



NEW YORK CITY DEPARTMENT OF
HEALTH AND MENTAL HYGIENE
Thomas Farley, M.D., M.P.H.
Commissioner

2011 Alert # 2: Summary of Recent Meningococcal Disease in NYC

- Six cases of *Neisseria meningitidis* have occurred in New York City with diagnosis dates December 20, 2010 to January 11, 2011.
- The cases are not due to a single strain but represent a higher than expected incidence of invasive meningococcal disease.
- DOHMH requests immediate reporting of all suspect or confirmed cases of invasive disease due to *Neisseria meningitidis* as specified in the NYC Health Code.
- All sterile site *Neisseria meningitidis* isolates are to be promptly submitted to the Public Health Laboratory for serogrouping and molecular typing to detect potential meningococcal clusters and outbreaks.
- In consultation with DOHMH, hospitals and healthcare providers are expected to assist with the identification and prophylaxis of close contacts for invasive meningococcal disease.

Please Distribute to All Clinical Staff in Pediatrics, Primary Care, Infectious Diseases, Emergency Medicine, Family Medicine, Laboratory Medicine and Infection Control Staff

January 18, 2011

Dear Colleagues,

Six cases of *Neisseria meningitidis* have been diagnosed in NYC residents since December 20, 2010. Information on the cases can be found in the accompanying table. The cases are not due to a single strain and none are known to have had contact with each other or to have shared common exposures. Three isolates have been serogrouped as C, two as B, and one as W135. One of the serogroup C isolates is indistinguishable by pulsed field gel electrophoresis (PFGE) to the serogroup C strain that caused a 2006 outbreak in Brooklyn. **We wish to emphasize that these cases are not due to a single strain.**

Delays in reporting occurred in three cases, one of which was not suspected until an autopsy was performed by the medical examiner. This highlights the need for clinicians who provide acute care to maintain a high index of suspicion for meningococcal disease and to promptly report their suspicions to DOHMH so that at-risk contacts can receive appropriate and timely prophylaxis. Patients with meningococcal disease characteristically present with fever, headache, stiff neck, petechial rash, sepsis, and/or altered mental status. Early in the course an abnormality in pulse, blood pressure or respiratory rate out of proportion to the physical examination may be the only indication of a serious infection. Rapid recognition of invasive meningococcal disease with administration of appropriate antibiotics increases the probability of survival and treatment with antibiotics should not be delayed pending the results of diagnostic testing. Early clues to meningococcal disease may include:

- Presence of petechial or purpuric rash. It is especially important to examine the skin thoroughly for the presence of petechiae. In the early stages of meningococcal disease the rash may be maculopapular and blanch.
- Severe abdominal pain.
- Severe muscle pain, usually in the extremities or back.

Case-Patient Demographic Information

Case	Diagnosis Date	Age	Sex	Borough	Serogroup	PFGE	Outcome
1	12-20-2010	22	F	Manhattan	C	Indistinguishable to 2006 Outbreak strain	Died
2	1-01-2011	55	F	Staten Island	C	Unique	Died
3	1-02-2011	4	M	Bronx	C	Pending	Alive
4	1-05-2011	74	M	Bronx	W135	Pending	Alive
5	1-06-2011	24	M	Brooklyn	B	Pending	Alive
6	1-11-2011	28	F	Manhattan	B	Pending	Died

We wish to highlight the importance of timely reporting of suspect invasive meningococcal cases to DOHMH and prompt administration of antibiotic prophylaxis to close contacts. Guidelines on who should receive prophylaxis are provided at the end of this alert.

Invasive *Neisseria meningitidis* infections can present as meningitis, sepsis (meningococemia), occult bacteremia, pneumonia, joint infection and less frequently may involve other sterile sites. Meningococcal disease is typically a disease of winter and spring, and though the current incidence is more than has been seen in comparable time periods in previous years it is not entirely unusual. Household contacts are at greatest risk for secondary transmission and onset is usually within 5 days (range 2-10 days) after exposure to the index case. Transmission is predominantly through respiratory secretions and an asymptomatic carrier state does exist.

Timely antibiotic prophylaxis is effective at reducing the risk of secondary transmission among close contacts, but must be administered as soon as possible and within 10 days of the last exposure. Close contacts include:

- 1) Household members.
- 2) Child-care center contacts.
- 3) Anyone directly exposed to the patient's respiratory or oral secretions (e.g., through kissing, mouth-to-mouth resuscitation, endotracheal intubation, or endotracheal tube management).

Suspected or confirmed cases of bacterial meningitis regardless of the agent are also reportable in NYC. To assist in identifying missed cases of culture negative meningococcal meningitis we will be requesting cerebrospinal fluid on all cases of bacterial meningitis. Specimens will analyzed using polymerase chain reaction (PCR) by the New York State Wadsworth Center (additional information on this investigation will be forthcoming).

Incidental contact is not an indication for prophylaxis and we encourage clinicians and infection control practitioners to consult with DOHMH before making decisions to prophylax hospital personnel other than those directly exposed to the patient's secretions. Meningococcal patients that are treated with penicillin alone require terminal prophylaxis (ensuring that the carrier state is eliminated in the index case) with either oral rifampin or ciprofloxacin or intramuscular ceftriaxone. For more details, see the CDC guidelines on meningococcal disease at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5407a1.htm>.

Any patient who presents with fever and a petechial rash, with or without meningeal signs should be strongly suspected to have meningococcal disease and should be placed in a private room under droplet precautions upon presentation to the emergency department. Patients should remain under droplet precautions until they have

received 24 hours of appropriate antibiotic therapy or until meningococcal or other disease requiring enhanced precautions has been ruled out. Notification of the DOHMH via the below contact information is requested following the initial evaluation of the patient. PCR testing of clinical specimens may also be arranged at the same number.

During business hours: 212-788-9830
After hours, contact the Poison Control Center: 212-764-7667 or 1-800-222-1222

We greatly appreciate our partnership with healthcare providers in NYC in reporting and investigating unusual disease manifestations or clusters.

Sincerely,

A handwritten signature in black ink, appearing to read "Don Weiss", with a long horizontal flourish extending to the right.

Don Weiss, MD, MPH
Director of Surveillance
Bureau of Communicable Disease