

# SEMEY STATE MEDICAL UNIVERSITY

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Course : 3

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Semey 2017

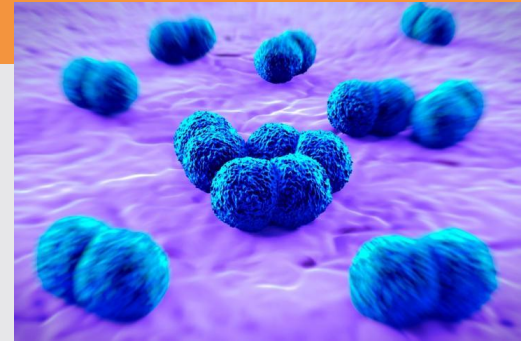
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# **Meningococcal Disease: Overview of a Rare but Potentially Deadly Infection**

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# Meningococcal Disease in the United States

- A bacterial infection
  - *Neisseria meningitidis*
- An unpredictable disease
  - 98% of cases are sporadic; fewer than 2% are related to outbreaks<sup>1</sup>
  - Typically occurs among previously healthy children and adolescents<sup>2</sup>
- Approximately 2100-3400 cases occurred annually in the 1990s<sup>3</sup>
  - Approximately 370-1000 per year during 2009-2015<sup>4,5</sup>



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# Outcomes Can Be Severe, Even with Treatment

- Serious outcomes include meningitis (most common clinical presentation) and meningococemia (bloodstream infection)<sup>1</sup>
- Death rate of 10%-15%, even with antibiotic therapy<sup>1</sup>
  - Death rate even higher (up to 40%) for patients who develop meningococemia<sup>1</sup>
- Up to 20% of people who survive meningococcal disease suffer lifelong disability<sup>2</sup>
  - Amputation of arms or legs, hearing loss, brain damage



Courtesy of National Meningitis Association

# Time Is of the Essence

- Early symptoms are nonspecific
  - Fever, headache, nausea, vomiting, loss of appetite
  - Mimic symptoms of common viral illnesses
- Characteristic symptoms occur later
  - Hemorrhagic rash, neck stiffness, photophobia
  - Typically develop approximately 12-15 hours after symptoms begin<sup>1</sup>
- Rapid progression
  - Death may occur within 24 hours of symptom onset<sup>1,2</sup>



# Modes of Transmission Help Explain Vulnerability of Adolescents and Young Adults

- Spread through respiratory and throat secretions<sup>1</sup>
  - Coughing, sneezing
  - Kissing
  - Sharing eating utensils, water bottles, etc
- Crowded settings facilitate transmission
  - College dormitory<sup>2</sup>
  - Crowded household<sup>2</sup>
  - Military barracks
  - Nightclubs, bars



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**Helping to Protect Through  
Timely and Complete  
Immunization: 2 Doses of MCV4**

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# Meningococcal Vaccines in the US Recommended for Use in Adolescents and Young Adults

	Quadrivalent meningococcal conjugate (MCV4)	Meningococcal B (MenB)
<b>Year first licensed</b>	2005	2014
<b>Serogroup(s)</b>	A, C, W, Y	B
<b>Recommendations</b>	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 MCV4 Vaccination<sup>1</sup>

- First dose of MCV4 at **11 or 12** years of age
  - Recommended since 2005 by CDC's Advisory Committee on Immunization Practices (ACIP)
- A second dose at **16** years of age
  - Recommended since 2010 by ACIP



Courtesy of CDC/James Gathany

**MCV4** YOU'RE NOT DONE  
IF YOU GIVE JUST ONE  
GIVE **2** DOSES to Strengthen Protection

# Putting the Numbers Together

Estimated US population of adolescents 13–17 years of age in 2015: **21 million<sup>1</sup>**

Pool of potentially unprotected adolescents (no MCV4 primary dose): **3.9 million**

Estimated US population of 17-year-olds in 2015: **4.2 million<sup>1</sup>**

Pool of potentially under-protected 17-year-olds (no MCV4 booster dose): **2.8 million**



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**Call to Action:**  
**What *You* Can Do to Help**  
**Protect Adolescents**

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# Strongly Recommend Meningococcal Immunization

