

## Meningococcal Disease

- Organism:** There are multiple serogroups of *Neisseria meningitidis*. Serogroups B, C, and Y cause the majority of disease in the United States. Serogroup W-135 causes a small proportion of disease, and serogroup A causes disease in developing countries and the Meningitis Belt of sub-Saharan Africa.
- Incubation period:** Usually 3 to 4 days, but may range from 2 to 10 days.
- Infectious period:** Until meningococci are no longer present in discharges from nose and mouth, usually within 24 hours after appropriate antimicrobial treatment begins.
- Transmission route:** Transmission is by direct exposure to droplets or direct contact with discharges from the nose or throat of a colonized person—symptomatic or otherwise. It is important to distinguish colonization from disease. Colonization is common, but invasive disease is very rare.
- Treatment:** Standard therapy is Penicillin G or ampicillin. Alternative therapies include third generation cephalosporins or chloramphenicol. If the patient is not treated with a third-generation cephalosporin (ceftriaxone, cefotaxime) at some point during their illness, they should receive rifampin (or ciprofloxacin or ceftriaxone IM) to eradicate pharyngeal carriage of *N. meningitidis*.

### Information Needed for the Investigation

- **Verify the Diagnosis: Invasive meningococcal disease is a Public Health emergency.** The Section of Epidemiology (SOE) should notify appropriate partners (e.g., Immunization Program, PHNs, Preparedness Program, CDC/AIP, local providers, etc.) if there is suggestion of a possible outbreak.
- **Clinical Description:** Meningococcal disease describes the spectrum of infections caused by *Neisseria meningitidis*, including meningitis, bacteremia, and bacteremic pneumonia. Meningococcal disease develops rapidly, typically among previously healthy children and adolescents, and results in high morbidity and mortality. Invasive disease may occur without signs of meningitis. In infants and small children, fever and vomiting are often the only symptoms. **All clinical illnesses associated with *N. meningitidis* are significant and warrant investigation.** In the absence of associated invasive disease, finding *N. meningitidis* in sputum (or other nonsterile site) is not considered a remarkable event, and is not reportable.

### Determine the Extent of Illness

- Obtain close contact list of case with locating information so that prophylaxis may be administered ASAP. The decision to treat contacts may be based at times on the clinical presentation of the case-patient without waiting for laboratory confirmation.
- Determine if household or other close contacts are, or have been ill by contacting local PHNs, providers, etc.
- **Chemoprophylaxis is recommended for all persons who have had close contact with the suspected meningococcal case during the 7 days preceding the onset of symptoms.** This should be done as soon as possible (Ideally, <24 hours after identification of the index patient). Conversely, chemoprophylaxis administered >14 days after onset of illness in the index patient is probably of limited or no value.
- High risk contacts include: household contacts; contacts close enough to have shared food, drink, eating or drinking utensils, cigarettes, toothbrushes, water bottles, lipstick or other things that contain saliva, or have kissed the case on the mouth; children in childcare; health care personnel if mouth-to-mouth resuscitation given or unprotected contact during intubation or suctioning; and persons frequently sharing the same sleeping space - military personnel, college dormitories, prison, long-term care facilities, shelters, etc.
- Chemoprophylaxis is not recommended for close contacts of patients with evidence of *Neisseria meningitidis* only in nonsterile sites such as an oropharyngeal swab, endotracheal secretions, or conjunctival swab. Reports of secondary cases after close contact to persons with noninvasive pneumonia or conjunctivitis are rare; there is no evidence of substantive excess risk. Furthermore, there is no indication to treat persons who are asymptomatic nasopharyngeal carriers. No testing of contacts is warranted.

### Laboratory Specimens

- Serum – Blood cultures should be obtained prior to the start of antibiotic therapy, but should not delay the initiation of treatment. WBC usually elevated 1000-5000/mm<sup>3</sup> with a neutrophil predominance.
- CSF – Initial evaluation often includes lumbar puncture to determine if CSF findings are consistent with diagnosis. CSF findings may include elevated opening pressure, elevated protein, decreased sugar (<40mg/dl), and Gram stain showing gram-negative diplococci.
- If suspect meningococcal disease, request Gram stain ASAP from petechiae or purpuric scraping, CSF or a sample of the buffy coat from spun blood.
- Request that the isolate be sent to CDC/AIP for confirmation and serogroup identification. Note: Clinical specimens may be submitted to CDC-AIP on a case by case basis for PCR detection of *Neisseria meningitidis*, *Streptococcus pneumoniae*, and *Haemophilus influenzae*. SOE **must** consult a nurse or medical epidemiologist at CDC-AIP (729-3400) for specimen acceptance and testing approval. Generally, these samples are those obtained *after* antibiotics were administered and show no growth on traditional culture.
- Positive antigen test results from urine or serum samples are unreliable for diagnosis.

