

# Meningococcal Disease

## 1. DISEASE REPORTING

### A. Purpose of Reporting and Surveillance

1. To identify persons who have been significantly exposed to the index case, in order to recommend antibiotic prophylaxis (chemoprophylaxis) and to inform them about signs and symptoms of illness.
2. Under very rare circumstances, to recommend prophylactic immunization in a defined population or community.

### B. Legal Reporting Requirements

1. Health care providers and Health care facilities: *immediately* notifiable to **local health jurisdiction**.
2. Laboratories: *immediately* notifiable to **local health jurisdiction**; submission required – isolate from a normally sterile site, within 2 business days; submission on request – if no isolate available, specimen associated with positive result, within 2 business days.
3. Local health jurisdictions: notifiable to Washington State Department of Health (DOH) Office of Communicable Disease Epidemiology (CDE) within 7 days of case investigation completion or summary information required within 21 days.

### C. Local Health Jurisdiction Investigation Responsibilities

1. Because of the potential for transmission of this serious infection, immediate public health action is required to identify and provide chemoprophylaxis for contacts of cases. Identify contacts and recommend prophylaxis within 24 hours of being notified about the case.
2. If the case is lab-confirmed, ensure that the isolate is forwarded to the Washington State Public Health Laboratory (PHL).
3. Report all confirmed, probable and suspect cases (see definitions below) to CDE. Complete the meningococcal disease case report form (<https://www.doh.wa.gov/Portals/1/Documents/5100/210-038-ReportForm-Mening.pdf>) and enter the data in the Washington Disease Reporting System (WDRS).

## 2. THE DISEASE AND ITS EPIDEMIOLOGY

*Neisseria meningitidis* is a leading cause of bacterial meningitis in the United States. Disease incidence is highest in late winter to early spring. It is highest in children less than 5 years old, with a peak incidence in children under one year of age.

### A. Etiologic Agent

*Neisseria meningitidis* are gram-negative diplococcal bacteria. Serogroups A, B, C, Y, and W-135 cause almost all invasive disease worldwide; however, serogroups B, C and Y are the major causes of meningococcal disease in the United States. (From MMWR, 2005; 54[RR-7]:16). Among adolescents and adults, approximately two thirds of cases

are caused by serogroups C, Y, or W-135, while in infants, approximately 50% of cases are caused by serogroup B. Serogroup A is rare in the United States.

## B. Description of Illness

Invasive meningococcal disease most commonly presents as meningitis, meningococemia, or both. Symptoms of meningococcal meningitis include acute onset of fever, headache, and stiff neck, often accompanied by nausea, vomiting, photophobia, and altered mental status. Symptoms of meningococemia (i.e., blood infection) include acute onset of fever often accompanied by hypotension and shock, and may include a petechial or purpuric rash, purpura fulminans, and multiorgan failure.

*Neisseria meningitidis* also presents as pneumonia (5–15% of cases), arthritis (2%), and epiglottitis (< 1%). Up to 12% of infections are fatal, even with appropriate antibiotic treatment, and mortality in adolescents approaches 25% nationwide. Sequelae associated with meningococcal disease occur in 10-20% of survivors and include hearing loss, neurologic disability, digit or limb amputations, and skin scarring.

Asymptomatic colonization of the upper respiratory tract provides the source from which the organism is spread. *N. meningitidis* organisms are carried in the nasopharynx of about 5–10% of the healthy population. Carrier rates of up to 25% have been documented in some groups in the absence of any cases of meningococcal disease. However, less than 1% of those colonized develop invasive disease. Therefore, colonization is common, but invasive disease is very rare.

The exact mechanism that allows the penetration of meningococci from the nasopharyngeal membranes into the blood is unknown, but having had a recent upper respiratory tract infection or exposure to smoke in one's environment may facilitate invasion. Risk groups for invasive meningococcal disease include infants and young children, household and other close contacts of infected persons or persons who may have been exposed during an outbreak, residents in congregate settings (e.g., military recruits, college students living in dormitories), persons traveling to or residing in countries where meningococcal disease is epidemic or hyperendemic (e.g., Sub-Saharan Africa "meningitis belt"), and microbiologists working with isolates of *N. meningitidis*. Persons with underlying medical conditions such as splenectomy or damaged spleen, terminal complement deficiency, and HIV infection are at higher risk for severe disease.

