

Meningococcal vaccines

FREQUENTLY ASKED QUESTIONS

This fact sheet provides responses to some common questions about meningococcal vaccines. More detailed information about meningococcal disease and the available meningococcal vaccines can be found in the NCIRS fact sheet [Meningococcal vaccines](#).

Questions about meningococcal vaccines and vaccine schedules

- Q1. What new changes have been introduced from 1 July 2018 regarding meningococcal vaccination in the National Immunisation Program?
- Q2. Who should be vaccinated with meningococcal vaccines?
- Q3. Which MenACWY vaccines are available in Australia, and are there any differences between them?
- Q4. How many doses of MenACWY vaccine are required?
- Q5. Which MenB vaccines are available in Australia, and are there any differences between them?
- Q6. Which vaccine is more important to give, MenACWY or MenB?
- Q7. Is there a different vaccine schedule for people with specified medical conditions that increase the risk of invasive meningococcal disease?
- Q8. Are meningococcal vaccines safe?
- Q9. Are there any contraindications to using meningococcal vaccines?
- Q10. Are MenACWY or MenB vaccines available for free?
- Q11. Can a different brand of meningococcal vaccine be used to complete a vaccination course (i.e. are the brands interchangeable)?
- Q12. If a child received only the Hib-MenC vaccine at 12 months of age, should they receive an additional dose of MenACWY vaccine?
- Q13. Can MenACWY vaccine be co-administered with MenB vaccine?
- Q14. Can meningococcal vaccines be co-administered with non-meningococcal vaccines?
- Q15. For adolescents aged 10–19 years who require a catch-up dose of MenC vaccine, is vaccination with a dose of MenACWY vaccine sufficient?
- Q16. An adolescent has had a dose of MenACWY (conjugate or polysaccharide) vaccine in the past and are now eligible for a dose of MenACWY vaccine through the state-based program. Should they receive this dose?
- Q17. My patient has received meningococcal vaccines in the past. Do they need a booster dose?
- Q18. My patient has been in close contact with someone who has been diagnosed with meningococcal disease. Do they need vaccination?

Questions about meningococcal vaccines and vaccine schedules

Q1. What new changes have been introduced from 1 July 2018 regarding meningococcal vaccination in the National Immunisation Program?

From 1 July 2018, a single dose of quadrivalent meningococcal (MenACWY) conjugate vaccine (Nimenrix[®]) is available for free under the National Immunisation Program (NIP) to be given at 12 months of age. This vaccine protects against meningococcal disease caused by serogroups A, C, W and Y.

This dose of MenACWY vaccine replaces the combined *Haemophilus influenzae* type b–meningococcal C conjugate (Hib-MenC) vaccine (Menitorix[®]) given at 12 months of age.

With this change, the booster dose of the Hib vaccine is to be given as a separate monovalent vaccine (Act-HIB[®]) at 18 months of age instead of 12 months. Hib-MenC vaccine can still be safely used for this booster Hib dose until supplies are exhausted.

There have also been changes to the Hib and pneumococcal vaccine schedules on the NIP. Refer to NCIRS factsheets — *Haemophilus influenzae* type b (Hib) vaccines for Australian children and Pneumococcal vaccines for Australians — for details.

Refer also to NCIRS Immunisation recommendations for infants, children and adolescents in Australia for details on the changes to the NIP schedule.

Q2. Who should be vaccinated with meningococcal vaccines?

Any person aged ≥ 6 weeks who wishes to protect themselves against invasive meningococcal disease (IMD) can be vaccinated with MenACWY and MenB vaccines to reduce their likelihood of becoming ill with meningococcal disease caused by serogroups A, B, C, W or Y.

Specific recommendations for meningococcal vaccination for people who have a higher risk of disease have been updated.

