Meningococcal Disease Prevention: Strengthening Protection in Adolescents

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Objectives

- Discuss meningococcal disease in the United States
- Discuss ACIP recommendations for MenACWY and MenB vaccines
- Explain the importance of boosting with MenACWY at 16 years old
- Discuss new school immunization requirements
- Share important tools and resources

Meningococcal Disease in the United States

- A bacterial infection
  - Neisseria meningitidis

- Unpredictable disease
  - 98% of cases are sporadic; fewer than 2% are related to outbreaks[1]
  - Typically occurs among previously healthy children and adolescents[2]

- Approximately 2100-3400 cases occurred annually in the 1990s[3]
  - Approximately 370-1000 per year during 2009-2016[4,5]

References: 1. Centers for Disease Control and Prevention (CDC). Epidemiology and Prevention of Vaccine-Preventable Diseases. (The Pink Book). 2015:231-246. 2. CDC. MMWR. 2013;62(RR-2):1-28. 3. CDC. MMWR. 2014;61(53):1-121. 4. CDC. MMWR. 2015;63(52): ND-719-ND-732. 5. www.cdc.gov/meningococcal/downloads/NCIRD-EMS-Report.pdf.

Outcomes Can Be Severe, Even with Treatment

- Serious outcomes include meningitis and meningococcemia (bloodstream infection)[1]
- 10%-15% death rate, even with antibiotics[1] (even higher – up to 40% with meningococcemia[1])
- Up to 20% of those who survive suffer lifelong disability
- Amputations of arms and legs, hearing loss, brain damage

References: 1. CDC. Epidemiology and Prevention of Vaccine-Preventable Diseases. (The Pink Book). 2015:231-246. 2. CDC. MMWR. 2013;62(RR-2):1-28.

Symptoms come on fast!

- Early Symptoms
  - Fever, headache, nausea, vomiting, loss of appetite
  - Similar symptoms of common viral illness

- Later symptoms
  - Hemorrhagic rash, neck stiffness, photophobia
  - Typically develops 12-15 hours after symptoms begin

- Rapid progression
  - Death can occur with 24 hours of the onset of symptoms

Adolescents and young adults most vulnerable because…

- Meningococcal disease spreads through:
  - Coughing, sneezing
  - Kissing
  - Sharing eating utensils, water bottles, etc.

- Crowded settings and living situations:
  - Dorm living
  - Crowded household
  - Military barracks
  - Nightclubs, bars

Getty Images/Nick Daly

Meningococcal Vaccines for Use in Adolescents and Young Adults

	Meningococcal conjugate (MenACWY)	Meningococcal B (MenB)
Year first licensed	2005	2014
Serogroup(s)	A, C, W, Y	B
Recommendations	Recommended for routine use in adolescents	Recommended, based on individual clinical decision making, for adolescents and young adults 16–23 years of age

ACIP Recommendations for Routine MenACWY Vaccination

- First dose of MenACWY at 11 or 12 years of age
  - Recommended since 2005 by the CDC's Advisory Committee on Immunization Practices (ACIP)
- A second dose at 16 years of age
  - Recommended since 2010 by ACIP

Courtesy of CDC

Why Boost at 16 Years of Age?

- Studies indicate that protective antibody levels decline 3 to 5 years after a single MenACWY dose[1]

- Vaccine effectiveness case-control study suggests that many adolescents are not protected 5 years after vaccination[1,2]

- "A single dose of meningococcal conjugate vaccine administered at age 11 or 12 years is unlikely to protect most adolescents through the period of increased risk at ages 16 through 21 years" – ACIP[1]

References: 1. CDC. MMWR. 2013;62(RR-2):1-28. 2. Cohn AC et al. Pediatrics 2017;139(2):e20162193.

Some Adolescents Remain Unvaccinated

1 in 5 U.S. teens have not yet received their first dose of recommended meningococcal vaccination and remain unprotected.

National Meningitis Association. https://www.nmaus.org/disease-prevention-information/statistics-and-disease-facts/

ACIP recommendations for MenB vaccination

- Bexsero:
  - 2 doses, given at 0 and 1 month.

- Trumenba:
  - 2 dose series – Given at 0 and 6 months. If second dose is administered earlier than 6 months after the 1st dose, a 3rd dose should be administered at least 4 months after the second dose.
  - 3 dose series – Given at 0, 1-2, and 6 months.

- Bexsero and Trumenba are both approved for use in individuals 10 – 25 years of age.

- Bexsero and Trumenba are non-interchangeable.

ACIP recommendations for MenB vaccination *(Cont.)*

MenB vaccine: Why not routinely recommended?

The MenB vaccine recommendations are split into two categories – Category A and Category B, based on the U.S. Centers for Disease Control evidence-based method based on the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) approach.

Category A:

- People age 10 years or older who have functional or anatomic asplenia
- People age 10 years and older who have persistent complement component deficiency, including people taking eculizumab (Soliris)
- People age 10 years and older who are at risk during an outbreak caused by a vaccine serogroup, such as on a college campus
- Microbiologists who work with meningococcus bacteria in a laboratory

Category B:

- Does not apply to everyone
- Gives clinicians an opportunity to discuss the value of MenB vaccination with their patients to make a decision together
- Clinicians and patients can make an informed decision about choosing to vaccinate based on risks and benefits for an individual patient.

MenB: Do we choose to vaccinate or not??

- Many parents do not know that a MenB vaccine exists and may believe that their child is fully protected with only the ACWY vaccine.

- Parents rely on their child's health care providers to educate them on what's best for their child – **KNOW the FACTS!**

- **EDUCATE!** Give parents the opportunity to learn about the vaccine and discuss with them the benefits of getting their child vaccinated against MenB.