- A health care provider's recommendation to vaccinate is a powerful motivator for patients to get immunized<sup>1</sup>
- Reinforce your recommendation with an environment that is:
  - Enthusiastically pro-vaccine
  - Committed to fully vaccinating ALL eligible adolescent patients, *regardless of whether they are college bound*
- Provide training, promote leadership
  - Educate staff on meningococcal disease
  - Keep them up-to-date on all ACIP vaccine recommendations
  - Make sure they are fully immunized themselves with the vaccinations they need
  - Consider designating a vaccine champion or team of champions

# Focus on Key Points When Speaking with Patients

- ✓ 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 vaccine is safe and effective
- ✓ For routine vaccination, 2 doses are recommended

# Vaccinate!

- Follow ACIP recommendations for routine MCV4 immunization<sup>1</sup>
  - Give dose 1 at 11-12 years of age AND dose 2 at 16 years of age
  - Use every opportunity to provide the booster dose when indicated

# Vaccinate! (cont.)

- Follow ACIP guidance if dosing is delayed<sup>1</sup>:
  - If dose 1 is given at 13-15 years of age, administer dose 2 at 16-18 years of age
    - Observe minimum interval of 8 weeks between doses
  - If dose 1 is given at  $\geq 16$  years of age,<sup>a</sup> dose 2 is not needed

<sup>a</sup> A catch-up dose may be administered through 21 years of age to those who have not received a dose after their 16th birthday (eg, first-year college students 19-21 years of age living in residence halls)

# Capture Every Opportunity to Immunize

- Consider every patient encounter an opportunity to vaccinate with MCV4 and all other age-appropriate vaccines<sup>1-3</sup>
  - Well visits
  - Acute care and follow-up visits
  - Sports and camp physicals
  - Routine visits for chronic illnesses (eg, asthma)
  - Visits for influenza vaccines
- Administer all indicated vaccines at the same visit<sup>2,3</sup>





# Implement Immunization Processes and Procedures

- Check immunization status of patients at every visit (“vital sign”)
  - Review immunization information system (IIS) record
- Establish mechanisms to identify patients due for vaccination
  - Electronic medical record (EMR) prompts
  - “Immunization due” clip attached to paper chart
- Screen for contraindications and precautions
  - Screening checklist:  
[www.give2mcv4.org/essential-tools/screening-checklist-contraindications-teen-vaccines](http://www.give2mcv4.org/essential-tools/screening-checklist-contraindications-teen-vaccines)
- Develop protocols for vaccinating minors who present for care without a parent<sup>1,2</sup>

# Tool Up

- Standing orders
- Patient reminder and recall systems
  - Strong evidence of effectiveness in improving adolescent vaccination
  - Checklists, standing orders, tip sheets, patient handouts, and more

**What's New**  
New and updated toolkit items and resources  
Screening Checklist for Contraindications to HPV, MCV4, and Tdap Vaccines  
Released 6/30/15

**Essential Tools**  
Fact Sheet for Healthcare Professionals

**Essential Tools**

- Talking points
- Screening checklist
- Standing orders
- Patient materials
- ... and more!

MCV4 **YOU'RE NOT DONE**  
IF YOU GIVE JUST ONE  
**GIVE 2 DOSES** to Strengthen Protection

PDF version

PDF version

# Measure Up

- Measure your practice's vaccination rates at least annually<sup>1,2</sup>
  - IIS
  - EMR system
  - Chart audit
  - Claims data review
  - Assessment, Feedback, Incentives, and eXchange (AFIX)



# Strengthen the Partnership

- Recognize that success at immunization is a partnership between the health care provider, the adolescent, and the family
- Share your practice's pro-immunization philosophy and policies with every patient and family from the time of their first visit
  - Develop a written vaccination policy you can share with families
- Make vaccine education visible, accessible, and plentiful
  - Brochures, Vaccine Information Statements, posters, handouts for parents and teens, and website referrals
  - Designated staff members ready to provide vaccine information and answer questions

# Take Action!

- Identify adolescents in your practice who are eligible for their second dose of meningococcal vaccine
- Establish a goal for immunizing these patients
- Develop and commit office resources toward achieving that goal



*Remember, you're not done if you give just one.*