Vaccination with both MenACWY and MenB vaccines is strongly recommended for:

- **all children aged <2 years**, as they have the highest rates of IMD
- **adolescents (aged 15–19 years)**
- **All Aboriginal and Torres Strait Islander people aged 2 months to 19 years**, as they are at substantially higher risk for meningococcal disease than non-Indigenous people
- **people with specified medical conditions that increase the risk** of meningococcal disease (refer to [Q7](#))
- **laboratory personnel** who frequently handle *Neisseria meningitidis* (the meningococcal bacteria)
- **Adolescents and young adults (aged 15–24 years) who are living in close conditions** (such as military recruits or those in residential accommodation), as meningococcal bacteria are carried and spread more frequently in these populations
- **Adolescents and young adults (aged 15–24 years) who are current smokers**, as they have a higher risk of carrying the meningococcal bacteria

MenACWY vaccine is also recommended for people **travelling** to countries where there is an increased risk of exposure to meningococcal A, C, W or Y disease, including those who plan to travel to parts of the world where epidemics of meningococcal A, C, W or Y disease occur, particularly the ‘meningitis belt’ of sub-Saharan Africa. MenACWY vaccination is specifically required for pilgrims attending the annual Hajj in Mecca.

Q3. Which MenACWY vaccines are available in Australia, and are there any differences between them?

There are three brands of MenACWY vaccines available for use in Australia. They differ in the carrier protein that the meningococcal serogroup A, C, W and Y antigens are conjugated (joined) to:

- Menactra[®] (Sanofi Pasteur) – diphtheria toxoid conjugate
- Menveo[®] (GlaxoSmithKline) – CRM₁₉₇ conjugate
- Nimenrix[®] (Pfizer) – tetanus toxoid conjugate

All three vaccines provide effective protection against meningococcal A, C, W and Y disease. However, there are some variations in the level of immune response that each of them induces in different age groups and to different serogroups. Therefore, there are differences in the dosing schedules for each vaccine. The age ranges for which they are registered for use in Australia also vary. In individuals aged ≥ 2 years, it is preferable to receive Menveo or Nimenrix, rather than Menactra. Nimenrix and Menveo provide a slightly better immune response compared with Menactra, and a slower decline in protection over time. However, if Menveo and Nimenrix are unavailable, Menactra should be given as it also provides effective protection. In people aged ≥ 2 years, a single dose of MenACWY vaccine is recommended.

Additional doses are recommended in people with specific medical conditions that increase their risk of meningococcal disease.

For all three brands of MenACWY vaccine, multiple doses are required for infants commencing vaccination at age <12 months. Although Nimenrix is registered in Australia for use in those aged 12 months and older, it may be used in infants as young as 6 weeks of age. Menactra should only be used for infants aged 9 months and older. For healthy toddlers aged 12–23 months, 1 dose of Nimenrix or 2 doses of either Menactra or Menveo are required. For children <2 years old, there is no preference for any of the three brands as long as the number of required doses are completed.

In addition, doses of Menactra should not be administered at the same time as 13-valent pneumococcal vaccine (13vPCV, Prevenar 13[®]) due to possible interference with immune responses to 13vPCV. 13vPCV should be given at least 4 weeks before Menactra; alternatively, Menveo or Nimenrix should be used instead.

Although Menveo is the only brand that is currently registered in Australia for use in those aged >55 years, both Menactra and Nimenrix can be given to people in this age group, as per [The Australian Immunisation Handbook](#).

Q4. How many doses of MenACWY vaccine are required?

The number of doses of MenACWY vaccine required varies by age at which vaccination commences and the brand used. A minimum 8-week interval is recommended between doses. However, longer intervals between doses do not reduce vaccine effectiveness or necessitate repeating prior doses.

Refer to NCIRS [fact sheet Meningococcal vaccines for information about dosing schedule recommendations](#).

Q5. Which MenB vaccines are available in Australia, and are there any differences between them?

Two vaccines are available to protect against meningococcal B disease:

- Bexsero[®] (GlaxoSmithKline)
- Trumenba[®] (Pfizer)

Bexsero is a recombinant multicomponent vaccine that can be given from 6 weeks of age. The dosing schedule varies on the basis of age at commencement of vaccination

Trumenba is a recombinant bivalent human factor H binding protein (fHBP) vaccine that is registered for use from 10 years of age. It is administered as a 2-dose schedule in healthy individuals (at 0 and 6 months) or a 3-dose schedule in people with specified medical conditions (see [Q7](#)) at 0, 1 and 6 months.

