



Considerations For Use of 2- and 3-Dose Schedules of MenB-FHbp (Trumenba[®])

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Two MenB Vaccines For Persons Aged 10–25 Years in the United States

- MenB-FHbp (Trumenba[®], Pfizer)
 - Components: fHbp subfamily A/v2,3; subfamily B/v1
 - Licensed in the U.S. on October 29, 2014
 - Original licensure: 3 dose series, administered at 0, 2, 6 months
- MenB-4C (Bexsero[®], GlaxoSmithKline)
 - Components: fHbp subfamily B/v1; NhbA; NadA; Por A1.4
 - Licensed in the U.S. on January 23, 2015
 - 2 dose series, administered at 0 and ≥ 1 month
 - Licensed in >35 countries for persons ≥ 2 months of age

Current ACIP Recommendations for Serogroup B Meningococcal (MenB) Vaccines

- Certain persons aged ≥ 10 years who are at increased risk for meningococcal disease should receive MenB vaccine (Category A)¹
- A MenB vaccine series may be administered to adolescents and young adults aged 16–23 years to provide short-term protection against most strains of serogroup B meningococcal disease (Category B)²

¹Folaranmi T., et al. Use of Serogroup B Meningococcal Vaccines in Persons Aged ≥ 10 Years at Increased Risk for Serogroup B Meningococcal Disease: Recommendations of the Advisory Committee on Immunization Practices, 2015. MMWR; June 12, 2015; Vol. 64, No. 22, p 608-612.

²MacNeil JR, et al. Use of Serogroup B Meningococcal Vaccines in Adolescents and Young Adults: Recommendations of the Advisory Committee on Immunization Practices, 2014. MMWR; October 23, 2015, Vol. 64, No. 41, p 1171-1176.

Guidance for Use

- MenB vaccine should either be administered as a 3-dose series of MenB-FHbp (Trumenba[®]) or a 2-dose series of MenB-4C (Bexsero[®])^{1,2}
 - Consistent with original licensure

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Revised Dosing Schedule for MenB-FHbp

- Changes to the dosage and administration section for MenB-FHbp approved by FDA on April 14, 2016
- Original language:
Three doses according to a 0, 2, and 6 month schedule

- Updated language:
Three-dose schedule: Administer a dose at 0, 1-2, and 6 months
Two-dose schedule: Administer a dose at 0 and 6 months

The choice and dosing schedule may depend on the risk of exposure and the patient's susceptibility to meningococcal serogroup B disease

Outline

- Work Group interpretation of the MenB-FHbp data
 - Short-term immunogenicity
 - Antibody persistence
 - Safety
- Proposed policy options for 2- and 3-dose schedules of MenB-FHbp

Dosing Schedules Evaluated for MenB-FHbp

- 3-dose schedules:

- 0, 2, 6 months
- 0, 1, 6 months

- 2-dose schedules:

- 0, 6 months
- 0, 4 months
- 0, 2 months
- 0, 1 month

Work Group Interpretation: Short-Term Immunogenicity

- Among the 2-dose schedules evaluated for MenB-FHbp, the 0, 6 month schedule had the highest % responders and GMTs and is most similar to a 3-dose schedule
- The proportion of subjects with composite response to the four primary strains is slightly lower with a 2-dose schedule at (0, 6 months) compared to either 3-dose schedule

Work Group Interpretation: Short-Term Immunogenicity (continued)

- Similarly, for most strains the GMTs are lower with a 2-dose schedule (0, 6 months) of MenB-FHbp compared to either 3-dose schedule
 - For some strains the 95% confidence intervals do not overlap

Antibody Persistence

- The percent of subjects with hSBA titers $\geq 1:4$ to the four primary strains is similar for adolescents who received 2-doses (0, 6 months) or 3-doses (0, 2, 6 months)

Similar Response to Booster Dose

- hSBA GMT responses to a single booster dose 4 years following either 2- or 3-doses of MenB-FHbp are similar

