Meningococcal Disease Quicksheet

October 2025

Infectious Agent

Neisseria meningitidis is a gram-negative diplococcus bacterium; 5-10% of the population is colonized with *N. meningitidis*.

Clinical Description

Invasive meningococcal disease (IMD) usually results in meningitis (~50% of cases), septicemia (35%-40% of cases), or both, and may progress to purpura fulminans, shock, or death within hours of onset. Although less common, IMD can also cause pneumonia and localized diseases, such as septic arthritis or orbital cellulitis. The case fatality rate is 10%-15% and up to 20% of surviving patients have sequelae (e.g., neurologic damage, limb or digit loss, and hearing loss).

Mode of Transmission

Transmission occurs through respiratory secretions or droplets from the nose, throat, and mouth of colonized or infected persons. *N. meningitidis* may be carried in the nasopharynx of otherwise healthy individuals. IMD occurs primarily in individuals who are newly colonized with the organism, usually within the first few days.

Incubation Period

From 1-10 days, usually less than 4 days.

Period of Communicability

Persons with meningococcal disease are considered infectious 7 days before onset of disease until 24 hours after initiation of appropriate antibiotic therapy, with the most infectious period shortly before symptom onset until initiation of antibiotic therapy.

IMD Case Definition

Confirmed:

- Detection of *N. meningitidis*-specific nucleic acid in a specimen obtained from a normally sterile body site (e.g., blood or CSF, or less commonly, synovial, pleural, or pericardial fluid), using a validated polymerase chain reaction (PCR) assay; or
- Isolation of *N. meningitidis*
  - from a normally sterile body site; or
  - from purpuric lesions.

Probable:

- Detection of *N. meningitidis* antigen
  - in formalin-fixed tissue by immunohistochemistry (IHC); or
  - in CSF by latex agglutination.

Suspect:

- Clinical purpura fulminans in the absence of a positive blood culture; or
- Gram-negative diplococci, not yet identified, isolated from a normally sterile body site.

Culture-Negative Suspect Cases
If antibiotics have been given prior to specimen collection, sterile site cultures may be negative. In such cases, specimens may be submitted to the CDPH Microbial Diseases Laboratory (MDL), and PCR testing can be performed. In addition, specimens from culture-negative patients for whom there is strong suspicion of meningococcal disease can be submitted regardless of antibiotic history. See Laboratory Testing for Meningococcal Disease Quicksheet.

Serogrouping, Molecular Subtyping, and Antimicrobial Susceptibility Testing (AST)
The MDL performs serogroup identification on all confirmed isolates and clinical specimens to assist in surveillance of meningococcal disease. CDPH routinely submits *N. meningitidis* isolates to CDC for molecular subtyping and AST as CDC has identified *N. meningitidis* isolates that are resistant to penicillin and ciprofloxacin in the U.S. and California in recent years. CDC AST results are for surveillance purposes only and require time to process. Therefore, they should not be used for clinical or public health decision-making for individual cases. The initiation of post-exposure prophylaxis (PEP) should also not be delayed while awaiting AST results. CDPH recommends that local clinical facilities perform AST on *N. meningitidis* isolates to guide treatment decisions.

California Statewide Discontinuation of Ciprofloxacin for IMD PEP
As of September 2024, due to the detection of ciprofloxacin-resistant strains of *N. meningitidis*, the use of ciprofloxacin for IMD PEP was discontinued in California. For IMD PEP, prescribe rifampin, ceftriaxone or azithromycin instead of ciprofloxacin. These recommendations (see Appendix) should be followed until updated public health guidance is issued.

Case Investigation
1. Confirm that the suspected case meets the case definition and/or is highly suspected. Identify and locate patient specimens. **Submit bacterial isolates or culture-negative sterile site specimens to CDPH MDL as soon as possible for serogrouping and additional testing.**
2. Empiric therapy for suspected meningococcal disease cases should include cefotaxime or ceftriaxone. For cases not treated with cefotaxime or ceftriaxone, which clear carriage, one of the following is recommended before hospital discharge to eradicate nasopharyngeal carriage:
   - A course of rifampin (4 doses over 2 days)
   - A single dose of ceftriaxone
3. Effective antibiotic therapy for confirmed IMD should be determined by the medical provider. Options include cefotaxime, ceftriaxone, penicillin G, or ampicillin.
4. Identify all persons who had close contact with case within 7 days of case's onset of symptoms until case has had 24 hours of effective antibiotic therapy (see definition of close contacts below). To identify close contacts, interview the case, their household members and close friends as needed (for adolescents and young adults, close friends may be the only reliable source of information about contacts).
5. Regardless of the meningococcal vaccination status of the contact, recommend PEP for close contacts as soon as possible, ideally within 24 hours of identification of the index case and up to 14 days from the last exposure (see section below on expanded PEP).
6. For long-term protection, recommend meningococcal vaccines to unvaccinated close contacts and recovered cases.
7. Meningococcal vaccine (MenACWY, MenB, or MenABCWY vaccines) may also be considered for unvaccinated:
   - Persons who are not close contacts to help reduce anxiety about exposure