### Contact and Control Measures

- Rifampin, ceftriaxone and ciprofloxacin are equally effective prophylactic agents. *Note:* The decision to treat contacts may be based at times on the clinical presentation of the case patient without waiting on laboratory confirmation.

- Chemoprophylaxis is not recommended for “low risk” or casual contacts or health care workers with no history of direct exposure to index patient’s oral secretions.
- Decisions and provisions for prophylaxis of health care workers are usually made by the treating facility. Ensure that the facility also contacts any EMS personnel if applicable.

**Table 1. Recommended chemoprophylaxis regimens for high-risk contacts and persons with invasive meningococcal disease.**

Drug	Age	Dose	Duration	Efficacy (%)	Cautions
Rifampin	<1 mo	5 mg/kg, orally, every 12 h	2 days		
Rifampin	≥1 mo	10 mg/kg (maximum 600 mg), orally, every 12 h	2 days	90-95	Can interfere with efficacy of oral contraceptives and some seizure prevention and anticoagulant medications; may stain soft contact lenses.  Not recommended for pregnant women.
Ceftriaxone	<15 y	125 mg, intramuscularly	Single dose	90-95	To decrease pain at injection site, dilute with 1% lidocaine.
Ceftriaxone	≥15 y	250 mg, intramuscularly	Single dose	90-95	
Ciprofloxacin	≥18 y	500 mg, orally	Single dose	90-95	Not recommended for persons <18 years of age.  Not recommended for pregnant women.
Azithromycin <sup>a</sup>		10 mg/kg (maximum 500 mg)	Single dose	90	Not recommended routinely. Equivalent to rifampin for eradication of <i>Neisseria meningitidis</i> from nasopharynx in one study

Source: Source: American Academy of Pediatrics. Meningococcal Infections. In: Pickering LK, Baker CJ, Long SS, McMillan JA, eds. Red Book: 2006 Report of the Committee on Infectious Diseases, 27th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2006:456.

<sup>a</sup>Use only if fluoroquinolone-resistant strains of *N meningitidis* have not been identified in the community.<sup>[18]</sup>

<http://www.cdc.gov/vaccines/pubs/surv-manual/chpt08-mening.html>

- Close surveillance of high-risk contacts for at least 14 days will ensure prompt treatment of secondary cases that might occur in the absence of effective chemoprophylaxis.
- Exposed household, childcare and other close contacts should be carefully observed for early signs of illness, especially fever, with prompt initiation of treatment if needed.
- Standing Orders for antibiotic prophylaxis are available on the T:drive; signed orders are in Dr. Cooper’s office (yellow folder on the bookcase).

### Special Circumstances

- Air Travel: SOE should promptly notify the CDC Anchorage Quarantine Center (907-271-6301) if the case-patient has had air travel of >8 hours, including ground time, in the 7 days prior to illness onset. Passengers who are seated immediately next to a case-patient are more likely to be exposed directly to the patient’s oral secretions and are probably at higher risk than those seated farther from the patient. In the absence of data about increased risk to other passengers, antimicrobial chemoprophylaxis should be considered for those passengers seated in either seat next to the patient: <http://www.cdc.gov/mmwr/pdf/wk/mm5023.pdf>
- Multiple Cases: If three or more confirmed or probable cases of meningococcal disease of the same serogroup among persons who have a common affiliation but not close contact occur within a 3-month period, a primary attack rate should be calculated. SOE should notify parents, health care providers and emergency rooms in the area of the occurrence of *N.*

*meningitidis*. See sample letters, Epidemiology Bulletins and Fact Sheet. CDC guidance on evaluating and managing suspected outbreaks of meningococcal disease is available here: [http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6202a3.htm?s\\_cid=rr6202a3\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6202a3.htm?s_cid=rr6202a3_w)