## C. Meningococcal Disease in Washington

During the past decade, a total of 275 invasive meningococcal cases were reported with 17 to 43 reports per year. Of these, 255 meningococcal isolates from Washington patients with invasive infections were serogrouped and the majority was due to serogroups B (47%), serogroup Y (29%), and serogroup C (18%). The serogroup distribution varies by age, with serogroup B causing 61% of cases in children younger than 2 year of age and meningococcal vaccine serogroups C, Y, and W135 causing 53% of meningococcal disease in those 11 years and older (Table 1). Tables 2 gives information about incidence of disease caused by vaccine and non-vaccine serogroups, and vaccination status of adolescent cases reported from 2005-2014.

**Table 1. Washington State Meningococcal Disease Cases by Age Group and Serogroup, among cases for whom serogroup was known, 2005-2014**

Serogroup	Number of cases by age group (yrs)				
	<2	2-10	11-24	25+	All ages
<b>Vaccine serogroup</b>	<b>21 (34%)</b>	<b>14 (38%)</b>	<b>28 (46%)</b>	<b>66 (57%)</b>	<b>129 (47%)</b>
Group Y	13	4	14	44	75
Group C	8	9	13	17	47
Group W135	0	1	1	5	7
<b>Non-vaccine serogroup</b>	<b>37 (61%)</b>	<b>22 (59%)</b>	<b>29 (48%)</b>	<b>38 (33%)</b>	<b>129 (47%)</b>
Group B	37	22	26	35	120
Not Groupable	0	0	1	2	3
Group Z	0	0	2	1	3
<b>Not tested</b>	<b>3 (5%)</b>	<b>1 (3%)</b>	<b>4 (7%)</b>	<b>12 (10%)</b>	<b>20 (7%)</b>
<b>Total</b>	<b>61</b>	<b>37</b>	<b>61</b>	<b>116</b>	<b>275</b>

Note: Among the 275 total cases reported during this time period, serogroup testing was not done for 20 specimens (7%). Of these, 6 were probable cases.

**Table 2. MCV4 Immunization Status of Washington State Meningococcal Disease Cases, Aged 11-24 Years, by Serogroup, 2005-2014**

Serogroup	Up-to-Date for age?		Total
	Yes	No/Unknown	
<b>Vaccine serogroup</b>	<b>3 (11%)</b>	<b>25 (89%)</b>	<b>28</b>
Group Y	2	12	14
Group C	1	12	13
Group W135	0	1	1
<b>Non-vaccine serogroup</b>	<b>9 (27%)</b>	<b>24 (73%)</b>	<b>33</b>
Group B	6	20	26
Not Groupable	1	0	1
Group Z	1	1	2
<b>Not tested** (possible vaccine serogroup)</b>	<b>1 (25%)</b>	<b>3 (75%)</b>	<b>4</b>
<b>Total</b>	<b>12</b>	<b>49</b>	<b>61</b>

Note: Suspect cases not included.

\*For 3 cases (1 C and 2 Bs), there was no indication of whether vaccine was received in the immunization registry, case report, or provider record.

\*\*3 of the 4 cases were probable and therefore, no isolate was available for serogroup testing.

CDC has been conducting a multi-state evaluation of meningococcal vaccine effectiveness since January 2006. Washington State participated from January, 2009 through August, 2013.

#### D. Reservoirs

Humans are the only reservoir.

### E. Modes of Transmission

Transmission occurs through respiratory droplets or by direct contact with nasopharyngeal secretions from a colonized person – symptomatic or otherwise. Close contacts of a case (e.g., household members or child care contacts) are at increased risk of becoming colonized/infected and developing illness. The attack rate for household contacts of cases is 500–800 times the rate that for the general population. Risk of disease in close contacts is highest during the 10-day period following exposure.

### F. Incubation Period

The incubation period is usually 3 to 4 days, but may range from 2 to 10 days.

### G. Period of Communicability

Persons can transmit the organism to others as long as meningococci are present in nasal or pharyngeal secretions. Cases should be considered infectious from the time they are exposed until 24 hours after initiation of treatment or chemoprophylaxis with appropriate antibiotics. Contacts exposed to the patient 7-10 days or more before his/her onset of illness are not at significantly increased risk.