The number of doses of MenB vaccine required varies by age at which vaccination commences and the brand used

Refer to the [NCIRS fact sheet Meningococcal vaccines](#) for more detailed dosing recommendations.

Q6. Which vaccine is more important to give, MenACWY or MenB?

Epidemiological data show that the rate of meningococcal disease varies by age and by state and territory.

Meningococcal disease caused by serogroups W and Y is emerging in Australia. In general, meningococcal B disease is still more common than meningococcal W disease in young children, especially infants. However, in 2016 and 2017, similar numbers of cases were caused by meningococcal B and W. As epidemiology is constantly changing, ideally both vaccines should be given, particularly for those people for whom vaccination is strongly recommended (see Q2).

Bexsero protects primarily against meningococcal B disease but may also provide some cross-protective benefit against the currently circulating strains of meningococcal W.¹ This may be particularly relevant for infants, in whom the rate of meningococcal B disease has remained higher than that of meningococcal W disease. However, vaccination with MenACWY vaccine is still needed to adequately protect against the A, C, W and Y serogroups. They can be administered together on the same day (refer to [Q13](#)). Financial constraints may have to be considered, as MenB vaccine is not currently funded on the NIP, while a single dose of MenACWY vaccine (Nimenrix) is funded at 12 months of age.

Q7. Is there a different vaccine schedule for people with specified medical conditions that increase the risk of meningococcal disease?

Additional doses of MenACWY and MenB vaccines are recommended for people with specified medical conditions associated with an increased risk of meningococcal disease. These conditions include:

- inherited defects or deficiency of properdin or complement components
- current or future treatment with eculizumab
- functional or anatomical asplenia
- HIV infection
- haematopoietic stem cell transplant.

Refer to NCIRS fact sheet [Meningococcal vaccines](#) for more detailed dosing recommendations.

Q8. Are meningococcal vaccines safe?

Meningococcal conjugate vaccines (including MenC and MenACWY vaccines) are generally safe and well tolerated. Limited data suggest no significant differences in frequency or severity of adverse events between brands of MenACWY vaccines. MenB vaccines are also safe for use in the age groups that they are registered for. From a safety perspective, all meningococcal vaccines can be given with other routine childhood and adolescent vaccines. However, a moderately higher rate of fever in young children aged <2 years following Bexsero has been observed. Prophylactic use of paracetamol reduces the risk of fever, and is recommended with every dose of Bexsero in these young children.

Additional information on adverse events following meningococcal vaccination can be found in [The Australian Immunisation Handbook](#) and the NCIRS [Meningococcal vaccines](#) factsheet. Any reports of adverse events following immunisation can be made to the Therapeutic Goods Administration (TGA) and jurisdictional adverse event surveillance systems. Further information on reporting can be found on the [NCIRS website](#).

Q9. Are there any contraindications to using meningococcal vaccines?

The only absolute contraindications for meningococcal vaccines are anaphylaxis following a previous dose of the respective vaccine or anaphylaxis following any component of the vaccine. Previous meningococcal disease, regardless of the serogroup, is not a contraindication for vaccination.²

The product information for Menveo states that the tip cap of the syringe contains natural rubber. The risk of allergy is lower from natural rubber than from latex. However, consider using an alternative product in people with an allergy or sensitivity to latex.

Q10. Are MenACWY or MenB vaccines available for free?

Children aged 12 months are eligible to receive a single dose of MenACWY vaccine (Nimenrix) for free under the NIP. All other recommended doses of MenACWY or MenB vaccines are not currently free under the NIP, including recommended doses for infants aged <12 months or people with specific medical conditions that increase their risk of meningococcal disease (see [Q7](#)). There is no funded catch-up MenACWY vaccination program for children previously immunised with Hib-MenC vaccine, but MenACWY vaccine may be obtained through private prescription.