- **Day Care:** If the child has attended any such facility for at least 4 hours (cumulatively) during the week before onset, then within 24 hours of the initial report:
  1. The operator of the day-care facility should be interviewed to determine whether other cases of meningococcal disease occurred among attending children during the past 60 days.
  2. The parents of children who are in the same classroom as the case should be notified (preferably in writing) of the occurrence of meningococcal disease in the facility. The notice should advise parents to:
    - Seek chemoprophylaxis for their attending children without delay.
    - Watch their children carefully for a 2-week period for signs of illness, especially fever, and seek medical care immediately if illness should occur.
    - Advise parents that an elevated risk may persist for up to 2 months following the occurrence of a case.
  3. Instruct the day-care operator to notify the SOE immediately if another person becomes ill with signs and symptoms of meningococcal disease over the next 2 months.
  4. Chemoprophylaxis should also be given to all staff in the ill child's classroom.
  5. Children and staff in other rooms are usually not at elevated risk, and do not need chemoprophylaxis.

(Adapted from Oregon Public Health Meningococcal Disease Investigation Guidelines: <http://public.health.oregon.gov/DiseasesConditions/CommunicableDisease/ReportingCommunicableDisease/ReportingGuidelines/Documents/mening.pdf> Last updated Feb 2015)

## **Vaccine**

Four vaccines are licensed in the US and provide protection against four (A, C, W, and Y) and two (C and Y) serogroups. Vaccines that protect against serogroup B meningococcal disease are not available in the US. Meningococcal vaccination is recommended for groups at increased risk for disease, including adolescents, persons with certain medical conditions, and persons with increased risk for exposure. The number of vaccine doses (i.e., 2- or 4-dose primary series or a single dose with or without a booster dose) and vaccine product are determined by the indication for vaccination and age. Advisory Committee on Immunization Practices (ACIP) recommendations (available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6202a1.htm> ) for meningococcal vaccination are summarized below:

- Routine vaccination of adolescents aged 11 through 18 years (a single dose of vaccine should be administered at age 11 or 12 years, with a booster dose at age 16 years for persons who receive the first dose before age 16 years) ([1](#), [5-7](#)).
- Routine vaccination of persons aged  $\geq 2$  months at increased risk for meningococcal disease, including ([7-11](#)):
  - Persons aged  $\geq 2$  months with certain medical conditions such as anatomical or functional asplenia or complement component deficiency (dosing schedule and interval for booster dose varies by age at time of previous vaccination).

- Special populations such as unvaccinated or incompletely vaccinated first-year college students living in residence halls, military recruits, or microbiologists with occupational exposure (indication for booster dose 5 years after prior dose if at continued risk).
- Persons aged  $\geq 9$  months who travel to or reside in countries in which meningococcal disease is hyperendemic or epidemic, particularly if contact with the local population will be prolonged.
- Vaccination of persons in at-risk groups (see [Appendix B](#)) to control outbreaks.
- Mass vaccination may be indicated in certain community-based or organization-based (e.g., university) outbreaks when certain criteria are met. See CDC guidance available here: [http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6202a3.htm?s\\_cid=rr6202a3\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6202a3.htm?s_cid=rr6202a3_w)

### Hospital Considerations

- In addition to standard precautions, hospitalized cases should be placed under droplet precautions until at least 24 hrs after initiation of antimicrobial therapy. Some of the antibiotics commonly used for treatment do not reliably eradicate nasopharyngeal colonization. Unless rifampin, ceftriaxone or ciprofloxacin (which are effective against colonization) were used, the patient should also be chemoprophylaxed with an effective antibiotic before hospital discharge.
- Chemoprophylaxis is not recommended for health care workers with no history of direct exposure to index patient's oral secretions.

### Reporting Requirements

- Enter *suspect, confirmed and probable* cases into AK STARS and the AK STARS supplemental case form. (At this time, the only field necessary to complete in the AK STARS supplemental case form is serogroup).
- Complete the meningococcal disease FTR template for *suspect, confirmed and probable* cases. A detailed written report should also be written in a large outbreak or investigation.
- *N. meningitidis* is one of the five organisms under shared surveillance with CDC/AIP; follow the SOPs that govern that program regarding notification of incident cases data-sharing.
- As of Fall 2014, SOE was funded for an enhanced surveillance project for *N. meningitidis* through the CDC/ELC grant. Periodically, additional data elements are sent to CDC by SOE; and isolates sent by ASPHL for further molecular characterization.

