

# Meningococcal B vaccines

## Advice for parents

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There are two meningococcal B vaccines available in Australia for anyone who is interested in reducing their risk of meningococcal B disease. GPs should recommend vaccination, particularly for high-risk patients, and provide information on costs, dosing schedules, administration and adverse events associated with the vaccines.

### Case scenario

Holly, the mother of a two-month-old baby, wants to know why the pneumococcal vaccine is available on the PBS, but the meningococcal B vaccine is not. She asks whether she should vaccinate her baby against meningococcal B disease, irrespective. If so, what is the vaccine schedule, how much will it cost, what are the side effects and will this vaccination be on the immunisation schedule at some stage soon? Should she and her husband be vaccinated too and, if so, is the vaccination schedule different for adults?

### Who should be vaccinated?

Meningococcal B vaccination is recommended for anyone aged 6 weeks or older to reduce their risk of invasive meningococcal disease (IMD). It is strongly recommended for a number of high-risk population subgroups (Box). There are two meningococcal B vaccines available in Australia:

- MenB-MC, which can be used in those aged 6 weeks or older
- MenB-fHBP, which can be used in those aged 10 years or older.

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### How should Holly be advised?

Holly should be strongly encouraged to consider the meningococcal B vaccine for her baby. Although rare, IMD is associated with a case fatality rate of 5 to 10%, even with treatment. Around a third of patients will have long-term sequelae including permanent neurological disability and loss of limbs and digits. Both vaccines are effective in providing short-term protection against meningococcal serogroup B, although only the MenB-MC vaccine is licensed for use in infants. The duration of protection afforded by these vaccines and the need for ongoing booster doses is not yet known. Holly and her husband may also wish to consider vaccination for themselves, particularly if they have any of the medical risk factors listed in the Box.

### What is the cost, and is it funded?

Both vaccines are currently available on private prescription in most states and territories, with the exception of South Australia, where a state-funded campaign is ongoing. Cost may be a barrier to vaccination, with the MenB-MC vaccine costing between \$100 to \$130 per dose and the MenB-fHBP vaccine around \$90 per dose. If she chooses to proceed, Holly would need to pay for three doses of MenB-MC for her baby, and two doses each of either vaccine for herself and her husband.

In November 2019, the Pharmaceutical Benefits Advisory Committee (PBAC) recommended listing the MenB-MC vaccine on the National Immunisation Program (NIP) for Aboriginal and Torres Strait Islander infants under the age of 2 years, and for people with medical risk factors for IMD, namely, asplenia/hyposplenia, complement deficiency and those undergoing treatment with eculizumab. No changes to the NIP have yet been announced. The PBAC did not recommend listing for a broader population of infants or for adolescents because of the uncertainties regarding the level of effectiveness of the MenB-MC vaccine, and the lack of any herd protective effects, both of which are critical to inform its cost-effectiveness.<sup>1</sup>

### What is the dosing schedule?

The dosing schedules for the meningococcal B vaccine recommended by the Australian Technical Advisory Group on

### MENINGOCOCCAL B VACCINATION IS STRONGLY RECOMMENDED FOR THE FOLLOWING HIGH-RISK POPULATION SUBGROUPS

- Infants and young children under the age of 2 years
- Aboriginal and Torres Strait Islander people aged 2 months to 19 years of age
- Adolescents aged 15 to 19 years of age
- Adolescents and young adults aged 15 to 24 years of age who live in close quarters or who are smokers
- People with medical risk factors for invasive meningococcal disease, namely asplenia, hyposplenia, complement deficiencies, treatment with eculizumab, haematopoietic stem cell transplantation or HIV
- Laboratory workers who handle *Neisseria meningitidis*

Immunisation (ATAGI) vary by age, chosen vaccine and presence of medical risk factors for IMD (Table).<sup>2</sup> The ATAGI dose recommendations vary from the manufacturer's in some ways, and these variations are outlined in the *Australian Immunisation Handbook* (digital edition).<sup>3</sup>

There is currently no recommended preferred vaccine in people aged 10 years and older. It is important to note that the two brands are not interchangeable, and the same brand must be used to complete the course.