### H. Treatment

Penicillin G, administered intravenously every 4 to 6 hours, is the therapy of choice for invasive disease once the diagnosis is established. Third generation cephalosporins are also used. Empiric therapy with cefotaxime or ceftriaxone is recommended at the time the patient presents because meningococcemia and meningococcal meningitis cannot be distinguished clinically from disease caused by other bacterial pathogens. Depending on the antibiotic used, therapy for invasive disease may *not* eradicate the organism from the nasopharynx, and chemoprophylaxis may also be required. For chemoprophylaxis recommendations, see Section 6.

## 3. CASE AND CONTACT DEFINITIONS

### A. Clinical Description

Meningococcal disease manifests most commonly as meningitis and/or meningococcemia that may progress rapidly to purpura fulminans, shock, and death. However, other manifestations might be observed, as described in Section 2B.

### B. Case Classifications (2015 Case Definition)

#### Case classification

##### *Suspected:*

- 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 (e.g., blood or CSF).

##### *Probable:*

Detection of *N. meningitidis* antigen

- in formalin-fixed tissue by immunohistochemistry (IHC); or
- In CSF by latex agglutination.

*Confirmed:*

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

**C. Close Contacts (of a person with meningococcal disease)**

Meningococcal disease spreads by direct contact with infectious respiratory secretions and by droplet transmission. Such droplets generally travel 3 feet or less when an infected person talks, coughs, or sneezes. The risk of transmission of *N. meningitidis* is a function of multiple factors including clinical features of the source case as they relate to communicability (e.g., presence of cough), proximity and duration of contact, ventilation, and use of appropriate infection control measures (mask). Consult with the Office of Communicable Disease Epidemiology as needed on a case-by-case basis regarding determinations of exposure risk to close-contacts.

Examples of close contact with meningococcal patients include:

1. Direct face-to-face contact with a symptomatic case-patient during the contagious period. This includes household and immediate family members, boyfriends/girlfriends, and child care contacts (those who spend many hours together or sleep under the same roof) or who are at increased risk for contact with respiratory secretions of the case.
2. An obvious exposure that involves direct contact with respiratory, oral, or nasal secretions from a case-patient during the contagious period (e.g., a cough or sneeze in the face, sharing eating utensils, sharing water bottles, kissing, mouth-to-mouth resuscitation, or performing intubation or nasotracheal suctioning without a mask). Health care workers who have not had direct contact with the case's nasopharyngeal secretions are *not* at increased risk, and prophylaxis is *not* indicated.
3. Close proximity for a prolonged period of time with a case-patient during the contagious period. Risk of droplet exposure increases with longer duration and closer proximity of contact.

Examples of persons who may be at increased risk include:

- a. non-household close friends or other social contacts
- b. some passengers during shared transportation
- c. some contacts at community activities or at the place of employment
- d. some healthcare workers caring for a case without wearing a mask
- e. children attending an after-school care group or play group on the same days

Note: Close contact does not include activities such as walking by a person or briefly sitting across a waiting room or office.

## 4. DIAGNOSIS AND LABORATORY SERVICES

### A. Diagnosis

Meningococcal disease is most commonly diagnosed by isolation of *N. meningitidis* or detecting *N. meningitidis*-specific nucleic acid in a specimen obtained from blood or cerebral spinal fluid (CSF). After administration of any antibiotics, sensitivity of bacterial culture can be low. In this situation, a Gram stain of CSF, assays to detect bacterial antigen in CSF, and polymerase chain reaction (PCR) tests for *N. meningitidis* DNA can be helpful. In special situations, CDE can facilitate submission of clinical specimens to CDC for molecular testing.

### B. Services Available at the Washington State Public Health Laboratories (PHL)

**Under Washington state regulation, all isolates of *N. meningitidis* obtained from patients with invasive meningococcal disease must be submitted to PHL.** Once received, PHL confirms the identification and determines the serogroup of *N. meningitidis* isolates. PHL does not perform PCR for *N. meningitidis* on blood or CSF specimens, or latex agglutination on CSF specimens. All isolates are routinely tested for resistance to sulfa antibiotics and rifampin at PHL.

Note that PHL require all clinical specimens have two patient identifiers, a name **and** a second identifier (e.g., date of birth) both on the specimen label and on the submission form. Due to laboratory accreditation standards, specimens will be rejected for testing if not properly identified. Also include specimen source and collection date.

