NC DEPARTMENT OF HEALTH AND HUMAN SERVICES

ROY COOPER • Governor
MANDY COHEN, MD, MPH • Secretary
BETH LOVETTE, MPH, BSN, RN • Acting Director
Division of Public Health

March 1, 2019

To: North Carolina Clinicians
From: Zack Moore, MD, MPH, State Epidemiologist
Re: Meningococcal Disease Guidance

This memo is intended to provide information regarding identification and management of patients with suspected meningococcal disease and to request reporting of such cases to public health officials.

Background

The North Carolina Division of Public Health (NC DPH) is working with local health officials to investigate and respond to two recent cases of meningococcal disease in adults in the western part of North Carolina. One case has been confirmed and was caused by *Neisseria meningitidis* serogroup Y; the other is considered a suspect case based on a compatible gram stain of cerebrospinal fluid from a person who was epidemiologically linked to the first case.

Invasive meningococcal disease can include clinical syndromes such as meningitis, bacteremia, sepsis and bacteremic pneumonia and is reportable in North Carolina. Asymptomatic carriage of N*. meningitidis* is relatively common in the community, as shown by surveys finding that 5 to 20 percent of adults are nasopharyngeal carriers. There are multiple serogroups of *N. meningitidis*. Serogroups B, C, and Y cause the majority of disease in the United States while serogroup W-135 causes a small portion of disease. Serogroup A is rare in the United States but is common in Africa and Asia.

The meningococcal disease case fatality rate is 10-15% even with treatment. Up to 20% of survivors have some disability after infection including neurological deficits, limb amputation and scarring. Transmission occurs through direct contact with a patient's oral secretions. Close contacts require immediate chemoprophylaxis. Vaccines are available that protect against serogroups A, C, Y, W-135 and B.

Case Management

Immediate recognition and treatment is critical. Persons with suspected meningococcal disease should be treated promptly without waiting for laboratory confirmation.

Droplet and standard precautions should be used when caring for patients with suspected or confirmed invasive meningococcal disease and should be continued until 24 hours after initiation of effective treatment.

Case Reporting and Contact Management

Clinicians should immediately report suspected cases of meningococcal disease to their local health department, or to the NC DPH Communicable Disease Branch at 919-733-3419 (24/7).

Local health departments will coordinate post-exposure prophylaxis (PEP) for all household contacts and other persons with high risk exposures within 24 hours or as soon as possible.

Laboratory Testing

Culture remains the gold standard laboratory test for identification of *N. meningitidis*. Clinicians should collect specimens from patients suspected of having meningococcal disease as early as possible in the course of illness, preferably before antibiotic therapy is started. PCR can be useful in situations when a patient has been treated with antibiotics before a clinical specimen is obtained, since it allows for detection of nonviable *N. meningitidis*.

Prompt consultation with the local or state health department is recommended in order to facilitate serogrouping of isolates or to address other questions about laboratory diagnosis.

Vaccination

CDC recommends vaccination with a meningococcal conjugate vaccine for all preteens and teens at 11 to 12 years old, with a booster dose at 16 years old. Currently North Carolina requires one dose of meningococcal vaccine for individuals entering the seventh grade or by 12 years of age, whichever comes first. The booster dose that is recommended at 16 years of age will become a requirement in NC in August of 2020 for individuals entering the 12th grade or by 17 years of age, whichever comes first.

Vaccine cannot be used to replace antimicrobial PEP but may be considered as an adjunct control measure for meningococcal disease outbreaks. Decisions to vaccinate in response to an outbreak are made on a case-by-case basis in consultation with the local/state health department and CDC taking into account all circumstances and epidemiology specific to the outbreak.

For questions about meningococcal vaccine, please contact the Immunization Branch On-Call Nurse at 919-707-5575 (M-F, 8-5).

Routine Recommendations for Quadrivalent Meningococcal Conjugate Vaccine (MenACWY)	
For preteens age 11 through 12 years	Give dose #1 of 2-dose MenACWY series. (Dose #2 is recommended at age 16 years.)
For teens age 13 through 15 years	Give catch-up dose #1 of 2-dose MenACWY series. (Dose #2 will be due at age 16 years.[1])
For teens at age 16 years	Give dose #2 of MenACWY.[1] (Separate from dose #1 by at least 8 weeks.)
Catch-up for teens age 17 through 18 years	If dose #2 not given at age 16 years, give dose #2 of MenACWY as catch-up.
Catch-up for teens age 16 through 18 years	If no history of prior vaccination with MenACWY, give 1 dose of MenACWY.
For first year college students, age 19 through 21 years, living in residence halls	If no history of prior vaccination with MenACWY, give 1 dose of MenACWY. If history of 1 dose of MenACWY given when younger than age 16 years, give dose #2 of MenACWY.

Risk-based Recommendations for Persons with Underlying Medical Conditions or Other Risk Factors		
TARGETED GROUP BY AGE/OR RISK FACTOR	PRIMARY DOSE(S)	BOOSTER DOSE(S)
Travelers to or residents of countries where meningococcal disease is hyperendemic or epidemic, people present during outbreaks caused by a vaccine serogroup,[2] and other people with prolonged increased risk for exposure (e.g., microbiologists routinely working with *Neisseria meningitidis*)		
For age 2 through 6 months	Give 3 doses of Menveo, 8 weeks apart, and a 4th dose[3] at 12–18 months. If possible, vaccination should begin at age 2 months.	If risk continues, give initial booster after 3 years followed by boosters every 5 years.
For age 7 through 23 months who have not initiated a series of Menveo	Give 2 doses of Menveo[4] or, if 9–23 months, give Menactra.[5] Separate the 2 doses by at least 12 weeks.[6]	
For age 2 years and older	Give 1 dose of either MenACWY vaccine.	Boost every 5 years with MenACWY.[7,8]

For more information

- CDC Meningococcal Disease https://www.cdc.gov/meningococcal/index.html
- North Carolina Immunization Branch Vaccine Preventable Diseases https://www.immunize.nc.gov/family/vaccines/meningococcal.htm
- North Carolina Communicable Disease Branch's Invasive Meningococcal Disease Investigation Overview https://epi.publichealth.nc.gov/cd/meningitis/docs/MeningococcalDiseaseInvestigationOverview.pdf
- North Carolina State Lab of Public Health DHHS form 4121 https://slph.ncpublichealth.com/Forms/4121-SpecAtypBact-20170808.pdf