Guidelines for the Prevention and Control of Mumps Outbreaks in Canada

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**Canadian Mumps Guidelines**

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Outline

• Introduction to Guidelines
  – Methods
• Mumps Epidemiology in Canada
  – Outbreaks
  – Immunizations
• Recommendations
  – Definitions, management
  – Special situations:
    • Health Care Workers, Gatherings, Travellers
Introduction

• Over the past 10 years, mumps outbreaks have occurred in numerous regions in Canada
  – In 2007-08, there was a large outbreak in Nova Scotia, New Brunswick and Alberta

• In response to these outbreaks, CCMOH requested that guidelines be developed

• The guidelines are based on:
  – National and international expertise
  – Outbreak experiences
  – Best practices
Outbreak Guidelines

• The guidelines are intended to:
  – Assist Canadian public health authorities with the investigation and management of mumps outbreaks
  – Provide consistent case and contact definitions
  – To improve reporting and surveillance information to guide outbreak management
Guidelines Development

- Guidelines were written by a task group of:
  - Federal
  - Provincial and Territorial Partners
- National teleconferences were held to discuss the development of this document
- The guidelines were approved:
  - by all members of the FPT task group
  - reviewed by the Canadian Immunization Committee (CIC)
  - approved by Communicable Disease Control Expert Group (CDCEG)
  - Approved by Council of Chief Medical Officers of Health (CCMOH)
Mumps Epidemiology in Canada

• Mumps is an acute viral disease characterized by fever, swelling and tenderness of one or more of the salivary glands

• Since the approval of the vaccine against mumps in 1969, the number of reported mumps cases in Canada has declined by 99%
Recent Outbreaks in Post-vaccine Era

• From 1998 to 2007, Canada had five outbreaks, with the number of cases ranging from 13 to over 1600
  – These outbreaks primarily involved pre-school or school-aged children, adolescents and young adults
2007/08 Mumps outbreak in Canada

Confirmed* Mumps Cases in Canada with onset December 31, 2006 to July 13th, 2008 n=1,590**

* A confirmed case is either a laboratory-confirmed case OR (clinically compatible and linked to a laboratory-confirmed case) as of 2008-03-05
** Remainder of the 1,661 confirmed cases that were reported are missing onset dates.
Mumps Immunization

- By 1983, all provinces and territories were routinely immunizing infants with MMR vaccine.

- On the basis of the community epidemiology of mumps, most people born in Canada before 1970 are immune to mumps
  - likely exposed to the wild mumps virus that was circulating during their childhood
Mumps Immunization

• In August 2007, NACI issued a revised statement for mumps-containing vaccine
  – two-dose mumps immunization is now recommended for infants and children, as well as certain adult high-risk groups
  – consideration of a single dose of MMR vaccine for high-risk adults (e.g. health care workers) born before 1970
  – All provinces and territories now offer two dose schedule
Canadian cohorts offered one dose of mumps-containing vaccine by jurisdiction and birth year.
Recommendations

• The guidelines make recommendations regarding:
  – Definitions
  – Case and contact management
  – Health care workers
  – Laboratories
  – Gatherings
  – Travel
Confirmed Case Definition

- Any one of the following in the absence of recent immunization (i.e. in the previous 28 days):
  
  i. mumps virus detection or isolation from an appropriate specimen (buccal swab is preferred);
  ii. positive serologic test for mumps IgM antibody in a person who has mumps-compatible clinical illness
  iii. significant rise (four-fold or greater) or seroconversion in mumps IgG titre;
  iv. mumps-compatible clinical illness, in a person with an epidemiologic link to a laboratory-confirmed case.
Clinical/Probable Case Definition

• Acute onset of unilateral or bilateral parotitis lasting longer than 2 days without other apparent cause
Contact Definition

Any of the following during the infectious period (i.e. approximately 7 days before to 5 days after symptom onset):

i. household contacts of a case;
ii. persons who share sleeping arrangements with the case, including shared rooms (e.g. dormitories);
iii. direct contact with the oral/nasal secretions of a case (e.g. face-to-face contact, sharing cigarettes/drinking glasses/food/cosmetics like lip gloss, kissing on the mouth);
iv. children and staff in child care and school facilities.
Laboratories

