inclusive) with catch up doses for all children 13–59 months funded until August 2025.

MenACWY (MenQuadfi or Menactra) and Bexsero are funded for all adolescents and young adults aged 13–25 years who are entering within three months or who are in their first year of living in a boardling school hoestel or university hall of residence, military barracks, Youth Justice residences or prisons. Catch up doses of Bexsero are available for those living outside their first year in these communal living arrangements until 28 February 2024.

MenACWY (Menactra or MenQuadfi), Bexsero (group B) and NeisVac-C (group C) are free for individuals with a medical condition that increases their risk of meningococcal disease and is listed on the Pharmaceutical Schedule. Menactra, Bexsero and NeisVac-C for funded individuals can be ordered from ProPharma.

Meningococcal vaccines available for purchase

MenACWY (Menactra or MenQuadfi), Bexsero and NeisVac-C for those not covered by the Pharmaceutical Schedule, can be purchased through general practice. Non-funded vaccines can be ordered from Healthcare Logistics. Vaccinators MUST have a prescription or standing order to administer these vaccines.

Who should be offered immunisation against meningococcal disease?

Vaccines to protect against meningococcal disease should be offered to individuals at increased risk of infection with or exposure to meningococcal bacteria. These groups are described in Table 3 on the next page.

Where possible, use of meningococcal vaccine against the groups A, C, Y and W (Menactra, MenQuadfi or Nimenrix) is preferred over the group C only (NeisVac-C) vaccine due to the observed increases in disease caused by groups W or Y since 2018.

Continued...

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Vaccine safety

More than 20 years of studies and safety monitoring have shown the conjugate meningococcal vaccines have excellent safely profiles. Bexsero was first approved for use in Europe in 2013 and is now approved for use in over 40 countries including England and Australia. Bexsero has an excellent safety record.

With Menactra, MenQuadfi, NeisVac-C and Nimenrix, the most common vaccine responses are around the injection site and include redness, swelling, or discomfort or pain. However, fever, headache, fussiness/irritability, drowsiness, nausea/vomiting or diarrhoea, or dizziness can also occur.

With Bexsero, the most common vaccine responses include fever, and discomfort or pain around the injection site. Infants and children may also be irritable, have unusual crying or a decreased appetite. Adolescents and adults may experience headache, muscle or joint aches, malaise or nausea.

When administering Bexsero in children aged under 2 years, either alone or with other vaccines, prophylactic paracetamol is recommended to reduce the risk of high fever and injection other childhood vaccines. Please refer to our fact sheet *Paracetamol use with Bexsero in children aged under 2 years* for more information.

Table 3: Who should be offered immunisation against meningococcal disease

Special groups on the Immunisation Schedule¥
- Pre/post-splenectomy or with functional asplenia.
- HIV positive.
- Inherited or acquired complement deficiency.
- Pre/post-solid organ transplantation.
- Following stem cell/bone marrow transplantation.
- Elective immunosuppression for longer than 28 days.
- Close contact of a meningococcal disease case.
- Previously had meningococcal disease of any group.
- Adolescents and young adults aged 13–25 years inclusively who are living in a boarding school hostel or university hall of residence, military barracks, Youth Justice residences, or prisons.

Other groups
- Other infants and young children aged under 5 years, adolescents and young adults.
- Travellers to high-risk countries and Hajj pilgrims.
- Laboratory workers regularly exposed to meningococcal cultures.

¥ Refer to the *Immunisation Handbook* for information on the meningococcal vaccines funded for special groups.

For any vaccine, the most serious but very rare response is a severe allergic reaction (anaphylaxis). The risk of this occurring after meningococcal vaccination is less than once per million vaccine doses. Common and rare vaccines responses are listed in *Table 4: Comparison of possible disease effects with vaccine responses*.

Who should not have meningococcal vaccines?

- Anyone with severe allergy (anaphylaxis) to a previous dose of the vaccine or any component of the vaccine should not receive the vaccine.
- Immunisation for any vaccine should be postponed in subjects suffering an acute illness or high fever.
  - The presence of a minor infection is not a reason to delay immunisation.

How protective are the vaccines?

Meningococcal bacteria can cause disease more quickly than the immune system can generate protection. Therefore, having existing circulating antibodies is required for protection against meningococcal disease. Immunisation generates circulating antibodies. Over time, the antibody levels decrease. The number and quality of antibodies and how long they last depend on what type of vaccine is used, the meningococcal group(s) covered by the vaccine, and the age of the person receiving the vaccine.