### Vaccine administration and adverse events

Both vaccines are safe and well tolerated. Common side effects for both vaccines include injection site reactions and mild systemic symptoms such as malaise and headache. These reactions are usually mild to moderate in severity. Fever is a very common side effect following vaccination with MenB-MC, particularly in infants and young children. A dose of prophylactic paracetamol (15 mg/kg) given 30 minutes before vaccination is recommended for all infants under 2 years of age receiving MenB-MC. Two further doses of prophylactic paracetamol can be given at six and

TABLE. RECOMMENDED SCHEDULES FOR MENINGOCOCCAL B VACCINES<sup>2</sup>

Age	Vaccine	Dose requirements for healthy people (not at increased risk of IMD)	Dose requirements for people with medical risk factors for IMD
6 weeks to 5 months	MenB-MC	3 doses: <ul style="list-style-type: none"> <li>• 8 weeks between 1st and 2nd doses</li> <li>• 3rd dose at 12 months of age or 8 weeks after 2nd dose, whichever is later</li> </ul>	4 doses: <ul style="list-style-type: none"> <li>• 8 weeks between doses</li> <li>• 4th dose at 12 months of age or 8 weeks after 3rd dose, whichever is later</li> </ul>
6 to 11 months	MenB-MC		3 doses: <ul style="list-style-type: none"> <li>• 8 weeks between 1st and 2nd doses</li> <li>• 3rd dose at 12 months of age or 8 weeks after 2nd dose, whichever is later</li> </ul>
12 months to 9 years	MenB-MC	2 doses: <ul style="list-style-type: none"> <li>• 8 weeks between doses</li> </ul>	2 doses: <ul style="list-style-type: none"> <li>• 8 weeks between doses</li> </ul>
10 years and older	MenB-MC MenB-fHBP		3 doses: <ul style="list-style-type: none"> <li>• at intervals of 0, 1 and 6 months</li> </ul>

Abbreviation: IMD = invasive meningococcal disease.

12 hours after vaccination, even if fever is not present. If fever occurs, typically it peaks at six hours after vaccination and subsides within three days. The risk of fever is increased if the MenB-MC vaccine is coadministered with other routine vaccines. However, it is not a contraindication to doing so, and MenB-MC can be administered together with routine NIP vaccines, as well as with meningococcal ACWY vaccines. If a caregiver wishes to reduce the risk of fever, MenB-MC can be given after routine vaccines, with a minimum interval of three days.

### Conclusion

GPs are likely to be faced with questions regarding the availability of the meningococcal B vaccine. It is important that parents are adequately informed about the two vaccines and their suitability to those being vaccinated. GPs should strongly recommend the meningococcal B vaccine to patients who fall into high-risk population subgroups. MT

### References

1. The Pharmaceuticals Benefits Scheme (PBS). Recommendations made by the PBAC - November

2019. Canberra: Australian Government Department of Health; 2019. Available online at: <http://www.pbs.gov.au/info/industry/listing/elements/pbac-meetings/pbac-outcomes/recommendations-made-by-the-pbac-november-2019> (accessed February 2020).

2. Australian Technical Advisory Group on Immunisation (ATAGI) Public consultation on changes to the recommended use of meningococcal and Haemophilus influenzae type B vaccines. Canberra: ATAGI; 2018. Available online at: [https://consultations.health.gov.au/ohp-immunisation-branch/proposed-changes-to-meningococcal-and-hib/supporting\\_documents/Public%20Consultation%20Document\\_meningococcal%20and%20Hib%20vaccines\\_FINAL.pdf](https://consultations.health.gov.au/ohp-immunisation-branch/proposed-changes-to-meningococcal-and-hib/supporting_documents/Public%20Consultation%20Document_meningococcal%20and%20Hib%20vaccines_FINAL.pdf) (accessed February 2020).

3. Australian Technical Advisory Group on Immunisation (ATAGI). Australian immunisation handbook. Meningococcal disease. Canberra: ATAGI; 2019. Available online at: <https://immunisationhandbook.health.gov.au/vaccine-preventable-diseases/meningococcal-disease> (accessed February 2020).

### Further information

National Centre for Immunisation Research and Surveillance (NCIRS). Immunisation schedules. Available online at: <http://www.ncirs.org.au/health-professionals/immunisation-schedules> (accessed February 2020).

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