

# Appendix A: Disease-Specific Chapters

Chapter: Rubella

## Rubella

- 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>	Rubella virus (family Togaviridae; genus Rubivirus) is the cause of this vaccine preventable disease (1).
<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;</li><li>3. A geographic location(s) or place(s) where cases live or became ill/exposed, and</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, suspect, or PUI).</p>
<b>3) Identification:</b>	
Clinical Presentation:	<p>A mild febrile viral disease presenting with an erythematous maculopapular rash and few constitutional symptoms including low-grade fever, headache, malaise, mild coryza and conjunctivitis. The rash starts on the face, becomes generalized in 24 hours and lasts a median of 3 days (1, 2). Up to 50% of rubella infections are sub-clinical (1).</p> <p>Lymphadenopathy, which may precede the rash, often involves posterior-auricular, or suboccipital lymph nodes, can be generalized and lasts between 5 to 8 days. Encephalitis and thrombocytopenia are rare complications (2).</p> <p>Rubella is important because of its ability to produce anomalies in the developing fetus if infection is acquired in the first trimester of pregnancy (1) (see chapter on congenital rubella).</p>

Diagnosis	<a href="#">See Appendix B</a>
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#### 4) Epidemiology:

Occurrence	<p>Worldwide; rubella occurs primarily in unimmunized groups and outbreaks are most frequent in late winter and early spring (2).</p> <p>Vaccination was introduced in Canada in 1969; since the mid 1970s, incidence in Canada has remained relatively low.</p> <p>The incidence of rubella has declined in Ontario since a two-dose MMR vaccination program was introduced in 1996. From 1998-2007, the number of confirmed cases ranged from 2 to 17 per year, with the exception of 313 cases in 2005, where a rubella outbreak occurred in an un-immunized community, mostly among school-age children.</p>
Reservoir	Humans (1)
Modes of Transmission	Person to person via direct or droplet contact from nasopharyngeal secretions. Infants with congenital rubella syndrome may shed virus for months after birth (1).
Incubation Period	From 14-17 days, with a range of 14-21 days (1).
Period of Communicability	For about 1 week before onset and at least 4 days after onset of rash, sometimes 5-7 days after onset of rash; rubella is a highly communicable infection (1).
Susceptibility and Resistance	Unimmunized individuals are susceptible to infection; immunity is usually permanent after immunization and natural infection (1).

#### 5) Reporting Requirements:

To Local Board of Health	<p>Confirmed and suspected cases shall be reported to the medical officer of health by persons required to do so under <i>the Health Protection and Promotion Act</i>, R.S.O. 1990.</p> <p><b>Note:</b> Laboratory confirmed cases are to be reported by phone to the local medical officer of health as soon as identified.</p>
To Public Health Division (PHD)	<p>The local health unit shall notify the PHD by phone as soon as possible after receiving a report of a suspect or probable case of Rubella, and after ruling out any other similar illness.</p> <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</p>

	<p>Ministry <b>within one business day of receipt of initial notification</b> as per <i>iPHIS Bulletin</i> Number 17: Timely Entry of Cases (3).</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</i> (Reports) under the Health Protection and Promotion Act (HPPA);</li> <li>• The disease-specific User Guides published by the Ministry, and</li> <li>• Bulletins and directives issued by the Ministry.</li> </ul>
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## 6) Prevention and Control Measures:

<p>Personal Prevention Measures</p>	<p>Prevention Measures:</p> <ul style="list-style-type: none"> <li>• Immunization is the mainstay for preventing rubella infection. Control of rubella infection is needed primarily to prevent congenital rubella syndrome in susceptible pregnant females (1);</li> <li>• Children should be immunized as per the current Publicly Funded Immunization Schedules for Ontario, and</li> <li>• Education of women of childbearing years about the importance of knowing their rubella immunization status and prenatal screening of all women to determine susceptibility, especially female adolescents and women who immigrate from countries where rubella vaccine is not routinely used (Asian, African, Caribbean and South and Central American countries) (2).</li> </ul>
<p>Infection Prevention and Control Strategies</p>	<p>Strategies:</p> <ul style="list-style-type: none"> <li>• Healthcare workers should provide proof of immunity prior to employment to protect all susceptible health care workers (2), and</li> <li>• For hospitalized cases, in addition to routine practices, droplet precautions are recommended for 7 days after onset of the rash (2).</li> </ul>
<p>Management of Cases</p>	<p>Confirm the case and determine immunization status. Investigate for possible source of infection. Collect appropriate data as per the HPPA, ON Reg 569, and include the following in the investigation:</p> <ul style="list-style-type: none"> <li>- Symptoms and date of symptom onset</li> <li>- Travel history</li> <li>- History of exposure or risk behaviours</li> <li>- Earliest and latest exposure dates</li> <li>- Occupation</li> <li>- Residency/attendance at a facility or institution</li> </ul> <p>Contact identification and tracing:</p> <ul style="list-style-type: none"> <li>- Contact history during period of communicability</li> </ul>