### References:

CDC Meningococcal Disease publications webpage:

<http://www.cdc.gov/meningococcal/pubs-tools/publications.html>

CDC 2015 Case Definition Meningococcal Disease webpage:

<http://wwwn.cdc.gov/nndss/script/casedef.aspx?CondYrID=955&DatePub=2015-01-01>

CDC. Epidemiology and Prevention of Vaccine-Preventable Diseases: The Pink Book (12<sup>th</sup> edition, 2012) Chapter 13; Meningococcal Disease  
<http://www.cdc.gov/vaccines/pubs/pinkbook/mening.html>

CDC. Manual for the Surveillance of Vaccine-Preventable Diseases. Chapter 8: Meningococcal Disease. <http://www.cdc.gov/vaccines/pubs/surv-manual/chpt08-mening.html>

Control of Communicable Diseases Manual, 20th Edition Edited by David L. Heymann  
Washington, DC: American Public Health Association, 2015.

2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings. Siegel JD, Rhinehart E, Jackson M, Chiarello L, and the Healthcare Infection Control Practices Advisory Committee. Available at:  
<http://www.cdc.gov/hicpac/pdf/isolation/isolation2007.pdf>

Prevention and Control of Meningococcal Disease: Recommendations of the Advisory Committee on Immunization Practices (ACIP) *Recommendations and Reports*  
March 22, 2013 / 62(RR02);1-22  
<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6202a1.htm>

## Meningococcal Disease Case Questionnaire

Name of patient \_\_\_\_\_ Date \_\_\_\_/\_\_\_\_/\_\_\_\_

DOB \_\_\_\_/\_\_\_\_/\_\_\_\_ Sex: M  F  Race \_\_\_\_\_

Address \_\_\_\_\_ Phone (\_\_\_\_) \_\_\_\_\_

Name of person reporting \_\_\_\_\_ Phone (\_\_\_\_) \_\_\_\_\_

**Symptoms:**

Sudden fever	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown	Date of onset:	____/____/____
Headache	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown	Date of onset:	____/____/____
Nausea	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown	Date of onset:	____/____/____
Vomiting	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown	Date of onset:	____/____/____
Stiff neck	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown	Date of onset:	____/____/____
Petechial rash	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Unknown	Date of onset:	____/____/____

**Date/ CSF/Blood collected:** \_\_\_\_\_ **Date/time antibiotics given:** \_\_\_\_\_

CSF/Blood obtained prior to administration of antibiotics? Y  N

**CSF results: Appearance** \_\_\_\_\_ **Cell count** \_\_\_\_\_ **Glucose** \_\_\_\_\_ **Protein** \_\_\_\_\_

**Gram stain results:** \_\_\_\_\_ **Culture results:** \_\_\_\_\_

**Other lab tests (i.e., PCR, rapid antigen, etc.):**

Date: \_\_\_\_\_ Type: \_\_\_\_\_ Result: \_\_\_\_\_

Household/Close Contacts	Date of last contact	Treatment/Medication

Childcare Contacts	Date of last contact	Treatment/Medication

**Health Care Personnel** (only if gave patient mouth to mouth or unprotected intubation or suctioning)

\_\_\_\_\_

\_\_\_\_\_

Congregate living situation (dormitory, barracks, shelter, prison, etc.)? Y  N

If **YES**, include type, address \_\_\_\_\_

Provider or ER where care obtained \_\_\_\_\_

CSF/Blood sent to what lab \_\_\_\_\_

Isolate sent to CDC/AIP for serogrouping: Y  N  ; If Y, Date: \_\_\_\_\_

Serogroup result: \_\_\_\_\_



## **Meningococcal Disease Fact Sheet**

### **What is meningococcal disease?**

Meningococcal disease is a bacterial infection caused by *Neisseria meningitidis*. When this bacterium affects the lining of the brain and spinal cord (the meninges), the condition is called meningococcal meningitis. It is a relatively rare disease and usually occurs as a single event. Meningococcal disease can be rapidly progressive. With early diagnosis and treatment, the likelihood of full recovery is increased. Early recognition and prompt initiation of antimicrobial therapy is crucial, as these infections may lead to death.

### **Who gets meningococcal disease?**

Anyone can get meningococcal disease, but it is more common in infants and children.

### **What are the symptoms of meningococcal disease?**

The symptoms may include any of the following: fever, severe sudden headache, nausea, vomiting, stiff neck, pain in the shoulders and back, and a red pinpoint rash. High fever and irritability are signs in a very young child. When the bacteria are in the blood (meningococemia), then a purplish skin rash that looks like bruising may occur. When the bacteria are in the spinal fluid, severe neck stiffness and meningitis may occur.

### **How soon do symptoms appear?**

The symptoms may appear 1 to 10 days after exposure, but usually within 3 to 4 days.

