

# Appendix A: Disease-Specific Chapters

Chapter: Mumps

Revised January, 2012

## Mumps

- Communicable  
 Virulent

**Health Protection and Promotion Act:  
Ontario Regulation 558/91 – Specification of Communicable Diseases**

**Health Protection and Promotion Act:  
Ontario Regulation 559/91 – Specification of Reportable Diseases**

<b>1) Aetiologic Agent:</b>	Mumps is caused by an RNA virus of the genus Rubulavirus in the Paramyxoviridae family (2).
<b>2) Case Definition:</b>	
Surveillance Case Definition	<a href="#">See Appendix B</a>
Outbreak Case Definition	<p>The outbreak case definition varies with the outbreak under investigation. Consideration should be given to the following in establishing an outbreak case definition:</p> <ol style="list-style-type: none"><li>1. Clinical, laboratory and/or epidemiological criteria;</li><li>2. A time frame for occurrence, and</li><li>3. A geographic location(s) or place(s) where cases live or became ill/exposed</li><li>4. Special attributes of cases (e.g. age, underlying conditions).</li></ol> <p>Cases should also be classified by levels of probability (i.e. confirmed, probable or suspect).</p>
<b>3) Identification:</b>	
Clinical Presentation	Symptoms include fever, swelling and tenderness of one or more salivary glands, usually the parotid and sometimes the sublingual or submaxillary glands (1). Approximately one third of infections do not cause clinically apparent salivary gland swelling and may manifest primarily as respiratory tract infection. Orchitis is a common complication after puberty but sterility rarely occurs and other rare complications include arthritis, thyroiditis, mastitis, glomerulonephritis and myocarditis (2).
Diagnosis	<a href="#">See Appendix B</a>
Occurrence	Mumps is endemic throughout the world (1). In countries with high vaccination rates, sporadic cases occur throughout the year, however in countries that do not have high vaccination rates incidence peaks in late winter and early spring. Mumps may occur at any age, however majority of reported cases are in children 5-10 years of age (1).

	The incidence of mumps has declined in Ontario since a two-dose MMR vaccination program was administered in 1996. From 1998-2007, an average of 25 cases were reported per year. Mumps is becoming more common among university and college aged young adults, and less common among younger children.
Reservoir	Humans (1)
Modes of Transmission	Person-to-person through direct contact with respiratory droplets from the mouth or nose of an infected person. When an infected person coughs or sneezes, these droplets enter the nose or mouth of another person. Mumps can also be spread through saliva, sharing drinks and kissing. The virus can also survive on surfaces. Touching these surfaces and then touching your nose or mouth can also result in infection (4).
Incubation Period	The average length of the incubation period is 16-18 days, however it can range from 14-25 days (1).
Period of Communicability	A person with mumps is able to spread infection from 7 days before to 5 days after symptoms develop (5). Asymptomatic transmission of mumps may also occur (4). Maximum infectiousness occurs between 2 days before and 4 days after onset of illness (1).
Susceptibility and Resistance	After infection immunity is generally lifelong (1). Immunization with the mumps containing vaccine provides around 80% protection against mumps.

#### 5) Reporting Requirements:

To Local Board of Health	Confirmed and suspected cases shall be reported to the medical officer of health by persons required to do so under the <i>Health Protection and Promotion Act</i> , R.S.O. 1990 (HPPA).
To Public Health Division (PHD)	<p>Report only case classifications specified in the case definition to PHD.</p> <p>Cases shall be reported using the integrated Public Health Information System (iPHIS), or any other method specified by the Ministry <b>within one (1) business day of receipt of initial notification</b> as per <i>iPHIS Bulletin</i> Number 17: Timely Entry of Cases (6).</p> <p>The minimum data elements to be reported for each case is specified in the following:</p> <ul style="list-style-type: none"> <li>• <i>Ontario Regulation 569 (Reports)</i> under the HPPA;</li> <li>• The disease-specific User Guides published by the Ministry, and</li> <li>• Bulletins and directives issued by the Ministry.</li> </ul>