• RT-PCR is reliable for the definitive diagnosis of an acute mumps infection, but its sensitivity can be influenced by the following:
  – timing of the specimen collection in relation to onset of illness;
  – specimen integrity (rapid specimen processing).
• Buccal swab or saliva from the buccal cavity collected within the first 3 to 5 days of parotitis or symptom onset is the preferred specimen
• Testing for mumps-specific IgM class antibody has been shown to be poorly predictive for the diagnosis of acute mumps in a partially immunized population (may only be detectable in 30% of acute cases).
Case Management

Clinical cases should be managed as confirmed cases until laboratory evidence suggests otherwise

1. Mumps is a reportable disease in all Canadian jurisdictions, and public health authorities should be notified through the usual channels.

2. In the absence of an epidemiologic link to a confirmed case, an oral swab (buccal specimen is preferred) should be obtained for laboratory confirmation.

3. Assess risk factors: obtain immunization and/or disease history, assess epidemiologic links to cases or settings, including travel.
Case Management

4. There is no specific treatment for mumps, only supportive care. Health care providers can offer second dose of mumps vaccine if patient has only received one previously.

5. Advise the case to:
   a. stay home (self-isolate) for 5 days from symptom onset
   b. wash or sanitize their hands often
   c. avoid sharing drinking glasses, eating utensils or any object used on the nose or mouth
   d. cover coughs and sneezes with a tissue or forearm
Contact Management

• Dissemination of information to contacts should include:
  – Information on mumps, its symptoms and prevention
  – Advice to visit one’s health-care provider should any symptoms develop, but call before going (if possible)

• Offer immunization to susceptible groups as defined by the epidemiology of the outbreak
  – Immunization may not prevent disease if the individual is already infected

• Previous outbreaks have indicated that immunization uptake is low
Health Care Workers

Pre-placement of HCWs:
- Occupational Health should document HCW immune status at the pre-placement examination

Existing HCWs:
- Occupational Health should provide MMR to all HCWs unless the individual has documented immunity

HCWs who are cases:
- Clinical cases are managed as confirmed cases until laboratory evidence suggests otherwise
- Advise case to stay home for 5 days from symptom onset and until symptoms have resolved
Health Care Workers

HCWs who are contacts:

• Contact in the facility if unprotected face-to-face interaction within 1 metre of an infectious mumps case:
  – assess immunity to mumps if unknown
  – draw blood for MMR IgG serology
  – provide a dose of MMR vaccine
  – while waiting for serology results, exclude HCW from work for the period of communicability
  – if IgG positive, then consider immune
  – if IgG negative, then consider susceptible
Gatherings

• During an outbreak, events need not be cancelled
• Public exposure settings should be communicated to the public, and event organizers should advise participants as follows:
  – of the potential for exposure and how to prevent spread of the disease
  – of mumps disease, its symptoms and prevention
  – of the need to visit their health care provider should any symptoms develop
Travellers

- Travellers should ensure that their routine immunizations are up to date
- In Canada, individuals can be refused permission to board an aircraft or cruise ship if they appear to have an infectious disease
  - Travellers with symptoms of mumps should postpone travelling until they are better
Travellers

Airplanes: Individual follow-up is not recommended, although notification of implicated public health authorities is suggested as other jurisdictions may have different protocols.

Cruise Ships: The cruise ship’s health services would have the responsibility for the traveller's health during the cruise and would follow up with contacts according to the conveyance operator's policy.
Guidelines Development

- **August 2007 to February 2008** – Guidelines written by F/P/T working group
- **February 2008** – F/P/T working group consensus on guidelines
- **June 2008** – Full version of guidelines presented to CIC
- **July 2008** – Comments on guidelines received from CIC
- **October 2008** – Working group meets to discuss changes
- **November 2008** – Working group consensus on guidelines
- **February 2009** – Presentation of revised guidelines version to CIC
- **March 2009** – Presentation of guidelines to CDCEG – approval received
- **April 2009** – Presentation of guidelines to CCMOH - approved