### **How is meningococcal disease spread?**

The meningococci bacteria are spread by direct close contact with nose and throat discharges of an infected person. People may carry the bacteria in their noses and throats without becoming ill, these persons are known as healthy carriers. Healthy carriers are able to spread the bacteria to other people, who may develop meningococcal disease with serious symptoms.

### **When and for how long is a case infectious to other people?**

A person may pass the bacteria from the time he/she is first infected and until the bacteria are no longer present in discharges from the nose and throat. Persons are usually no longer infectious after 24 hours of effective antibiotic treatment.

### **How can you reduce the risk of contracting meningococcal disease?**

Everyone should be sensitive to public health measures that decrease exposure to oral secretions, such as covering one's mouth when coughing or sneezing and washing hands after contact with oral secretions. A healthy lifestyle that maximizes your body's own immune

system response, through balanced diet, adequate sleep, appropriate exercise, and avoidance of excessive stress, is very important.

Presently there is a vaccine that will protect against four of the five main strains of meningococcal bacteria that cause almost all invasive or severe disease. The use of the vaccine is recommended in outbreak situations, for individuals with specific medical conditions, or for those traveling to areas where the illness is clearly in excess of normal expectancy.

The American College Health Association recommends immunization of college students. It is important to note that meningococcal vaccine should not be used in place of preventive treatment for those exposed to a meningococcal disease. The protection from immunization is too slowly generated in this situation.

### **What should you do if you suspect meningococcal disease?**

Individuals who experience any of the symptoms described above should consult their health care provider immediately.

### **What should I do if I have been in contact with a diagnosed case of meningococcal disease?**

The use of preventive antibiotics (such as rifampin or ciprofloxacin) is recommended for **close contacts** exposed to a person diagnosed with meningococcal disease. Anyone who suspects possible exposure should consult a health care provider immediately. Beginning preventive treatment more than 2 weeks after exposure to the case would be too late to prevent disease.

### **Who is considered a close contact?**

Close contacts are those who are likely to have been exposed to the nose and throat secretions of the sick person. Close contacts include, but are not limited to the following:

- Those living in the same house as the ill person
- Those sharing sleeping arrangements with the ill person
- Children sharing toys, such as in the same child care or nursery school, as the ill person
- Those who shared cigarettes, food, drinks, or other things that contain saliva with the ill person
- Those who have kissed the ill person
- Those who have given mouth-to-mouth resuscitation to, intubated, or suctioned the nasopharyngeal secretions of the ill person

Casual contact, such as being in the same classroom, workplace, or sitting at the same table with an infected person is not usually considered “close contact.”

### **What is the treatment for this disease?**

Certain antibiotics are very effective in the treatment of the disease and are available from your health care provider. Generally, penicillin is the drug of choice for meningococcal infections.

---

# Meningococcal disease (*Neisseria meningitidis*)

---

## 2015 Case Definition

### Background

During 2005-2011, an estimated 800-1,200 cases of meningococcal disease occurred annually in the United States, representing an incidence of 0.3 cases per 100,000 population. Incidence has declined annually since a peak of disease in the late 1990s. Although disease incidence is currently at historic lows, the overall case-fatality ratio remains at 10%-15%, and 11%-19% of survivors have long term sequelae (e.g., neurologic disability, limb or digit loss, and hearing loss).

Serogroups B, C, and Y are the major causes of meningococcal disease in the United States, each accounting for approximately one third of cases. However, the proportion of cases caused by each serogroup varies by age group. Approximately 60% of disease among children 0-59 months is caused by serogroup B *N. meningitidis*, which is not prevented by currently licensed vaccines. Serogroups C, Y, or W, which are included in vaccines available in the United States, cause 73% of all cases of meningococcal disease among persons aged  $\geq 11$  years.

In the United States, approximately 98% of cases of meningococcal disease are sporadic; however, outbreaks of meningococcal disease continue to occur. With high rates of vaccination with the quadrivalent meningococcal conjugate vaccine in adolescents and college-aged persons, outbreaks of serogroup C and Y disease are rare in this age group. Several recent outbreaks of serogroup B meningococcal disease on college campuses highlight the challenge of control of serogroup B meningococcal disease. Surveillance for meningococcal disease is needed to monitor trends in disease incidence, changes in epidemiology and serogroup distribution, and the effect of vaccination on the incidence of disease.

### Clinical Criteria

Clinical purpura fulminans in the absence of a positive blood culture.

