

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 changes have been introduced to meningococcal vaccination in the National Immunisation Program from 1 July 2020?
- 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. How many doses of MenB vaccine are required?
- Q7. Which vaccine is more important to give: MenACWY or MenB?
- Q8. Is there a different vaccine schedule for people with certain medical conditions that increase the risk of meningococcal disease?
- Q9. Are meningococcal vaccines safe?
- Q10. Are there any contraindications to using meningococcal vaccines?
- Q11. Are MenACWY or MenB vaccines available for free?
- Q12. Can a different brand of meningococcal vaccine be used to complete a vaccination course (i.e. are the brands interchangeable)?
- Q13. If a child received only the Hib-MenC vaccine at 12 months of age, should they receive an additional dose of MenACWY vaccine?
- Q14. Can MenACWY vaccine be co-administered with MenB vaccine?
- Q15. Can meningococcal vaccines be co-administered with non-meningococcal vaccines?
- Q16. I have inadvertently given Menactra with 13vPCV. What should I do?
- Q17. I have a child who requires Nimenrix or Menactra but they received Infanrix Hexa recently. What should I do?
- Q18. For adolescents aged 10–19 years who require a catch-up dose of MenC vaccine, is vaccination with a dose of MenACWY vaccine sufficient?
- Q19. 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 or national program. Should they receive this dose?

Q20. My patient has received meningococcal vaccines in the past. Do they need a booster dose?

Q21. My patient has been in close contact with someone who has been diagnosed with meningococcal disease. Do they need vaccination?

Q1. What changes have been introduced to meningococcal vaccination in the National Immunisation Program from 1 July 2020?

From 1 July 2020, the quadrivalent meningococcal (MenACWY) conjugate vaccine (Nimenrix[®]) and meningococcal B (MenB) vaccine (Bexsero[®]) are available under the National Immunisation Program (NIP) for people of all ages who have certain medical conditions that increase their risk of invasive meningococcal disease (IMD). These conditions include functional or anatomical asplenia/hyposplenia, complement deficiency and treatment with eculizumab. For those with ongoing increased disease risk due to these conditions, booster doses of Nimenrix that are recommended will also be funded by NIP. (Funded doses of Nimenrix for all Australians at 12 months of age and for adolescents aged 14–16 years old remain available under the NIP.)

In addition, MenB vaccine is also newly funded through the NIP for Aboriginal and Torres Strait Islander children from the age of 6 weeks to <2 years as part of a routine ongoing program, with catch-up being available for children aged <2 years (up to age 23 months) until June 2023.

These groups have been found to be at significantly higher risk of IMD and thus cost-effective for NIP funding.

Q2. Who should be vaccinated with meningococcal vaccines?

Any person aged ≥ 6 weeks who wishes to protect themselves against 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.

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)**, as they have high rates of IMD and the highest rates of meningococcal carriage
- **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 (some ages are NIP-funded, refer to [Q11](#))
- **people with certain medical conditions that increase the risk of meningococcal disease** (refer to [Q8](#))
- **laboratory personnel** who frequently handle *Neisseria meningitidis* (the meningococcal bacteria)
- **adolescents and young adults (aged 15–24 years) who live in close conditions** (such as military recruits or those in residential accommodation), as meningococcal bacteria are carried and spread more frequently in these people
- **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, such as the 'meningitis belt' of sub-Saharan Africa or 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 joined (conjugated) to:

- Menactra[®] (Sanofi Pasteur) – diphtheria toxoid conjugate
- Menveo[®] (GlaxoSmithKline) – CRM₁₉₇ conjugate
- Nimenrix[®] (Pfizer) – tetanus toxoid conjugate (this is the brand used in the NIP).

All three vaccines provide effective protection against meningococcal disease caused by serogroups A, C, W and Y. 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. Of the three MenACWY vaccine brands, Nimenrix is the only one funded for use in the NIP.

For people aged ≥ 2 years, it is preferable to receive Menveo or Nimenrix, rather than Menactra, because Menveo and Nimenrix provide a slightly higher immune response than 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.