## 5. ROUTINE CASE INVESTIGATION

Interview the case (or parent/guardian) or, as necessary, close family members or others who may be able to provide pertinent information.

### A. Evaluate the Diagnosis

Review the clinical history, physical exam findings and laboratory results. Conduct a public health investigation for all confirmed, probable, and suspect cases.

### B. Identify Potential Sources of Infection and Potentially Exposed Persons

Identify all persons who had close contact (see Section 3C) with the case that could have resulted in exposure, and events (e.g., parties, sporting event, resuscitation) where close contact could have occurred during the period 10 days prior to case onset until 24 hours after initiation of appropriate antibiotics. Obtain the name, address, and telephone number of exposed persons. Date of birth, weight, and any history of allergies will also be needed if chemoprophylaxis is to be provided.

Identifying the source of infection is often not possible, because of the relatively high percentage of the population who carry the organism. It is useful to ask whether any household, child care, or other close contact has recently had an illness suggestive of meningococcal disease. However, clusters of meningococcal disease are rare, even among household members of cases.

Persons who had close contact with the case during the 7 days prior to onset until 24 hours after initiation of appropriate antibiotics should be offered prophylaxis.

Additionally, persons with obvious exposures (such as kissing) up to 10 days prior to case onset may also be considered for prophylaxis. Contacts exposed most recently should be prioritized for chemoprophylaxis since the incubation period is usually less than four days. In general, chemoprophylaxis should be recommended to contacts whose last exposure occurred within the 10 days prior to *the current date* since most secondary cases will occur within 10 days of exposure (incubation period). According to the CDC, chemoprophylaxis administered more than 14 days after the case onset is probably of limited or no value ([MMWR 2005;54\[RR-7\]:16](#)).

### C. Environmental Evaluation

Generally, none, although in outbreak settings an investigation may be warranted to identify environmental factors (e.g., disinfection practices, ventilation patterns, etc.) that may favor droplet transmission.

## 6. CONTROLLING FURTHER SPREAD

### A. Infection Control Recommendations

In addition to standard precautions, hospitalized patients should be cared for using droplet precautions until at least 24 hours after initiation of effective antibiotic treatment.

### B. Case Management

Some of the antibiotics commonly used for treatment do not reliably eradicate nasopharyngeal colonization. Unless ceftriaxone or ciprofloxacin (which are effective against colonization) was used, the patient should also be given chemoprophylaxis to eliminate carriage before hospital discharge (see Table 3).

### C. Contact Management

#### 1. Symptomatic Contacts

Contacts that are experiencing symptoms compatible with meningococcal disease (fever, rash, lethargy, irritability, headache, stiff neck, vomiting, and rash) should be referred to a health care provider immediately for evaluation.

#### 2. Antibiotic Prophylaxis

Chemoprophylaxis should be recommended for all household members and other persons deemed to have been exposed, regardless of their immunization status (see Section 5B). Since contacts are at highest risk of becoming ill immediately after the onset of the case, prophylaxis should be initiated as soon as possible, ideally less than 24 hours after identification of the index patient. Chemoprophylaxis is not recommended for persons who have had only brief or casual contact with the case. If such persons are anxious about their exposure, they should be advised that their risk of disease is extremely low (see Section 6C4 Education below) and possibly referred to their own physician for further discussion if needed.

Rifampin, ciprofloxacin, and ceftriaxone are all appropriate drugs for chemoprophylaxis (see Table 1). They are 90–95% effective in reducing nasopharyngeal carriage of *N. meningitidis*.

Rifampin is the drug of choice for most children. *Rifampin is not recommended for pregnant women.* Those taking rifampin should be informed that the following side effects can occur: gastrointestinal upset, orange discoloration of urine and tears, discoloration of soft contact lenses, and decreased effectiveness of oral contraceptives.

Ciprofloxacin can be used for chemoprophylaxis of persons 18 years and older. *Ciprofloxacin is not recommended for pregnant women.*

Ceftriaxone can be used for children and adults (including pregnant women) to eradicate nasopharyngeal carriage if rifampin is contraindicated.