In addition to the NIP-funded dose of MenACWY vaccine for 12-month-old children, six states and territories (Australian Capital Territory, New South Wales, Queensland, Tasmania, Victoria and Western Australia) have state-funded MenACWY vaccination programs for adolescents via school-based immunisation and/or primary care providers. Western Australia also has a state-funded MenACWY vaccination program for children aged 1–4 years until 31 December 2018. From July 2018, the Tasmanian government is also offering free MenACWY vaccine to people aged between 6 months and 21 years. Vaccination is also being offered in certain regions of the Northern Territory and South Australia in response to an outbreak of meningococcal W disease which predominantly affected Aboriginal communities. Refer to state and territory health department websites for further details and up-to-date information on which populations are eligible for vaccination.

MenB vaccines are not currently funded through the NIP for any age or risk group. These are available through private prescription only in most states. However, in South Australia, '[B Part of It](#)' is a clinical research study that has offered the MenB vaccine, Bexsero, to students in years 10 through 12 in participating South Australian schools in 2017 and 2018. From October 2018, Bexsero will also be available free of cost to all infants and children aged 6 weeks to <4 years through a state-funded program. From February 2019, MenB vaccine (Bexsero or Trumenba) will also be available to adolescents and young adults aged 15 to <21 years in South Australia through this state-funded program. A more age-restricted program will be available on an ongoing basis after December 2019. Refer to the [South Australian health department website](#) for details on this program.

Q11. Can a different brand of meningococcal vaccine be used to complete a vaccination course (i.e. are the brands interchangeable)?

MenACWY vaccines: It is preferable to use the same brand of MenACWY vaccine when giving subsequent doses, especially for completing a primary vaccination course for young children. However, a different brand may be substituted in cases where the initial brand used is unavailable or not known. Clinical trials where an alternative brand has been used as a booster dose in children have shown equivalent levels of immune response between those re-vaccinated with a similar or different brand.³ Therefore, children who have been vaccinated with Menveo as infants, for example, can be safely immunised and protected with a funded dose of Nimenrix at 12 months under the NIP. Among people who require booster doses every 5 years, a different brand of MenACWY vaccine may be used.

MenB vaccines: Bexsero and Trumenba are not interchangeable; the same vaccine must be used to complete the vaccination course. This is because the strains that the two vaccines protect against are slightly different. If the vaccine used to initiate the vaccination course is unavailable, a complete primary course of the alternative vaccine must be given to ensure protection.

Q12. If a child received only the Hib-MenC vaccine at 12 months of age, should they receive an additional dose of MenACWY vaccine?

Vaccination with the Hib-MenC vaccine (the NIP scheduled and funded vaccine prior to 1 July 2018) does not provide protection against meningococcal disease caused by serogroups A, W and Y. While anyone wishing to protect themselves can receive MenACWY vaccine, in particular all children <2 years are highly recommended to receive MenACWY vaccine. To receive the additional benefit of protection against serogroups A, W and Y, a child who has previously received the combination Hib-MenC vaccine at 12 months can be vaccinated with a MenACWY vaccine (noting that the number of doses required are different with different brands), with an interval of 2 months or more after the previous dose of Hib-MenC vaccine. There is no NIP-funded catch-up MenACWY vaccine program for children who were born prior to 1 July 2017 and have already received the Hib-MenC vaccine. For these children, MenACWY vaccine is obtainable by private prescription.

Q13. Can MenACWY vaccine be co-administered with MenB vaccine?

MenB vaccines can be co-administered with MenACWY vaccines. Prophylactic administration of paracetamol is recommended before and after administration of Bexsero in children aged <2 years (refer to [ATAGI's advice on the use of Bexsero](#)).

Q14. Can meningococcal vaccines be co-administered with non-meningococcal vaccines?

Yes, MenACWY and MenB vaccines can be co-administered with most other routine NIP childhood vaccinations with some exceptions.

