



Department of Health and Social Services  
Valerie J. Davidson, Commissioner

3601 C Street, Suite 540  
Anchorage, Alaska 99503 <http://dhss.alaska.gov/dph/Epi>

Division of Public Health  
Jay C. Butler, MD, Chief Medical Officer  
and Director  
Local (907) 269-8000  
24 Hour Emergency (800) 478-0084

Editors:  
Joe McLaughlin, MD, MPH  
Louisa Castrodale, DVM, MPH  
Bulletin No. 12 August 23, 2018

## Serogroup B Meningococcal Vaccine Update

### Background

Meningococcal disease is caused by the bacterium *Neisseria meningitidis* and can involve meningitis, bacteremia, septicemia, and death.<sup>1</sup> The bacteria is spread person-to-person by respiratory droplets through close contact associated with activities like coughing or kissing, or shared living quarters, especially among young people living in the same household or dormitory suite.<sup>1</sup> Approximately 10% to 15% of infected people die from the disease; of those that survive, 10% to 20% will suffer lifelong disabilities such as hearing loss, brain damage, amputations, and skin loss requiring skin grafts.<sup>2</sup>

There are 12 serogroups of *N. meningitidis*;<sup>1</sup> serogroup B accounts for approximately half of all meningococcal cases in persons aged 17–22 years in the United States and has caused several recent outbreaks in college settings.<sup>3</sup> Until 2013, most meningococcal disease in Alaska was caused by serogroup B.<sup>4</sup> There are two vaccines that have been licensed by the U.S. Food and Drug Administration (FDA) to protect against serogroup B meningococcal disease, MenB-FHbp (Trumenba, Pfizer, Inc.) and MenB-4C (Bexsero, GlaxoSmithKline Biologicals, Inc.). The Advisory Committee on Immunization Practices (ACIP) has not offered a preferential recommendation for either vaccine; however, they are not interchangeable, and the same product must be used for all doses in a series.

In 2016, ACIP updated their guidelines for vaccination against serogroup B meningococcal disease. The new guidance lists specific recommendations for different groups based on risk of serious meningococcal disease. Category A recommendations are made for all persons in an age- or risk-factor-based group, while Category B recommendations are considered “permissive” and rely on clinical decision-making.<sup>5</sup>

**Category A recommendation:**<sup>2</sup> vaccinate all persons aged  $\geq 10$  years who are at increased risk for serogroup B meningococcal disease, including the following:

- anyone at increased risk because of a serogroup B meningococcal disease outbreak;
- anyone with persistent complement component deficiency;
- anyone taking the prescription drug eculizumab (Soliris<sup>®</sup>);
- microbiologists who are exposed routinely to isolates of *Neisseria meningitidis*; and
- anyone with anatomic or functional asplenia.

**Category B recommendation:**<sup>3</sup> persons aged 16–23 years who are not at increased risk for meningococcal B infection *may* be vaccinated to provide short-term protection against most strains of serogroup B meningococcal disease. The preferred age of vaccination is 16–18 years.

### Guidance for Use<sup>2,3</sup>

- ACIP Category A Dosage Recommendation
  - Bexsero is a 2-dose series for persons aged  $\geq 10$  years who are at increased risk for meningococcal disease, with doses administered at 0 and 1 month.
  - Trumenba is a 3-dose series for persons aged  $\geq 10$  years who are at increased risk for meningococcal disease, with doses administered at 0, 1–2, and 6 months.
- ACIP Category B Dosage Recommendation
  - Bexsero is a 2-dose series for persons aged 16–23 years, with doses administered at 0 and 1 month.
  - Trumenba is a 2-dose series when given to healthy persons aged 16–23 years who are not at increased risk for meningococcal B disease, with doses administered at least 6 months apart.

- Trumenba or Bexsero may be administered concomitantly with other vaccines indicated for this age, but at a different anatomical site, if feasible.
- Vaccination should be deferred in women known to be pregnant or lactating unless the woman is at increased risk for serogroup B meningococcal disease, and, after consultation with her health care provider to determine whether the benefits outweigh the potential risks.

### Vaccine Effectiveness

Vaccine effectiveness was inferred based on an immunologic marker of protection. Immunogenicity was assessed as the portion of subjects who achieved a fourfold or greater increase by serum bactericidal activity using human complement (hSBA) for each of the serogroup B strains tested.<sup>6</sup> The vaccine produces an immune response that is protective against multiple serogroup B strains.<sup>6</sup>

### Contraindications

Vaccination is not recommended if the patient has experienced a severe allergic reaction to a previous dose of serogroup B meningococcal vaccine, or to a component of the vaccine.<sup>1</sup> Serogroup B meningococcal vaccine should be used during pregnancy only if clearly needed.<sup>1</sup> Additionally, the tip caps of the Bexsero prefilled syringes contain natural rubber latex, which may cause allergic reactions in latex-sensitive persons.<sup>6</sup> Before administering serogroup B meningococcal vaccines, health care providers should consult the package inserts for precautions, warnings, and contraindications.<sup>2</sup> Adverse events occurring after administration of any vaccine should be reported to the Vaccine Adverse Event Reporting System (VAERS). Additional information about VAERS is available by phone at 1–800–822–7967 or online (<https://vaers.hhs.gov>).

### State-Supplied Vaccine

The Alaska Immunization Program offers Bexsero on its pediatric formulary and its adult formulary (for adults aged 19 and 20 years). Health care providers who are enrolled to receive state-supplied vaccine may now order Bexsero; single dose syringes are available for order as a 10-pack or a 1-pack. Clinicians should screen patients for eligibility at each vaccination visit using guidance from the Alaska Immunization Program, and accurately document administration data into VacTrAK, Alaska’s immunization information system.

### References

1. CDC. Serogroup B Meningococcal (MenB) VIS. Available at: <http://www.cdc.gov/vaccines/hcp/vis/vis-statements/mening-serogroup.html>
2. Patton ME, Stephens D, Moore K, MacNeil JR. Updated recommendations for use of MenB-FHbp serogroup B meningococcal vaccine — Advisory Committee on Immunization Practices, 2016. *MMWR* 2017;66:509–13. Available at: <https://www.cdc.gov/mmwr/volumes/66/wr/mm6619a6.htm>
3. CDC. Use of serogroup B meningococcal vaccines in adolescents and young adults: Recommendations of the Advisory Committee on Immunization Practices. *MMWR* 2015;64(41):1171. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6441a3.htm>
4. Alaska Epidemiology Bulletin. “Meningococcal Disease in Alaska: Recent Changes in Circulating Serogroups”. No. 26, October, 8, 2015. Available at: [http://www.epi.alaska.gov/bulletins/docs/b2015\\_26.pdf](http://www.epi.alaska.gov/bulletins/docs/b2015_26.pdf)
5. Marshall GS, Tan L. Understanding the Category B recommendation for serogroup B meningococcal vaccine. *Pediatrics* 2017;139(5). Available at: <http://pediatrics.aappublications.org/content/early/2017/03/31/peds.2016-3484>
6. CDC. Use of serogroup B meningococcal vaccines in persons aged  $\geq 10$  years at increased risk for serogroup B meningococcal disease: Recommendations of the Advisory Committee on Immunization Practices, 2015. *MMWR* 2015;64(22):608–612. Available at: <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6422a3.htm>