**Table 3: Schedule for administering chemoprophylaxis against meningococcal disease**

Drug	Age group	Dosage	Duration and route of administration*
Rifampin <sup>†</sup>	Children aged <1 mo	5 mg/kg body weight every 12 hrs	2 days
	Children aged ≥1 mo	10 mg/kg body weight every 12 hrs (max 600 mg/dose)	2 days
	Adults	600 mg every 12 hrs	2 days
Ciprofloxacin <sup>§</sup>	Adults (≥18 yrs old)	500 mg	Single dose
Ceftriaxone	Children aged <15 yrs	125 mg	Single IM dose
	Adults	250 mg	Single IM dose

\* Oral administration unless indicated otherwise.

<sup>†</sup> Not recommended for pregnant women because it is teratogenic in laboratory animals. Because the reliability of oral contraceptives might be affected by rifampin therapy, consideration should be given to using alternative contraceptive measure while rifampin is being administered.

<sup>§</sup> Not usually recommended for persons aged <18 years or for pregnant women and lactating women because it causes cartilage damage in immature laboratory animals. Can be used for chemoprophylaxis of children when no acceptable alternative therapy is available. Recent literature review identified no reports of irreversible cartilage toxicity or age-associated adverse events among children and adolescents (Source: Burstein GR, Berman SM, Blumer JL, Moran JS. Ciprofloxacin for the treatment of uncomplicated gonorrhea infection in adolescents: does the benefit outweigh the risk? Clin Infect Dis 2002;35:S191–9).

Table reproduced from: [MMWR May 27, 2005 / 54\(RR07\);1-21](#)

### 3. Immunization

There are two kinds of meningococcal vaccine in the United States:

**Meningococcal conjugate vaccine (MCV4)** was licensed in 2005. It is the preferred vaccine for people 2 through 55 years of age.

**Meningococcal polysaccharide vaccine (MPSV4)** has been available since the 1970s. It may be used if MCV4 is not available, and is the only meningococcal vaccine licensed for people older than 55.

Vaccination may be useful when a significant outbreak of disease due to serogroup A, C, Y, or W135 is *continuing* in a defined population (e.g., a school, institution, or



community) (see Section 7 Managing Special Situations). Vaccination is not recommended to protect contacts of sporadic cases.

#### 4. Education

Potentially exposed persons should be instructed to watch for symptoms (fever, rash, lethargy, irritability, headache, loss of appetite, stiff neck, or vomiting) regardless of whether or not prophylaxis is recommended, and instructed to seek medical care immediately should such symptoms develop. Anxiety may be reduced if persons exposed 10 or more days prior to the current date are educated about the symptoms of invasive meningococcal disease and instructed that it is good health practice to see a health care provider any time symptoms of meningococcal disease develop.

## 7. MANAGING SPECIAL SITUATIONS

### A. Case Attends a Child Care Facility

If a child with invasive meningococcal disease has attended any such facility during the week before onset, then within 24 hours of the initial report:

1. Interview the operator and inspect the written attendance records to identify other possible cases among staff or attendees during the previous month. Note: [WAC170-295-3030](#) specifies that the operator keep a log of illnesses.
2. Notify the parents of children who are in the same classroom as the case (preferably in writing) of the occurrence of meningococcal disease in an attendee. Day care operators are required to notify these parents that their child was exposed to a communicable disease through a letter or posted notification ([WAC 170-295-3030](#)). The notice should advise parents to seek chemoprophylaxis for their children without delay if their child attended on any of the same days that the case was present while likely infectious.
3. Advise parents to watch their children carefully for a 10 day period (after the index case was last present in the child care center at the same time as their child while likely contagious) for signs of illness, especially high fever, and to seek medical care immediately if illness should occur.
4. Instruct the child care operator to notify the local health jurisdiction immediately if another person becomes ill with symptoms of meningococcal disease.
5. Recommend chemoprophylaxis to all staff in the ill child's classroom. Children and staff in other rooms are usually not at elevated risk, and therefore in most instances do not need chemoprophylaxis. However, it should be determined if children from multiple classrooms spend time together in one room at the beginning and/or end of the day.
6. It may be helpful to provide a fact sheet on meningococcal disease to all persons associated with the child care when a case has occurred in a staff member or attendee, or even the parent of an attendee.