Menveo and Nimenrix have no upper age limit for use. While Menactra is not registered for use in those aged >55 years, it can still be given to people in this age group, as per the [Australian Immunisation Handbook](#).

Certain brands of MenACWY vaccines have precautions when administered with other vaccines. See [Q15](#).

Q4. How many doses of MenACWY vaccine are required?

Refer to [NCIRS fact sheet on Meningococcal vaccines](#) and the [Australian Immunisation Handbook](#) for detailed information about dosing schedule recommendations by age.

The number of doses of MenACWY vaccine required varies by age at which vaccination commences, the presence of medical conditions that increase the risk of meningococcal disease and the vaccine brand used. Nimenrix and Menveo can be used in infants as young as 6 weeks of age. Menactra should only be used for infants aged ≥ 9 months.

For children aged <2 years, there is no preference for any of the three brands as long as the number of required doses are completed. For children aged ≥ 2 years, Menveo and Nimenrix are preferred over Menactra, if available.

An 8-week interval is recommended between doses. However, longer intervals between doses do not reduce vaccine effectiveness or necessitate repeating prior doses.

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): Bexsero is a recombinant multicomponent vaccine (MenB-MC) that can be given from 6 weeks of age. It is the MenB vaccine funded for use in the NIP for certain people (see [Q11](#)).

Trumenba[®] (Pfizer): Trumenba is a recombinant bivalent human factor H binding protein (MenB-Hbp) vaccine that is registered for use from 10 years of age.

For people aged ≥ 10 years who are not eligible for NIP-funded MenB vaccination, there is no preference for use of either of the MenB vaccines, but they are NOT interchangeable for completing a course of vaccination.

Q6. How many doses of MenB vaccine are required?

The number of doses of MenB vaccine required varies by age at which vaccination commences, the brand used and presence of medical conditions that increase the risk of IMD. Refer to [NCIRS fact sheet on Meningococcal vaccines](#) and the [Australian Immunisation Handbook](#) for detailed information about dosing schedule recommendations by age.

When using Bexsero[®], infants starting vaccination at age 6 weeks to 11 months require a 3-dose schedule. If infants starting at age 6 weeks to 5 months have an increased risk of IMD (see [Q8](#)), they should instead have a 4-dose schedule. Anyone starting vaccination at age ≥ 12 months requires only 2 doses of vaccine 8 weeks apart, regardless of the presence of medical conditions that increase the risk of IMD.

Trumenba[®] is used from 10 years of age in a 2-dose schedule in healthy individuals, at 0 and 6 months, or a 3-dose schedule in people with certain medical conditions that increase their risk of IMD (see [Q8](#)) at 0, 1 and 6 months.

Q7. 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. For detailed information about meningococcal disease epidemiology, refer to NCIRS fact sheet on [Meningococcal vaccines](#).

In general, MenB disease is slightly more common than MenW disease in young children, especially infants. 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 MenB but may also provide some cross-protective benefit against the currently circulating strains of MenW.³ This may be particularly relevant for infants, in whom the rate of MenB disease has remained higher than that of MenW disease. However, vaccination with MenACWY vaccine is still needed to adequately protect against the A, C, W and Y serogroups. Both vaccines can be co-administered (refer to [Q14](#)).

Q8. Is there a different vaccine schedule for people with medical conditions that increase the risk of meningococcal disease?

Additional doses of MenACWY and MenB vaccines are recommended for people of certain ages with certain medical conditions that increase the risk of meningococcal disease. These conditions include:

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

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

Q9. 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 those aged <2 years. Additional information on adverse events following meningococcal vaccination can be found in the [Australian Immunisation Handbook](#) and the NCIRS [Meningococcal vaccines](#) fact sheet. 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](#).

Refer to [Q15](#) for information about co-administration of meningococcal vaccines with other vaccines.

Q10. 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 due to any component in the meningococcal vaccine. Previous meningococcal disease, regardless of the serogroup, is not a contraindication for vaccination.⁴

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.

Q11. Are MenACWY or MenB vaccines available for free?