- Although the disease is rare and there are very few cases per year, when it is your child, it does not matter whether the occurrences are one or a million.

Close to Home
Meningococcal Outbreaks

The Five College consortium in Massachusetts is experiencing an outbreak of serogroup B meningococcal disease.

- Amherst College – Amherst
- Hampshire College - Amherst
- Mount Holyoke College – South Hadley
- Smith College – North Hampton
- UMass Amherst - Amherst

Oregon State University (OSU) has an ongoing outbreak of serogroup B meningococcal disease.

https://www.cdc.gov/meningococcal/outbreaks/index.html

What you can do to help protect adolescents

- Strongly recommend meningococcal immunization
  - Research indicates that clinician recommendation is the number one reason parents decide to vaccinate

- Commit to vaccinating ALL eligible adolescent patients, regardless of whether they are college bound

- Provide training:
  - Educate staff
  - Keep them up-to-date on all ACIP vaccine recommendations
  - Make sure staff are fully vaccinated themselves

Focus on Key Points

- ✓ Meningococcal disease is rare but potentially deadly for people your age
- ✓ You are at increased risk from your mid-to-late teens into your early 20s
- ✓ Disease can come on suddenly, without warning, and can quickly become life-threatening
- ✓ The disease can result in severe, lifelong disability, such as hearing loss, amputation of arms or legs, and brain damage
- ✓ Meningococcal vaccines are safe and effective
- ✓ For routine vaccination, 2 doses are recommended

ACIP recommendations for MenACWY

- Follow ACIP recommendations:
  - Give dose 1 at 11-12 years of age AND dose 2 at 16 years of age
  - Use every opportunity to provide the booster when indicated

- When vaccination is delayed:
  - If dose 1 is given at 13-15 years of age, administer dose 2 at 16-18 years of age
  - Minimum interval of 8 weeks between doses
  - If dose 1 is given at ≥16 years of age, dose 2 is not needed

NEW School Immunization Requirements

- One dose of meningococcal vaccine MCV4 (serogroups ACWY) required for all students entering 7th grade.

- Two doses of meningococcal vaccine MCV4 are required for students entering 12th grade
  - minimum interval of 8 weeks between dose one and dose two.

- MCV4 School Immunization Requirement FAQ
  - https://www.maine.gov/dhhs/mecdc/infectious-disease/immunization/documents/MCV4-School-Immunization-Requirement-FAQ.pdf

Don’t miss an opportunity to vaccinate

- Consider every patient visit an opportunity to vaccinate with MenACWY and all other age-appropriate vaccines
  - Well child visits
  - Acute care and follow up visits
  - Sports and camp physicals
  - Routine visits for chronic illness
  - Visits with influenza vaccines

- All indicated vaccines can be given at the same visit

Tools

- Standing orders
  - Meningococcal ACWY
    - http://immunize.org/catg.d/p3081a.pdf
  - MenB
    - http://www.immunize.org/catg.d/p3095.pdf
- Patient reminder/recall reports in ImmPact

Tools *(Cont.)*

- Make vaccine education visible and accessible in the waiting area and exam rooms
  - Brochures, Vaccine Information Statements, posters, handouts for parents and teens, website resources, and rotating banners for waiting area tvs
  - Designate a staff member that can provide vaccine information and answer questions

Take Action!

- Identify adolescents in your practice who are eligible for the first and second doses of MenACWY vaccine
  - You're not done if you just receive one

- Educate patients who are eligible to receive the MenB vaccine – even if you do not carry the vaccine in the office

- Establish a goal for immunizing these patients

- Develop and commit office resources toward achieving that goal

Resources on Meningococcal Disease and Vaccination

- Immunization Action Coalition
  - www.Give2MenACWY.org
  - www.immunize.org/meningococcal
  - www.vaccineinformation.org

- Centers for Disease Control and Prevention
  - www.cdc.gov/meningococcal/
  - www.cdc.gov/meningitis/index.html
  - www.cdc.gov/vaccines/parents/protecting-children/index.html

- National Meningitis Association
  - www.nmaus.org

- Meningitis Angels
  - www.meningitis-angels.org

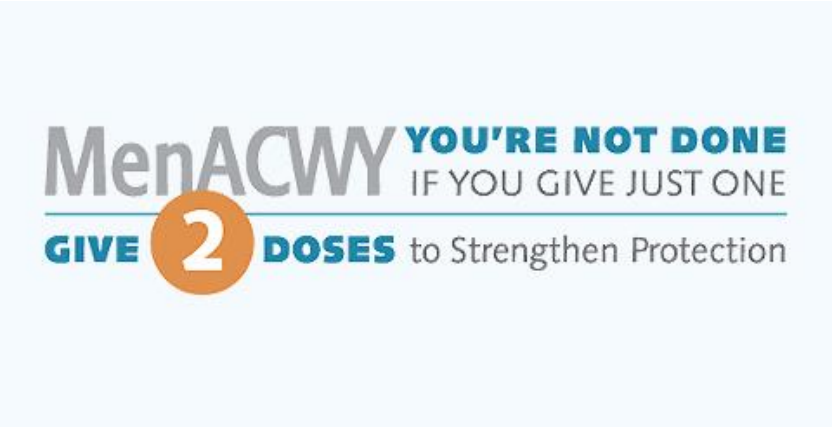
Resources on Meningococcal Disease and Vaccination (cont.)

- Voices of Meningitis
  - www.voicesofmeningitis.org
- American Academy of Pediatrics
  - www2.aap.org/immunization
- American College Health Association
  - www.acha.org/ACHA/resources/topics/meningitis.aspx
- National Association of School Nurses
  - www.nasn.org
- National Foundation for Infectious Diseases
  - www.nfid.org

Sources

- www.Give2MCV4.org

  Give2MCV4 project



Questions?

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