

# Info-MADO

## Newsletter on Reportable Diseases

### Nunavik Department of Public Health

## ALERT:

### Outbreak of infections with invasive Type A *Haemophilus influenzae* (Hi)

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#### Situation

On November 28, 2023, two cases of infection with invasive *Haemophilus influenzae* (Hi) attending the same day-care were reported to the Nunavik Department of Public Health (DPH). Emergency typing revealed Type A Hi. On December 2, a third case of infection with invasive Hi attending another day-care and with no established links to the first two cases was reported.

#### Profile of infections with invasive Hi

Since the introduction of the vaccine against Type B *Haemophilus influenzae* (Hib) under the Nunavik immunization program in 1990, the incidence of infections with invasive Hib has been very low (two cases of Type B since 2012). However, since 2010, we have noted a rise in cases of infections with invasive Type A *Haemophilus influenzae* (Hia) in Nunavik and in certain regions such as Alaska, Nunavut and, closer to us, the territory of the James Bay Cree.

An invasive case is defined through the isolation of *Haemophilus influenzae* or the detection of *Haemophilus influenzae* nucleic acids at a site that is normally sterile, or through clinical signs compatible with epiglottitis and the isolation of *Haemophilus influenzae* in a specimen from the throat, nasopharynx or epiglottis.

#### Reminder on *Haemophilus influenzae*

Infection with invasive *Haemophilus influenzae* is caused by a Gram-negative bacillus divided into encapsulated and non-encapsulated strains. Capsulated strains are classified by serotype from A to F.

- Clinical signs: Meningitis, cellulitis, pneumonia, epiglottitis, septic arthritis, bacteremia. Serotype B is more virulent, but Types A, C, D, E and F can also cause meningitis and bacteremia.
- Method of transmission: The *Haemophilus influenzae* bacterium spreads through inhalation of droplets or through contact with the nose and throat secretions of an infected individual, whether or not the latter is symptomatic.
- Contagious period: The contagious period lasts as long as the bacteria are present in the respiratory tracts. Treatment of an infected individual does not necessarily eliminate his or her carrier status unless treatment with the objective of decolonization is provided. The incubation period is unknown.

### **Intervention of the Nunavik Department of Public Health**

Little is known about the benefits of chemoprophylaxis for contacts of *Hi* cases other than Type B. However, given the current outbreak and the epidemiological profile of Hia in Nunavik, an intervention similar to the one carried out during an outbreak of Hib is recommended, i.e., prophylaxis for case contacts. This intervention is limited to domestic contacts in households with at-risk individuals and in day-cares when two invasive cases are reported over a 60-day period.

This intervention complies with what is done in other similar regions that have seen outbreaks and was discussed with infectious-diseases specialists serving as consultants for the region.

### **For clinicians**

1. Report all cases of invasive *Hi* to the DPH according to the following procedures:
  - Fill out the AS-770 form and fax it to 1-866-867-8026 or e-mail to [mado-declarations.rr17@ssss.gouv.qc.ca](mailto:mado-declarations.rr17@ssss.gouv.qc.ca).
  - During evenings, weekends and statutory holidays, the report must be made by telephone to the physician on duty for infectious diseases of the DPH at 1-855-964-2244 or 1-819-299-2990.

*These numbers are reserved for health professionals and should not be made public.*
2. Prescribe chemoprophylaxis for contacts in the settings identified in the context of the epidemiological investigation:
  - Rifampicin
    - Children aged < one month: 10 mg/kg/day, in one daily dose, for four days
    - Children aged ≥ one month: 20 mg/kg/day, in one daily dose, for four days (maximum 600 mg/dose)
    - Adults: 600 mg in one daily dose, for four days
  - If rifampicin is contraindicated (pregnant and breast-feeding women, individuals with impaired liver function, allergies, etc.):
    - Ceftriaxone administered intramuscularly as single dose
    - 250 mg for adults
    - 125 mg for children aged 12 years or younger

### **References**

Information sheet for management of cases and contacts - Infections with invasive Type B *Haemophilus influenzae* (Hib): <https://publications.msss.gouv.qc.ca/msss/document-001822/>