	<ul style="list-style-type: none"> <li>- Assessment of type of contact and probability of transmission</li> <li>- Identification of contacts for follow-up</li> <li>- Occupation of contact</li> <li>- Residency/attendance at a facility or institution</li> </ul> <p>Case counselling:</p> <ul style="list-style-type: none"> <li>- Advise case to avoid contact with pregnant females; and exclude from work, school and other activities for 7 days from the onset of the rash (1, 2).</li> </ul> <p>There is no specific treatment for rubella infection (1).</p>
<p>Management of Contacts</p>	<p>A contact of a rubella 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>• Pregnant contacts should be advised to consult with their physician promptly;</li> <li>• Physician should confirm rubella susceptibility status and where this is negative, perform serology to determine if infected (1);</li> <li>• Assess immunization status of identified contacts and immunize where appropriate;</li> <li>• Alert contacts about signs and symptoms, and</li> <li>• Advise contact to seek medical attention upon symptom onset and inform the local public health unit.</li> </ul>
<p>Management of Outbreaks</p>	<p>An outbreak is defined by the usual epidemiological principles of a greater than expected number of cases that are spatially and temporally linked. Provide public health management of outbreaks or clusters in order to identify the source of illness, stop the outbreak and limit secondary spread.</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> <li>• For an outbreak in a school, susceptible students can be excluded under Section 12 of <i>the Immunization of School</i></li> </ul>

	<i>Pupils Act.</i>
<b>7) References</b>	<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. 27th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2006. Section 3, Summaries of infectious diseases; p. 574-9.</p> <p>(3) Ministry of Health and Long-Term Care. Timely entry of cases. <i>iPHIS Bulletin</i>. 2007 May 11;17.</p>
<b>8) Additional Resources</b>	<p>Gregg MB, editor. Field epidemiology. 2<sup>nd</sup> ed. New York: Oxford University Press; 2002.</p> <p><i>Health Protection and Promotion Act</i>, R.S.O. 1990, c. H.7. Available from <a href="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</a>.</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> <p>Ministry of Health and Long-Term Care. Infectious diseases protocol. Toronto: Queen's Printer for Ontario; 2009. Available from <a href="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</a> (or as current)</p> <p>National Advisory Committee on Immunization. Canadian immunization guide. 7<sup>th</sup> ed. Ottawa: Public Health Agency of Canada; 2006. Available from: <a href="http://www.phac-aspc.gc.ca/publicat/cig-gci/index-eng.php">http://www.phac-aspc.gc.ca/publicat/cig-gci/index-eng.php</a>.</p> <p>Steering Committee on Infection Control Guidelines. Prevention and control of occupational infections in health care. An infection control guideline. <i>Can Commun Dis Rep</i>. 2002 Mar;28 Suppl 1:1-264. Available from <a href="http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/02pdf/28s1e.pdf">http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/02pdf/28s1e.pdf</a>.</p> <p>Plotkin SA. Rubella eradication. <i>Vaccine</i>. 2001 ;19(25-26):3311-9.</p> <p>Public Health Agency of Canada. [Internet]. Vaccine Preventable Diseases: Rubella. Ottawa: Public Health Agency of Canada; 2007. [cited 2009 Feb 1] Available from <a href="http://www.phac-aspc.gc.ca/im/vpd-mev/rubella-eng.php">http://www.phac-aspc.gc.ca/im/vpd-mev/rubella-eng.php</a></p> <p>National Center for Immunization and Respiratory Diseases. [Internet]. Atlanta: Centres for Disease Control and Prevention; 2009. Rubella; 2007 July 28 [cited 2009 Feb 8]. Available from <a href="http://www.cdc.gov/rubella/">http://www.cdc.gov/rubella/</a></p>

