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Meningococcal Disease

Purpose

To prevent transmission of meningococcal disease. To provide guidance to health care providers on how to:

- Identify
- Isolate
- Notify

Definitions

Meningococcal disease is a name for any infection caused by the bacteria *Neisseria meningitidis (N. meningitidis)* a Gram negative, diplococci bacterium.

Invasive meningococcal disease is clinical illness that typically manifests in two ways:

- Meningitis and/or
- Septicemia

Other manifestations of invasive disease may include septic arthritis or orbital cellulitis. Invasive disease may rapidly progress to purpura fulminans, shock and death.

Meningitis is inflammation of the meninges, lining that covers the brain and spinal cord. It may be caused by infectious agents such as bacteria, viruses, or fungi. The type of meningitis caused by meningococcal disease is referred to as **meningococcal meningitis**. For guidance on viral or fungal meningitis please refer to All Care Areas- Transmission Tables.

Confirmed Case is clinical evidence of invasive disease *and* laboratory confirmation of infection from a normally sterile body site (e.g., blood, cerebral spinal fluid, joint, pleural, or pericardial fluid).

Probable Case is clinical evidence of invasive disease with purpura fulminans or meningococcemia, with no other apparent cause *and* Gram-negative diplococci in cerebral spinal fluid.

Note: in this document the term patient is inclusive of resident and client.

Overview

Illness Presentation:

N. meningitidis can live in the nose and throat of an otherwise healthy person (asymptomatic carrier). Up to 5-10% of people may be asymptomatic carriers but less than 1% of those colonized will progress to invasive disease.

Invasive meningococcal disease most commonly presents in two ways:

- **Meningococcal meningitis**
  - Sudden onset of fever

- Headache *and* stiff neck
- Other symptoms frequently seen are often accompanied by nausea, vomiting, photophobia and altered mental status.

Note: The signs of meningococcal meningitis are indistinguishable from those of acute meningitis caused by other bacteria. Please refer to All Care Areas- Transmission Tables for guidance on other infectious causes of meningitis.

- **Meningococcal Sepsis** can occur with or without meningitis and may progress rapidly to purpura fulminans (i.e., hypotension, fever, and disseminated intravascular coagulation) shock, and death.
  - Fatigue
  - Vomiting
  - Cold hands and Feet
  - Chills
  - Severe aches in muscles, joints, or abdomen
  - Rapid breathing
  - Diarrhea
  - A petechial rash (a reddish-purple, bruise like rash) can occasionally occur.

Mode of Transmission

- Direct person-to-person contact with infected droplets from saliva or nasal secretions (e.g., coughing, sharing food/utensils or cigarettes).

Incubation Period

- The incubation period ranges from 1-10 days (usually 3-4 days).

Period of Communicability:

- The period of communicability is 7 days **prior** to the onset of symptoms to 24 hours after initiation of appropriate antibiotic therapy.

Diagnostic Testing

- Invasive meningococcal disease is confirmed through laboratory testing of cerebrospinal fluid (CSF), blood specimen or other normally sterile body site.
- Refer to IH Microbiology Lab test directory for specimen ordering, collection, and transportation, and handling.

Best Practices

Additional Precautions

- In addition to Routine Practices, place patient on Droplet Precautions.
- The appropriate Droplet Precautions signage to be posted outside of patient's door or bed space.

PEDIATRIC

- In addition to Routine practices, place patient on Droplet & Contact Precautions.
- The appropriate Droplet & Contact Precautions signage to be posted outside the patient's door or designated bed space.

Patient Placement and Accommodation

- Single room with dedicated bathroom is preferred.
- Door may remain open.
- If single room unavailable refer to Recommendations for Cohorting Patients with strict bedside isolation, and dedicated toilet/commode and patient equipment.
- Droplet Precautions signage placed at the entrance to patient room. If in multibed room place additional sign at entrance to patient bed space (i.e., curtain).
- ***PEDIATRIC *** Droplet & Contact Precautions signage placed at the entrance to the patient room, cubicle, and designated bed space.

Patient Flow and Transport

- Limit transport to essential and diagnostic purposes only.
- Communication of Droplet Precautions or Droplet and Contact Precautions in pediatric patients is essential when a patient goes to another department or unit.
- Notify receiving department/facility and BC Emergency Health Services or other transport staff prior to transport.
- Transport staff to wear a medical mask and eye protection within two metres of patient including during transport.
- Perform a Point of Care Risk Assessment prior to interacting with the patient to determine if additional personal protective equipment is required.
- Don personal protective equipment as per Additional Precautions sign and Point of Care Risk Assessment.
- After assisting patient, doff personal protective equipment inside patient room (except mask and eye protection) and clean hands prior to transport.
- Patient should wear medical mask during transport if tolerated. Contact Infection Prevention and Control if not tolerated.