#### 6) Prevention and Control Measures:

Personal Prevention Measures	Under the <i>Immunization of School Pupils Act</i> , all students must have documented receipt of 1 dose of Mumps containing vaccine after the 1 <sup>st</sup>
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	birthday usually given as MMR (refer to the current publicly funded immunization schedules for Ontario).
Infection Prevention and Control Strategies	For hospitalized cases, in addition to routine practices, droplet precautions are recommended until 5 days after onset of parotid swelling (5).
Management of Cases	<p>Refer to ON Regulation 569 under the HPPA regarding appropriate data to collect. Include the following in the investigation:</p> <ul style="list-style-type: none"> <li>• Apply case definition</li> <li>• Confirm the diagnosis and ensure appropriate clinical specimens have been collected <a href="http://www.health.gov.on.ca/english/providers/pub/labs/mumps_diagnostic.html">http://www.health.gov.on.ca/english/providers/pub/labs/mumps_diagnostic.html</a></li> <li>• Identify close contacts</li> <li>• Investigate risk factors for acquisition including but not limited to: <ul style="list-style-type: none"> <li>- immunization history</li> <li>- history of recent travel</li> <li>- source of infection</li> </ul> </li> </ul> <p>Exclude the case from school, work and other activities for 5 days after parotitis begins (day 1 is onset of parotitis) (5).</p> <p>There is no specific treatment for mumps other than supportive (2).</p> <p>For more detailed information on case management see the Interim Ontario Guidelines for Public Health Management of Mumps, May 25, 2007.</p>
Management of Contacts	<p>A contact of a mumps case is any susceptible person who has had close contact with the case during the period of communicability.</p> <p>Contact management:</p> <ul style="list-style-type: none"> <li>• Assess immunization status of identified contacts and immunize where appropriate;</li> <li>• Alert contacts about signs and symptoms that can occur within 25 days after exposure, and</li> <li>• Advise contact to seek medical attention upon symptom onset and inform the local public health unit.</li> </ul> <p>Susceptible Health Care Workers (HCW) should follow the OHA/OMA protocol.</p> <p>For more detailed information on contact management see the <b>Interim Ontario Guidelines for Public Health Management of Mumps</b>, May 25, 2007.</p>
Management of Outbreaks	<p>An outbreak is defined by the usual epidemiological principles of a greater than expected number of cases that are spatially and temporally linked.</p> <p>PHD provides support in the management of an outbreak only if the Health Unit requires additional MMR vaccine, requests assistance of the PHD or if the outbreak spans more than one Health Unit.</p>

	<p>For more detailed information on outbreak management see the <b>Interim Ontario Guidelines for Public Health Management of Mumps</b>, May 25, 2007.</p> <p>As per this protocol, outbreak management shall comprise of but not be limited to the following general steps:</p> <ul style="list-style-type: none"> <li>• Confirm diagnosis and verify the outbreak;</li> <li>• Establish an outbreak team;</li> <li>• Develop an outbreak case definition;</li> <li>• Implement prevention and control measures;</li> <li>• Implement and tailor communication and notification plans depending on the scope of the outbreak;</li> <li>• Conduct epidemiological analysis on data collected;</li> <li>• Conduct environmental inspections of implicated premise where applicable;</li> <li>• Coordinate and collect appropriate clinical specimens where applicable;</li> <li>• Prepare a written report, and</li> <li>• Declare the outbreak over in collaboration with the outbreak team.</li> </ul> <p>For an outbreak in a school, susceptible students can be excluded under Section 12 of <i>the Immunization of School Pupils Act</i>.</p>
<p><b>7) References</b></p>	<p>(1) Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.</p> <p>(2) Pickering LK, Baker CJ, Long SS, McMillan JA, editors. Red book: 2006 report of the Committee on Infectious Diseases. 27<sup>th</sup> ed. Elk Grove Village, IL: American Academy of Pediatrics; 2006. Section 3, Summaries of infectious diseases; p. 464-8.</p> <p>(3) Atkinson W, Hamborsky J, McIntyre L, Wolfe S, editors. Epidemiology and Prevention of Vaccine-Preventable Diseases. 10th ed. 2nd printing, Washington DC: Public Health Foundation, Centers for Disease Control and Prevention; 2008, p. 149-58. Available from <a href="http://www.cdc.gov/vaccines/pubs/pinkbook/default.htm">http://www.cdc.gov/vaccines/pubs/pinkbook/default.htm</a> (Pink Book) (1)</p> <p>(4) Waner JL, Swierkosz EM. Mumps and parainfluenza viruses. In Murray PR, editor. <i>Manual of Clinical Microbiolog</i>. 8th ed. Washington, DC: ASM Press; 2003.</p> <p>(5) Centers for Disease Control and Prevention, Updated Recommendations for Isolation of Persons with Mumps, Morbidity and Mortality Weekly Report, 57:40: 1105-1105, October 10, 2008. Available from <a href="http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5740a3.htm">http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5740a3.htm</a></p> <p>(6) Ministry of Health and Long-Term Care. Timely entry of cases. iPHIS Bulletin. 2012 January;14.</p>
<p><b>8) Additional Resources</b></p>	<p><i>Immunization of School Pupils Act</i>, R.S.O. 1990, c. I.1. Available from <a href="http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90i01_e.htm">http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90i01_e.htm</a></p>

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*Health Protection and Promotion Act*, R.S.O. 1990, c. H.7. Available from [http://www.e-laws.gov.on.ca/html/statutes/english/elaws\\_statutes\\_90h07\\_e.htm](http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90h07_e.htm).

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Ontario Hospital Association; Ontario Medical Association. Mumps surveillance protocol for Ontario hospitals. Toronto: Ontario Hospital Association; 2009. Available from <http://www.oha.com/Services/HealthSafety/Documents/Protocols/Mumps%20Protocol%20Revised%20January%202009.pdf>

Ministry of Health and Long-Term Care. Infectious diseases protocol. Toronto: Queen's Printer for Ontario; 2009. Available from [http://www.health.gov.on.ca/english/providers/program/pubhealth/oph\\_standards/ophs/infdispro.html](http://www.health.gov.on.ca/english/providers/program/pubhealth/oph_standards/ophs/infdispro.html) (or as current)

Plotkin SA, Orenstein WA, Offit PA, editors. Vaccines: Expert consult. 5<sup>th</sup> ed. Philadelphia: Saunders; 2008.

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