### Laboratory Criteria for Diagnosis

- Gram-negative diplococci, not yet identified, isolated from a normally sterile body site (e.g., blood or CSF)
- Detection of *N. meningitidis* antigen
  - In formalin-fixed tissue by immunohistochemistry (IHC); or

- In CSF by latex agglutination
- 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 *N. meningitidis*
  - From a normally sterile body site (e.g., blood or CSF, or less commonly, synovial, pleural, or pericardial fluid); or
  - From purpuric lesions

## **Epidemiologic Linkage**

Not applicable for case classification.

## **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 *N. meningitidis*
  - From a normally sterile body site (e.g., blood or CSF, or less commonly, synovial, pleural, or pericardial fluid); or
  - From purpuric lesions.

<http://wwwn.cdc.gov/NNDSS/script/casedef.aspx?CondYrID=955&DatePub=2015-01-01>



# Important Information about Rifampin For Prevention of Meningococcal Disease

## **Description:**

Rifampin is an antibiotic. The full prescribed dosage should be taken as directed.

## **Contraindications:**

- Do not take if you are allergic to rifampin or any of the components, or to any of the rifamycins.
- Concurrent administration with certain protease inhibitors is contraindicated.

## **Talk with your provider about:**

- Medication allergies
- If you have liver disease
- Pregnant or breast-feeding
- Medication profile as rifampin can have drug interactions with the following groups (not a complete list):
  - Antiarrhythmic
  - Anticonvulsants
  - Anticoagulants
  - Antifungals
  - Beta-blockers
  - Calcium channel blockers
  - Hepatitis C medications
  - HIV-AIDS medications
  - Oral or systemic hormonal contraceptives
  - Sulfonylureas
  - Thyroid products

## **Patient instructions:**

- Best if taken on an empty stomach with a full glass of water (1 hour before or 2 hours after a meal), if necessary try taking with a small amount of food.
- Avoid alcohol while taking this medication
- Be aware that taking rifampin may produce reddish coloration of the urine, sweat, sputum, and tears. Soft contact lenses may be permanently stained.

## **If you forget a dose:**

Take the missed dose as soon as you remember it. However, if it is almost time for the next dose, skip the missed dose and continue your regular dosing schedule. Do not take a double dose to make up for a missed dose.

## **Possible side effects:**

- Cramps
- Fever
- Diarrhea
- Dizziness
- Drowsiness
- Fatigue
- Fever
- Headache
- Heartburn
- Mental confusion
- Muscular weakness
- Nausea
- Visual disturbances
- Vomiting

If necessary, contact your provider for recommendation and assessment of symptoms.

## **Contact your provider immediately if you experience any of the following symptoms:**

- Rash
- Sore mouth
- Sore tongue
- Yellowing of the skin or eyes

## **Storage considerations:**

- Keep medication in original container
- Keep out of reach of children
- Store at room temperature, avoid excess heat
- Store in a dry place
- Properly dispose of any unused or expired medication

## **SAMPLE LETTER TO PARENT**

Date:

To: Parents of children who attend \_\_\_\_\_  
(Name of child care center)

Dear Parent:

A child who attends the \_\_\_\_\_ in \_\_\_\_\_  
(Name of child care center) (City)  
has been diagnosed with **invasive meningococcal (disease/meningitis), a serious bacterial infection/disease.**

So that other people do not get this illness, the Alaska Division of Public Health recommends that children who attended this childcare center with the ill child on any day from \_\_\_\_\_ to \_\_\_\_\_ receive medication for  
(Beginning date) (Ending date)  
preventive treatment. Preventive treatment will help protect your child from becoming sick with meningococcal (disease/meningitis).

An antibiotic called rifampin is the drug of choice for children and will be provided free-of-charge for your child. We will be in the childcare center today to distribute the medication. If you miss today's distribution, you may pick up the medication at

\_\_\_\_\_  
(Site for medication distribution, e.g., pharmacy, public health center and phone number)

**Your child should start the medication immediately and take all 4 doses.**

Symptoms of this disease may include fever, rash, severe headache, nausea, stiff neck, or any other unusual symptoms. In some cases, meningococcal disease may progress very rapidly and lead to severe illness and even death. If your child should develop any of these symptoms during this next week, please contact your health care provider and show him or her this letter.

If you have additional questions, please contact your health care provider or the Alaska Division of Public Health, Section of Epidemiology at 907-269-8000 during work hours or 1-800-478-0084 after hours.

Sincerely,