Before transport consider/follow **the 5 C's**, educate, and assist the patient if necessary:

1. **C**ommunicate: notify receiving department if patient is on Additional Precautions.
2. **C**o-operative: is the patient able to follow instructions.
3. **C**lean hands: assist patient if required to clean their hands.
4. **C**lean clothes/clean sheet: patient to wear clean gown or clothes/cover with clean sheet.
5. **C**over/contain sources:
    - Cover wounds with clean dressings
    - Contain urine/feces or other body fluids
    - Cover cough: If coughing and/or on Contact and Droplet or Airborne Precautions, place medical mask on patient (if tolerated). Contact IPAC if not tolerated.

Personal Protective Equipment (PPE)

- Perform a Point of Care Risk Assessment prior to interacting with the patient to determine if additional PPE is required.
- PPE to be available directly outside the room.
- Perform hand hygiene before accessing any clean PPE.
- Medical mask and eye protection to be worn within two metres of the patient.
- **Pediatric *** Don gloves and gown when in direct contact with patient.
- Don PPE as per How to Don Personal Protective Equipment.
- Doff PPE as per How to Doff Personal Protective Equipment and perform hand hygiene.
- The same PPE should not be worn for more than one patient.

Waste, Laundry, Dishes, and Cutlery

- Use Routine Precautions.

Discontinuing Precautions

- Contact Infection Preventionist and/or Medical Microbiologist on-call (MMOC) PRIOR to discontinuing precautions.
- Precautions may be discontinued after the patient has received 24 hours of effective antibiotic therapy *and* patient is improving (improvement defined as afebrile, symptoms improving, and patient reports feeling better).
- If patient is not improving after 24hrs of antibiotic therapy additional precautions should not be removed.

Notification

- Any probable or confirmed cases of **invasive meningococcal disease are immediately** notifiable to the Communicable Disease Unit (1-866-778-7736) Monday – Friday 08:30-16:30 or Medical Health Officer on-call (1-866-457-5648) after hours, weekends, and STATs.
- Notify the Infection Preventionist and/or Medical Microbiologist on-call of suspected or confirmed cases of invasive meningococcal disease.
- All laboratories notify the Communicable Disease Unit of all positive laboratory results from sterile sites.
- Infection Preventionist to investigate all **invasive meningococcal cases** as directed by Medical Health Officer and complete a Communicable Disease Notification Tool.

Management of Close Contacts in the Healthcare Setting

- **Close contact** as defined in the BCCDC Meningococcal Disease guideline. Contacts within the healthcare setting may include those who have had the following types of contact with the case during the period of communicability (7 days prior to the onset of symptoms to 24 hours after the initiation of appropriate antibiotic therapy):
    - Persons who have had direct contamination of their nose or mouth with oral/nasal secretions of a case (i.e., kissing on the mouth, sharing toothbrushes, joints, cigarettes, eating utensils, water bottles, etc.).
    - Health care providers who have had intensive unprotected contact (without wearing a mask) with infected patients (e.g., intubating, resuscitating, or close examining the oropharynx of patients).
- The Medical Health Officer determines if a case is invasive meningococcal disease and requires management of close contacts.
- Contact tracing and chemoprophylaxis (use of antibiotics to prevent meningococcal infection) is **only indicated** for **invasive meningococcal disease,** as determined by the Medical Health Officer**.**
- Infection Preventionist to identify all close contacts in the healthcare setting within 24 hours of identification of the case and complete follow-up for admitted patients.
- Communicable Disease Unit to follow-up with any exposed close contacts that have been discharged.

Management of Exposed Health Care Provider

- Follow up provided by Medical Health Officer and/or Provincial Workplace Health Contact Centre (PWHCC) – See BCCDC Communicable Disease Manual-Meningococcal Disease.
- Individuals who believe they have had a breach in PPE or exposure to a communicable disease at work should contact the Provincial Workplace Health Contact Centre (PWHCC) at 1-866-922-9464 for an assessment or email OHN@WHcallcentre.ca. (The PWHCC is for IH employees only.)
- Additional information regarding exposure management for employees and the expectation to report vaccine and immunity status is outlined in Management of Occupational Exposure to Communicable Diseases policy AV0900.

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Revision History	Date	Section	Revision
	Sept 2024	All	Formatting and minor language updates
	Sept 2024	Discontinuing Precautions	There must also be symptom improvement after 24 hours of antimicrobial therapy to discontinuing precautions.

References

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2. BC Centre for Disease Control (BCCDC). (2017, June). Communicable disease control chapter 1 management of specific diseases. http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Epid/CD%20Manual/Chapter%201%20-%20CDC/Meningococcal.pdf

3. BC Center for Disease Control (BCCDC). Meningococcal Disease http://www.bccdc.ca/health-info/diseases-conditions/meningococcal-infection

4. B. Greenwood, K. Slater, "Meningitis", Control of Communicable Diseases Manual DOI: 10.2105/CCDM.2745.100

5. Government of Canada (2024, July) Invasive Meningococcal Disease: For health professionals https://www.canada.ca/en/public-health/services/diseases/invasive-meningococcal/health-professionals.html

6. ICP Diseases and Conditions Table Recommendations for Management of Patients Acute Care. Alberta Health Services. 2018. (https://www.albertahealthservices.ca/assets/healthinfo/ipc/hi-ipc-resource-manual-main-document.pdf)