As there are generally low numbers of meningococcal disease cases in countries such as Australia, England, Germany, NZ and the United States, it is not possible to determine exactly how many cases of disease are prevented by vaccination or how long protection after vaccination lasts. Instead, the immune system response and antibody levels are used as an alternative measure of how well and how long meningococcal vaccines can protect from disease. Table 4 shows the expected protection against meningococcal disease after completion of an age appropriate course of vaccinations.

Recommended vaccine administration schedules

Table 5 on the last page shows the vaccine brands, costs and recommended vaccine administration schedules.

References

A list of references is available in a separate document on the *Written Resources* page of our website.

Table 4: Expected protection against meningococcal disease after immunisation§

	Group B disease	Group C disease	Group A, C, Y, or W disease
Age group	Bexsero	NeisVac-C, Menactra, MenQuadfi, Nimenrix	Menactra, MenQuadfi, Nimenrix
Under 2 years	63—100%	97—100%	77–100%
2—10 years	91—100% (8 week interval between doses)	63—100%	63—99%
Adolescents	99—100%	92—100%	82—97%
Adults	91—100%	89—100%	73—92%
Duration of protection			
Children under 5 years of age	1—3 years	3—5 years	
Older children, adolescents and adults	Not yet established	At least 5 years	

§Based on the proportion of vaccine recipients mounting a protective immune response after completion of the recommended vaccination course.

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Table 5: Vaccine brands, costs and recommended vaccine administration schedules		
Vaccine brand	**Cost**	**Number of doses required**
Bexsero[#] (group B) UPDATED	$96.50/ single[a,b]	**Please note: Bexsero is funded for all infants up to 12 months of age (inclusive) with catch up doses for all children 13-59 months funded until August 2025.** **Children and adults ≥5 years and above** ‡ » 2 doses separated by 8 weeks. » Booster doses are funded for high-risk groups. ‡ If a shorter schedule is required, two doses can be given a minimum of 4 weeks apart to children and adults from the age of 2 years.
Menactra[#] (groups A, C, W and Y)	$89.95/ single[a,b]	**Children ≥9 months to ≥23 months** » 2 doses with a minimum interval of 3 months between each dose. » Booster dose after 3 years if at increased risk. **Healthy children ≥2 years to ≤7 years** » 1 dose. » Booster dose after 3 years if at increased risk. **Healthy children, adolescents and adults ≥7 years to ≤55 years** » 1 dose. » Booster dose after 5 years if at increased risk.
MenQuadfi (groups A, C, W and Y) UPDATED	$89.95/ single[a,b]	**Children and adults ≥12 months and above** » 1 dose. » In those who have previously received a MenACWY, a single booster dose may be given at least 4 years later if the individual is not eligible to receive funded vaccine but continues to be at risk of meningococcal disease.

Nimenrix (groups A, C, W and Y)	$80.00/ single[a,b]	**Children ≥6 weeks to <6 months**
		» 2 doses with a minimum interval of 8 weeks between each dose.
		» Plus a booster dose from aged 12 months or a minimum of 6 months after second dose, whichever is later.
		Children ≥6 to <12 months
		» 1 dose.
		» Plus a booster dose from aged 12 months or a minimum of 8 weeks after first dose, whichever is later.
		Children ≥12 months, adolescents and adults
		» 1 dose.
		» Booster dose
		  » Meningococcal group A: Consider a booster dose after 1 year if at increased risk.
		  » Meningococcal groups C, Y and W: Consider a booster dose after 5 years if at increased risk.

NeisVac-C[#] (group C)	$50.00/ single[a,b]	**Infants ≥8 weeks to ≤11 months**[ж] » 2 doses with a minimum interval of 8 weeks between each dose. [ж] Group C only vaccine is not sufficiently protective against all circulating groups. Consider offering 2 doses of Nimenrix from age 6 weeks instead.

[#] Funded vaccines for eligible individuals are ordered from ProPharma.

a. Vaccine prices as at 1 March 2023

b. Order from Healthcare Logistics. Price excludes small ordering handling fee of $45 for orders of 1–4 (mixed) units or $25 for orders of 5–9 (mixed units), manual order processing fee of $10 per order for faxed or emailed orders and GST. Vaccine administration fee will also need to be added to the vaccine cost.