### B. Multiple Cases in a Defined Population within a 90 Day Period

Vaccination with MPSV4 or MCV4 is recommended to control meningococcal outbreaks caused by serogroups A, C, Y and W-135. An outbreak is defined as three or more primary cases of meningococcal disease with the same serogroup that occur in a defined

population (e.g., a school, institution, or community) within a 90-day period and resulting in an attack rate of  $\geq 10$  cases/100,000 population. Vaccination should also be considered if two or more primary cases of meningococcal disease with the same serogroup occur in a defined population and the attack rate exceeds 10/100,000 ([MMWR 2005;54\[RR-7\]:14–15](#)).

## 8. ROUTINE PREVENTION

### A. Immunization Recommendations

Two types of quadrivalent vaccine are licensed in the United States. Both types of vaccine are effective in providing protection against serogroups A, C, Y, and W-135, but neither is protective against meningococcal disease cause by serogroup B.

**Meningococcal polysaccharide vaccine (MPSV4)** (Menomune™) was licensed in the United States in 1978 and is given subcutaneously as a single dose. The vaccine is generally not protective in children less than 2 years of age. Although it provides good short-term (3–5 years) protection (85%) in older children and adults, antibody levels decrease markedly after 2–3 years, especially in children. Therefore, people at high risk need revaccination every 3–5 years. It is recommended for the following:

- Individuals aged over 55 years who are at elevated risk (see MCV4 recommendations below for list of groups at elevated risk)
- If MCV4 is unavailable, MPSV4 is an acceptable alternative for persons at elevated risk ages 11–55 years.

**Meningococcal conjugate vaccine (MCV4)** (Menactra™) was licensed in 2005. It is the preferred vaccine for people 2 through 55 years of age. Routine immunization of young adolescents (aged 11–12) with one dose of MCV4 was recommended by the Advisory Committee on Immunization Practices (ACIP) in 2005. The meningococcal conjugate has a similar efficacy compared to MPSV4 in adolescents and adults, and at the time of licensure, was projected to have a longer duration of protection. Preliminary data on vaccine effectiveness, as well as serologic data, suggests a trend in waning protection after 5 years – see updates to vaccine recommendations below). The vaccine is given as a single intramuscular injection.

In 2010, a second conjugate vaccine, Menveo®, was approved for use in persons aged 11–55. In early 2011 this vaccine was approved for use in children from 2 years of age.

Washington State does NOT require meningococcal vaccine for entry or attendance at:

- Child Care,
- Preschool, or
- Grades K through 12

Post-secondary education facilities (e.g., college) set their own policy regarding meningococcal vaccine. Washington does NOT require meningococcal vaccine for entry or attendance at these facilities.

The state does require that every Washington school provide parents and guardians with information about meningococcal disease and the vaccine annually.

Although there are no requirements for meningococcal vaccine, these are the current recommendations for routine vaccination:

- Healthy children who have not been previously vaccinated should get a first dose at age 11-12 years and a second boosting dose at age 16-18 years.
- For people who were 16-years-old or older when they got their first dose, NO second boosting dose is recommended.
- For healthy, unvaccinated persons more than 21-years-old who do not have special conditions described below, meningococcal vaccine is NOT recommended.

In 2012, the ACIP voted to recommend vaccination against meningococcal serogroups C and Y for children aged 6 weeks through 18 months at increased risk for meningococcal disease. The meningococcal groups C and Y and *Haemophilus b* tetanus toxoid conjugate vaccine, Hib-MenCY-TT (MenHibrix,) is licensed for active immunization for prevention of invasive disease caused by *Haemophilus influenzae* type b (Hib) and meningococcal serogroups C and Y

(<https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6203a3.htm>).

There are special settings where meningococcal vaccine is recommended for people who are 2- through 55-years old who are at prolonged increased risk for meningococcal disease. Table 4 summarizes all of the current recommendations. (Reproduced from: Updated Recommendations for Use of Meningococcal Conjugate Vaccines – Advisory Committee on Immunization Practices. MMWR January 28, 2011; 60(03);72-76)

**TABLE: Summary of meningococcal conjugate vaccine recommendations, by risk group --  
- Advisory Committee on Immunization Practices (ACIP), 2010**

Risk group	Primary series	Booster dose
Persons aged 11 through 18 years	1 dose, preferably at age 11 or 12 years	At age 16 years if primary dose at age 11 or 12 years
		At age 16 through 18 years if primary dose at age 13 through 15 years
		No booster needed if primary dose on or after age 16 years

