Meningococcal Vaccines: Which One, For Who, and When?

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Brush up on meningococcal vaccine indications with a cheat sheet and a few clinical scenarios to test your memory.

Headaches following a meningococcal vaccine are not common, but trying to figure out to whom and when some of these vaccines should be given can easily bring one on in any practitioner. As prophylaxis against headaches, here’s a rundown on the available vaccines, at-a-glance:

<table>
<thead>
<tr>
<th>Trade Name</th>
<th>Type</th>
<th>Serogroups included</th>
<th>Year licensed</th>
<th>Approved ages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Menomune</td>
<td>Polysacch</td>
<td>A, C, W, Y</td>
<td>1981</td>
<td>≥ 2 y</td>
</tr>
<tr>
<td>Menactra</td>
<td>Conjugate</td>
<td>A, C, W, Y</td>
<td>2005</td>
<td>9 mo - 55 y a</td>
</tr>
<tr>
<td>Menveo</td>
<td>Conjugate</td>
<td>A, C, W, Y</td>
<td>2010</td>
<td>2 mo - 55 y a</td>
</tr>
<tr>
<td>MenHibrix</td>
<td>Conjugate</td>
<td>C, Y, Hib</td>
<td>2012</td>
<td>6 w -18 mo</td>
</tr>
<tr>
<td>Trumenba</td>
<td>Protein</td>
<td>B</td>
<td>2014</td>
<td>10 - 25y b</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3-dose series</td>
</tr>
<tr>
<td>Bexsero</td>
<td>Protein</td>
<td>B</td>
<td>2015</td>
<td>10 - 25y b</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2-dose series</td>
</tr>
</tbody>
</table>

May be given to people age 56 years or older (consult ACIP recommendations). May be given to people age 26 years or older (consult ACIP recommendations).

Now let’s get more specific about the two new kids on the block, Trumemba and Bexsero.

1. **For which of the following groups is routine meningococcal B (MenB) vaccination not recommended?**
   A. Individuals with severe combined immunodeficiency disease (SCID)
   B. All persons over the age of 10 with functional or anatomic asplenia
   C. All persons over the age of 10 with persistent complement component deficiency
   D. None of the above; that is, all the above groups should be routinely vaccinated

   **For answer, discussion, and next question, please click here.**

   **Answer:** A. Individuals with severe combined immunodeficiency disease (SCID)

   The CDC does NOT recommend that persons with SCID routinely receive Trumemba or Bexsero. Both these vaccines have a “B” recommendation from the Advisory Committee on Immunization Practices (ACIP) which means that providers can give the vaccine to persons in the recommended age range if in the provider’s clinical judgment it seems necessary. So, one could give the vaccine to a person with SCID, but since they can’t make antibodies well, it would not likely be of much value.

   While the CDC recommends that the older conjugate quadrivalent vaccines be given before college entrance, Trumemba and Bexsero are optional as decided by the provider and patient. These two vaccines are among the most expensive we have.

2. **How are insurance companies paying if a decision is made to administer either vaccine to a child heading off to college?**
   A. It varies by the insurance company.
   B. Since the MenB vaccine carries a “B” recommendation from the ACIP, insurance companies have to provide coverage for new policies per the Affordable Care Act.
   C. Most insurance companies will pay but require a pre-authorization process.
   D. Most insurance companies do not pay for a non-required vaccine.

   **For answer, discussion, and next question, please click here.**

   **Answer:** B. Since the MenB vaccine carries a “B” recommendation from the ACIP,
insurance companies have to provide coverage for new policies per the Affordable Care Act.
The ACIP didn’t give the meningococcal B vaccines an “A” recommendation for college freshman as it did for the quadravalent meningococcal vaccines meaning the MenB vaccines are not universally recommended for this group, unlike the quadravalent vaccines. The ACIP doesn’t always give reasons for its decisions. Three of the reasons below are thought to be possible explanations—one is an outlier.

3. Can you pick out the least likely rationale for ACIP’s decision not to recommend MenB vaccine for routine use in adolescents heading off to college and living in a dorm?
A. The incidence of B disease as a percentage of all meningococcal disease is less than 5% most years.
B. College freshman are not at increased risk for B disease as compared to persons of the same age not attending college.
C. Since these vaccines were given the fast track for FDA approval in light of outbreaks at several colleges in the last 3 years, the ACIP would like to see more data.
D. The cost-benefit ratio is too high to recommend routine use.
For answer and discussion, please click here.

Answer: A. The incidence of B disease as a percentage of all meningococcal disease is less than 5% most years.
Strains B, C, and Y each cause about one-third of the meningococcal disease cases in the United States, so A is the least likely rationale—and, it is inaccurate. Interestingly, the B strain has caused 2 outbreaks at colleges in the last three years but epidemiologic data do not show an increased risk for college attendees as compared to the general population of the same age.

References:
We thank the Immunization Action Coalition.


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