Children aged 12 months and adolescents aged 14–19 years are eligible to receive a single dose of MenACWY vaccine (Nimenrix) for free under the NIP. People of all ages at increased risk of IMD due to functional or anatomical asplenia/hyposplenia, complement deficiency or eculizumab treatment can receive MenACWY vaccine (Nimenrix) with ongoing boosters and MenB vaccine (Bexsero) for free. Aboriginal and Torres Strait Islander infants can also receive free vaccination with Bexsero (eligible for 3 or 4 primary doses up to 12 months of age, depending on risk), with a catch-up program for children aged <2 years until June 2023.

All other recommended doses of MenACWY or MenB vaccines are not free under the NIP, including recommended doses for infants aged <12 months. There is no funded catch-up MenACWY vaccination program for children previously immunised with Hib-MenC vaccine at 12 months of age. However, MenACWY vaccine may be obtained through private prescription.

In South Australia (SA), Bexsero is available free to all infants aged 6 weeks to 12 months and adolescents aged 15–16 years (school year 10) through a state-funded program which started in October 2018. Refer to the [South Australian health department website](#) for details on this program.

Q12. 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 was used as a booster dose in children have shown equivalent levels of immune response between those re-vaccinated with a similar or different brand.⁵ Therefore, children who have been vaccinated with Menveo as infants, for example, can be safely immunised with a NIP-funded dose of Nimenrix at 12 months of age.

Among people who require booster doses every 3–5 years (depending on age at primary course), 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 some of the target antigens used for eliciting the immune response are different between these two vaccines. 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.

Q13. If a child received only the Hib-MenC vaccine at 12 months of age, should they receive an additional dose of MenACWY vaccine?

Yes, MenACWY vaccine is recommended to provide protection against IMD due to serogroups A, W and Y, besides C, which were not contained in the Hib-MenC vaccine (the NIP scheduled and funded meningococcal vaccine before 1 July 2018). MenACWY vaccine is not available through an NIP-funded catch-up vaccination program for children who were born before 1 July 2017 and have already received the Hib-MenC vaccine. For these children, MenACWY vaccine is obtainable by private prescription. These children will be eligible for a dose of MenACWY vaccine funded by the NIP when they reach 14–16 years of age (school year 10).

Q14. 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, whether Bexsero is given alone or with other vaccines (refer to the [Australian Immunisation Handbook](#)).

Q15. Can meningococcal vaccines be coadministered with non-meningococcal vaccines?

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

Coadministration of Nimenrix and Bexsero with other routine NIP vaccines

Nimenrix (MenACWY) and Bexsero (MenB) are the specific brands that are now funded for use under the NIP (and Bexsero in the South Australian Meningococcal B Immunisation Program) in certain people from 6 weeks of age (see [Q11](#)). This means that in eligible infants, these vaccines may require administration at the same time as other vaccines on the current NIP schedule, particularly at the 2, 4, 6 or 12 months schedule points.

Both Nimenrix and Bexsero are safe to administer with other NIP vaccines at these schedule points. It is acknowledged that 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. This risk can be effectively reduced through the use of prophylactic paracetamol ([Q9](#)). Providers are encouraged to administer all scheduled vaccines on time and to minimise splitting of vaccine doses, which increases the risk of delayed or missed vaccines if follow-up vaccination visits are not attended on time as planned.

In particular, the 12-month schedule point may involve giving Nimenrix and Bexsero together (e.g. for Aboriginal and Torres Strait Islander children), concurrently with 13vPCV (Prevenar 13) and MMR vaccine. It is recommended that Bexsero and 13vPCV, which can cause relatively higher rates of local reactions, be administered in separate limbs, if possible. Vaccination sites in the same limb should be separated by at least 2.5 cm. The upper limb is preferred over the lower limb for Bexsero and 13vPCV at 12 months of age, if sufficient muscle mass allows (see the [Australian Immunisation Handbook](#) vaccine administration section for more detailed information regarding vaccination sites and administering multiple vaccines).

Coadministration of Nimenrix and other tetanus toxoid–containing vaccines, or Menactra with diphtheria toxoid–containing vaccines

The routine NIP vaccination schedule does not involve co-administration of these vaccines.