Menactra (MenACWY vaccine) should not be co-administered with 13vPCV (Prevenar 13). This is because Menactra may interfere with the immune response against some pneumococcal serotypes. If a person needs both vaccines, they should receive 13vPCV first, followed by Menactra at least 4 weeks later. If 13vPCV and Menactra are inadvertently co-administered, the 13vPCV dose should be repeated a minimum of 8 weeks later. Menveo or Nimenrix can be co-administered with 13vPCV.

A slightly lower immune response to Nimenrix occurs if it is given 1 month after a tetanus-containing vaccine (such as Infanrix Hexa).⁴ Similar is the case when Menactra is given 1 month after a diphtheria-containing vaccine.^{5,6} However, this does not occur when the vaccines are co-administered (i.e. Nimenrix with a tetanus-containing vaccine,⁴ and Menactra with a diphtheria-containing vaccine).⁷ Wherever possible, the appropriate vaccines should be co-administered. If they cannot be co-administered, it is preferred that the meningococcal vaccine is given first, followed by the tetanus/ diphtheria-containing vaccine a month later.

Children aged <2 years have an increased risk of fever if Bexsero is co-administered with other routine vaccines, compared with when these vaccines are given separately. However, this is not a contraindication to co-administration of Bexsero with other vaccines. Alternatively, children aged <2 years can receive Bexsero separately from other routine infant vaccines, with a minimum interval of 3 days, to minimise the risk of fever. In this case, do not delay routinely recommended vaccines. Children aged <2 years are recommended to receive prophylactic paracetamol if they are receiving Bexsero, even if this is given alone.

Q15. For adolescents aged 10–19 years who require a catch-up dose of MenC vaccine, is vaccination with a dose of MenACWY vaccine sufficient?

Yes, vaccination with MenACWY vaccine provides protection against MenC disease and is accepted by the Australian Immunisation Register (AIR) as a dose of MenC vaccine. It can be given in lieu of monovalent MenC vaccines. [The Australian Immunisation Handbook](#) provides further details on catch-up requirements in people aged ≥10 years, and an Australian Government Department of Health [fact sheet](#) provides information on catch-up doses available at no cost under the NIP. Catch-up vaccination for the MenC vaccine dose with a MenACWY vaccine is currently not funded under the NIP (but may be available for free through other state and territory programs).

Q16. An adolescent has had a dose of MenACWY (conjugate or polysaccharide) vaccine in the past and is now eligible for a dose of MenACWY vaccine through the state-based program. Should they receive this dose?

Yes. Eligible adolescents can receive a dose of MenACWY vaccine through a state-based program if they have been vaccinated with MenACWY vaccine in the past (with at least 8 weeks since the last dose), even if the previous dose was within the past 5 years. Repeat vaccination can offer a benefit by boosting immunity, and does not increase the risk of experiencing side effects. Adolescents who have previously received a polysaccharide meningococcal vaccine (at any age), which would have provided protection for only a limited period, can be vaccinated with MenACWY vaccine now, provided that at least 6 months have passed since they received the last dose of polysaccharide vaccine.

Q17. My patient has received meningococcal vaccines in the past. Do they need a booster dose?

MenACWY vaccines: In healthy individuals of any age, routine booster doses of MenACWY vaccine after vaccination with an age-appropriate number of doses are not recommended in Australia.

People at increased risk of meningococcal disease due to certain medical conditions (refer to [Q7](#)), laboratory personnel who handle *Neisseria meningitidis* and people travelling to areas with increased risk of exposure to meningococcal disease have ongoing increased risk of infection and should receive regular booster doses, as per the schedules. Serological testing to determine immune status is not necessary, nor recommended.

MenB vaccines: Routine booster doses of MenB vaccines are not currently recommended in Australia for any age or risk group.

Q18. My patient has been in close contact with someone who has been diagnosed with meningococcal disease. Do they require vaccination?

The relevant state or territory public health authority should be contacted as soon as possible for advice on determining the risk of disease and for guidance on management, including whether to offer clearance antibiotics or vaccination.

For more information on meningococcal disease, vaccines and schedules, refer to the NCIRS fact sheet – [Meningococcal vaccines](#).

References

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