- Close contacts and recovered cases in certain scenarios (e.g., the risk of exposure may be longer than the very short period of protection from chemoprophylaxis, and cases may have an undiagnosed risk for meningococcal infection)
- Children vaccinated before the recommended age. They should receive additional dose(s) of vaccine at the recommended age(s)

8. Provide close contacts with information about the signs and symptoms of IMD and ask them to self-monitor for the onset of febrile illness.
9. Alert clinicians and educate the public, as indicated.
10. Recommend evaluation of previously immunized or recurrent cases for terminal complement or other immune deficiency; some experts recommend evaluation of all recovered cases.

Close Contact Definition

Close contacts are people who may have been exposed to the respiratory secretions or droplets of a case in the 7 days before the onset of symptoms in the case and until the case has had 24 hours of effective antimicrobial therapy. The following persons are considered close contacts:

- Household members
- Childcare or preschool contacts
- Persons with unprotected exposure to the case's respiratory secretions or droplets (e.g., via intubation, endotracheal tube management, suctioning, and mouth-to-mouth resuscitation),
- Persons who shared sleeping spaces with the case (e.g., dormitory, barracks)
- Persons with exposure to the case's secretions through kissing or other markers of close or intimate contact (e.g., sharing toothbrushes, eating utensils, or smoking materials). Although *N. meningitidis* is not commonly detected in saliva, these types of exposures are often used as indicators of close contact and secretion or droplet exposure
- Other persons who may be considered close contacts include those who are likely to have been exposed to secretions or droplets from the case's nose, throat, or mouth (e.g., close face-to-face contact, especially if prolonged)
- Persons sitting directly next to the index case during airline flights lasting more than 8 hours, or passengers seated within one seat in any direction from an index case on a flight of any duration if the index case was coughing or vomiting during the flight

When there are many contacts or there is difficulty reaching contacts, priority should be given to persons with the most prolonged or intimate contact with the case or contact with the case shortly before the onset of symptoms when cases are most infectious.

Expanded PEP

PEP is usually not recommended for casual or transient contacts. However, in specific settings where contact levels are unclear, such as childcare centers, schools, jails, residential facilities, and defined social networks (e.g., fraternities, sports teams), expanded PEP may be considered. This is often warranted for social networks of college students. If expanded PEP is undertaken, it should be administered to all targeted persons at the same time, ideally within 24 hours. Contact CDPH for consultation if expanded PEP is being considered.

Outbreak Management and Mass Vaccination
An outbreak threshold is determined on a case-by-case basis but is generally defined as 1) 2-3 cases within an organization during a 3-month period or 2) multiple cases resulting in increased meningococcal disease incidence in a community during a 3-month period. If an outbreak is suspected, efforts should be made to ensure that isolates are submitted to public health laboratories for whole genome sequencing (WGS). Additional epidemiologic data should be collected from suspected cases to identify a possible risk group/network.

Vaccination is the preferred control measure for outbreaks of all serogroups commonly seen in the U.S.; however, mass vaccination decisions should be made on a case-by-case basis in consultation with CDPH, considering all circumstances and epidemiology specific to the outbreak. The vaccine used should reflect the outbreak serogroup.

Meningococcal Vaccines
In the U.S., six meningococcal vaccines are licensed to protect against different serogroups. Two (Menveo, MenQuadfi) cover serogroups A, C, W, and Y and are approved for children and adults. Two (Trumenba, Bexsero) protect against serogroup B and two combination vaccines (Penbraya, Penmenvy) protect against serogroups A, B, C, W, and Y. Both are approved for adolescents and adults. See the resources section for detailed recommendations.