Avoid, where possible, giving Nimenrix shortly after a tetanus toxoid (TT)-containing vaccine or Menactra shortly after a diphtheria toxoid (DT)-containing vaccine. Plan instead for the meningococcal vaccine to be co-administered with, or given before, the TT- or DT-containing vaccines, whenever possible. See [Q17](#) for what to do about Nimenrix or Menactra if a TT- or a DT-containing vaccine has already been given.

These limitations are due to findings from studies of toddlers aged 12–23 months and adults that showed the immune response to a single dose of Nimenrix was slightly lower if it was given 1 month after a tetanus toxoid (TT)-containing vaccine (such as Infanrix Hexa or Boostrix).^{6,7} Similar is the case for the immune response to Menactra when it is given 1 month after a diphtheria toxoid (DT)-containing vaccine in children and adolescents.^{8,9} These effects are thought to be due to tetanus or diphtheria vaccines interfering with the particular meningococcal conjugate vaccine having the same carrier protein. However, lower immune responses do **not** occur when the vaccines are given at the same time (i.e. Nimenrix with a TT-containing vaccine^{6,7} and Menactra with a DT-containing vaccine).¹⁰ Also, these studies do not provide information about the most suitable interval between TT-containing and Nimenrix vaccines and DT-containing and Menactra vaccines.

Coadministration of Menactra and 13vPCV

The routine NIP vaccination schedule does not involve co-administration of these two vaccines.

Co-administration of Menactra (MenACWY vaccine) and 13vPCV (13-valent pneumococcal conjugate vaccine) should be avoided. This is because Menactra may interfere with the immune response against some pneumococcal serotypes. If a person needs both vaccines, they should preferentially receive Menveo or Nimenrix with 13vPCV instead. If only Menactra is available, the person should receive 13vPCV first, followed by Menactra at least 4 weeks later. See [Q16](#) for advice if the vaccines have already been co-administered.

Q16. I have inadvertently given Menactra with 13vPCV. What should I do?

If Menactra and 13vPCV are inadvertently co-administered, there may be a risk of decreased immune response to 13vPCV. In healthy individuals, no further action is required. For people with medical conditions that increase the risk of invasive pneumococcal disease, 23-valent pneumococcal conjugate vaccine (23vPPV) should be administered as per schedule, as this will appropriately boost the initial 13vPCV dose. A repeat dose of 13vPCV is not required, but if given may provide an additional boost. See the [Australian Immunisation Handbook](#) and the NCIRS [Meningococcal vaccines](#) fact sheet for further details.

Q17. I have a child who requires Nimenrix or Menactra but they received Infanrix Hexa recently. What should I do?

There is no need to delay vaccination with Nimenrix (or Menactra from age 9 months) if Infanrix Hexa has been given as part of the primary series in children aged ≤12 months. From 12 months of age, if Infanrix Hexa has already been given first, the MenACWY vaccine should be given as originally scheduled and not delayed. Although immune response to the MenACWY vaccine may be slightly lower, the child will still have some protection against meningococcal disease. Vaccination in this sequential order is still preferred to delaying or missing the dose at an age when the risk of disease is high.

Q18. 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. Vaccination with a MenACWY vaccine is currently funded under the NIP for adolescents aged 14–19 years, and for those born after 1 July 2017 who require it as a catch-up for a missed NIP-funded 12-month dose of MenACWY.

Q19. 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 national program. Should they receive this dose?

Yes. Eligible adolescents can receive a dose of funded MenACWY vaccine through the NIP if they have been vaccinated with MenACWY vaccine in the past (provided there is a gap of 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 and are recommended to be vaccinated with MenACWY vaccine now, provided at least 6 months have passed since they received the last dose of polysaccharide vaccine.

Q20. My patient has received meningococcal vaccines in the past. Do they need a booster dose?

MenACWY vaccines: In healthy people 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 because of certain medical conditions (refer to [Q8](#)), laboratory personnel who handle *Neisseria meningitidis* and people frequently 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 recommendations in the [Australian Immunisation Handbook](#). Refer to the NCIRS fact sheet on [Meningococcal vaccines](#) for detailed dosing recommendations. Serological testing to determine immune status is neither necessary nor recommended.

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

Q21. 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](#).

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