HIV-infected persons in this age group	2 doses, 2 months apart	At age 16 years if primary dose at age 11 or 12 years
		At age 16 through 18 years if primary dose at age 13 through 15 years
		No booster needed if primary dose on or after age 16 years
Persons aged 2 through 55 years with persistent complement component deficiency* or functional or anatomical asplenia	2 doses, 2 months apart	Every 5 years
		At the earliest opportunity if a 1-dose primary series administered, then every 5 years
Persons aged 2 through 55 years with prolonged increased risk for exposure†	1 dose	Persons aged 2 through 6 years: after 3 years
		Persons aged 7 years or older: after 5 years§
<p><b>Abbreviation:</b> HIV = human immunodeficiency virus.</p> <p>* Such as C5--C9, properidin, or factor D.</p> <p>† Microbiologists routinely working with <i>Neisseria meningitidis</i> and travelers to or residents of countries where meningococcal disease is hyperendemic or epidemic.</p> <p>§ If the person remains at increased risk.</p>		

For additional information see: Prevention and Control of Meningococcal Disease: Recommendations of the Advisory Committee on Immunization Practices (ACIP) [March 22, 2013 / 62\(RR02\);1-22](#)

**B. Prevention Recommendations**

In addition to immunization, persons should practice “respiratory etiquette” or good health manners to stop the spread of respiratory pathogens.

**Persons can keep respiratory pathogens to themselves by:**

- Covering the nose and mouth with a tissue when sneezing, coughing or blowing the nose.
- Throwing out used tissues in the trash as soon as possible.
- Always washing hands after sneezing, blowing the nose, or coughing, or after touching used tissues or handkerchiefs.

- Washing hands often when sick.
- Using warm water and soap or alcohol-based hand sanitizers to wash hands.
- Staying home if coughing and febrile.
- Seeing a doctor as soon as possible if coughing and febrile, and following their instructions, including taking medicine as prescribed and getting lots of rest.
- If requested, using face masks provided in doctors' offices or clinic waiting rooms.

**Persons can keep pathogens away by:**

- Washing hands before eating, or touching eyes, nose or mouth.
- Washing hands after touching anyone else who is sneezing, coughing, blowing their nose, or whose nose is running.
- Not sharing things like cigarettes, towels, lipstick, toys, or anything else that might be contaminated with respiratory germs.
- Not sharing food, utensils or beverage containers with others.

**ACKNOWLEDGEMENTS**

This document is a revision of the Washington State Guidelines for Notifiable Condition Reporting and Surveillance published in 2002 which were originally based on the Control of Communicable Diseases Manual (CCDM), 17<sup>th</sup> Edition; James Chin, Ed. APHA 2000. We would like to acknowledge the Oregon Department of Human Services for developing the format and select content of this document.

**UPDATES**

## December 2007 Revisions

- Section 3B: CDE now requests that meningococcal pneumonia cases be reported as suspect rather than confirmed cases.
- Section 3C (1-3): Revisions were made to the examples of close contact.

## March 2008 Revisions

- Section 3B: Isolation of *N. meningitidis* from sputum in the absence of symptoms consistent with invasive disease should not be reported.
- Section 5B: Revisions were made to guidance around prophylaxis of close contacts.

## May 2008 Revisions

- Section 8A: Recommendations for meningococcal conjugate vaccine updated.

## January 2011 Revisions

- The Legal Reporting Requirements section has been revised to reflect the 2011 Notifiable Conditions Rule revision.

## February Revisions 2011

- Section 2G: More detailed language added to clarify the period of communicability.
- Section 8A: Added new recommendations for revaccination of persons at prolonged increased risk for meningococcal disease. Updated recommendations for routine immunizations to include a booster dose published January 28, 2011.

## January 2015 Revisions

- Section 2 C. updated to reflect recent disease trends in WA State.
- Sections 3 and 4 A. updated to reflect new 2015 CSTE case definition which includes PCR as a confirmatory laboratory test.
- Section 8 A. updated to include recommendations for the use of Hib-MenCY-TT vaccine in children at increased risk for meningococcal disease.

## December 2022 Revisions

- For 2023 WAC revision combined provider and facility reporting requirement, updated laboratory submission (Section 1B)

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