It takes about 2 weeks after vaccination for the development of protective antibody levels. Expanded PEP can be used as an interim measure to temporarily reduce meningococcal carriage and transmission before protection from vaccination can be achieved (see above section on expanded PEP). Efforts should be made to educate communities, physicians, and other healthcare personnel about meningococcal disease to promote early care-seeking behaviors and recognition of cases. In general, restricting travel, closing schools, or cancelling sporting or social events are not recommended.

Risk Communication
Immediately contact administrators of schools or other institutions where a case of meningococcal disease has occurred. Recommend that affected schools and institutions rapidly communicate (phone trees, e-mail) with their populations and help guide messaging. CDPH can provide assistance with messaging and letters. Information communicated should include:

- Notification about the case (obtain consent if the name of the case is to be released)
- Reassurance that the risk of another case is remote
- Signs and symptoms of meningococcal disease and instructions to seek care promptly if they occur
- Persons recommended to receive PEP will be notified by public health authorities
- Serogroup-specific vaccination recommendations

Reporting
Situations of heightened concern such as one suspected, probable, or confirmed case in daycare, school, or college setting, or two or more cases in the same institution or social network, or if other unusual situations are identified should be reported immediately to CDPH via email VPDReport@cdph.ca.gov or phone (510) 620-3737 during business hours; if after hours, report the next day. All other cases should be reported within 1 working day to CDPH.

N. meningitidis Infection in a Non-Sterile Site

In all situations, if the person with a positive *N. meningitidis* result from a non-sterile site is a close contact to an IMD case, manage as an IMD contact. Only *N. meningitidis* results from sterile sites are reportable in California. However, health departments may receive questions or reports regarding *N. meningitidis* in non-sterile sites.

Nonsterile Site (condition)	Treatment	Close contact management/PEP
Eye (conjunctivitis)	No public health recommendation; manage clinically.	No public health recommendation for contact management/PEP.
Nasopharyngeal/throat/ oropharynx (pharyngitis, sinusitis)	No public health recommendation; manage clinically.	No public health recommendation for contact management/PEP.
Urine (urethritis)	*N. meningitidis* can cause urethritis. CDC recommends the same treatment for *N. meningitidis* and *N. gonorrhoeae* urethritis.	CDC recommends that sex partners of patients with *N. meningitidis* urethritis be treated as they would be treated for *N. gonorrhoeae* exposure.
Sputum/respiratory/end otracheal (pneumonia)	No public health recommendation; manage clinically.	No public health recommendation for contact management/PEP.

Resources

- CDC Meningococcal Disease
- CDPH Vaccine Recommendations: Vaccines for All
- CDC Threshold for Changing Meningococcal Disease Prophylaxis Antibiotics in Areas with Ciprofloxacin Resistance
- CDPH Meningococcal Disease
- CDPH Laboratory Testing for Meningococcal Disease Quicksheet

Appendix

Recommended PEP Regimens, Statewide Recommendation to Discontinue Ciprofloxacin
Due to the detection of ciprofloxacin-resistant strains of *N. meningitidis*, CDPH has recommended all local health jurisdictions (LHJs) in California discontinue use of ciprofloxacin for IMD PEP. Rifampin, ceftriaxone, or azithromycin are recommended options for PEP.

Age	Dose	Duration	Efficacy	Cautions/Notes
Rifampin[a]				
<1 month	5 mg/kg, every 12 h, po	2 days		Discussion with an expert for infants <1 month of age.
Children ≥1 month	10 mg/kg (max 600 mg), every 12 h, po	2 days	90–95%	Can interfere with efficacy of oral contraceptives and some seizure and anticoagulant medications; can stain soft contact lenses.
Adult	600 mg every 12h, po	2 days	90–95%	
Ceftriaxone				
Children <15 years	125 mg, intramuscularly	Single dose	90–95%	To decrease pain at injection site, dilute with 1% lidocaine.
≥15 years – Adult	250 mg, intramuscularly	Single dose	90–95%	
Azithromycin				
Children	10 mg/kg (max 500 mg), po	Single dose	90%	Equivalent to rifampin for eradication of *N. meningitidis* from nasopharynx in one study of young adults.
Adult	500 mg, po	Single dose	90%	

Adapted from AAP 2024-2027 Red Book.
Note: Penicillin may be appropriate as treatment but is not appropriate for chemoprophylaxis.
[a] Not recommended for use in pregnant women.