Work Group Interpretation: Safety

- MenB vaccines are more reactogenic than other vaccines given during adolescence
 - Most common AE reported is pain at injection site
- The safety and tolerability profiles are similar for the 2-dose and 3-dose schedules of MenB-FHbp

MenB Vaccines in United States

- Two vaccines licensed for persons aged 10–25 years
 - MenB-FHbp (Trumenba[®], Pfizer); 2 or 3 doses
 - MenB-4C (Bexsero[®], GlaxoSmithKline); 2 doses
- No vaccine preference
- Current ACIP recommendations for MenB vaccines:
 - Certain persons aged ≥ 10 years who are at increased risk for meningococcal disease should receive MenB vaccine (Category A)¹
 - A MenB vaccine series may be administered to adolescents and young adults aged 16–23 years to provide short-term protection against most strains of serogroup B meningococcal disease (Category B)²

¹Folaranmi T., et al. Use of Serogroup B Meningococcal Vaccines in Persons Aged ≥ 10 Years at Increased Risk for Serogroup B Meningococcal Disease: Recommendations of the Advisory Committee on Immunization Practices, 2015. MMWR; June 12, 2015; Vol. 64, No. 22, p 608-612.

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Policy Options: 2- and 3-Dose Schedules of MenB-FHbp

1. For persons at increased risk and for use during outbreaks:
 - Preference for 3-dose schedule (0, 1-2, 6 months)
2. When given to healthy adolescents:
 - Preference for 2-dose schedule (0, 6 months)
 - OR*
 - Option for 2- (0, 6 months) or 3-dose (0, 1-2, 6 months) schedule
 - OR*
 - Preference for 3-dose schedule (0, 1-2, 6 months)

Work Group Discussion: 2- and 3-Dose Schedules of MenB-FHbp

- ACIP guidance for which schedule of MenB-FHbp to use in each population is needed
 - For persons at increased risk and for use during outbreaks
 - For healthy adolescents
- Preference for 3-dose schedule of MenB-FHbp for persons at increased risk (including outbreaks)
 - Provides early protection and maximizes immune response

Considerations for 2- and 3-Dose Schedules of MenB-FHbp in Healthy Adolescents

Preference for 2-dose schedule *OR* option for 2- and 3-dose schedules:

- Persistence of hSBA responses for 2-dose (0, 6 m) schedule similar to 3-dose (0, 2, 6 m) schedule
- Booster vaccination: hSBA GMT responses are similar for 2-dose (0, 6 m) schedule and 3-dose (0, 2, 6 m) schedule
- Option for 2- and 3- dose schedule does not provide explicit guidance to the physician on which schedule to use in healthy adolescents

Preference for 3-dose schedule:

- For people who want to maximize short term protection 3 doses is preferred
- Both the 2- and 3-dose schedules take 6 months to complete
- Can provide guidance that if someone receives their second dose of MenB-FHbp ≥ 6 months after the first dose no additional doses are needed

Policy Options: 2- and 3-Dose Schedules of MenB-FHbp

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 - Preference for 3-dose schedule (0, 1-2, 6 months)
2. When given to healthy adolescents:
 - Preference for 2-dose schedule (0, 6 months)

OR

- Option for 2- (0, 6 months) or 3-dose (0, 1-2, 6 months) schedule

OR

- Preference for 3-dose schedule (0, 1-2, 6 months)

Vote: 2- and 3-Dose Schedules of MenB-FHbp

1. For persons at increased risk for meningococcal disease and for use during serogroup B outbreaks, 3 doses of MenB-FHbp should be administered at 0, 1-2, 6 months
2. When given to healthy adolescents who are not at increased risk for meningococcal disease, 2 doses of MenB-FHbp should be administered at 0 and 6 months
 - If the second dose is given at an interval of <6 months a third dose should be given at least 6 months after the first dose

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

