

# Appendix A: Disease-Specific Chapters

Chapter: Rubella, congenital syndrome

## Rubella, congenital syndrome

- 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**

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|------------------------------|---|
| <b>1) Aetiologic Agent:</b>  | Rubella virus (family Togaviridae; genus Rubivirus) (1)   |
| <b>2) Case Definition:</b>   |   |
| Surveillance Case Definition | <a href="#">See Appendix B</a>  |
| Outbreak Case Definition     | Not applicable  |
| <b>3) Identification:</b>    |   |
| Clinical Presentation        | Congenital rubella syndrome (CRS) is manifested by sensorineural deafness, cataracts, pigmentary retinopathy, and patent ductus arteriosus and many other defects including glaucoma, peripheral pulmonic stenosis, endocrinopathies including diabetes, hyperimmunoglobulinemia M, microcephaly and intellectual disability. The severity and type of defect generally depends on the time of infection during gestation. Damage caused by congenital rubella does not stop at birth and some clinical manifestations worsen or develop later (2). |
| Diagnosis                    | <a href="#">See Appendix B</a>  |
| <b>4) Epidemiology:</b>      |   |
| Occurrence                   | Occurs in up to 90% of infants born to women infected with rubella virus during the first trimester of pregnancy (1, 2). Defects are rare with infection after 20 <sup>th</sup> week of gestation (1).<br><br>CRS occurs rarely in Ontario, with a range of zero to two reported cases per year from 1998-2007. The last two cases were reported in 2004.   |
| Reservoir                    | Humans; source is maternal viremia (1).   |
| Modes of Transmission        | Transplacental passage of rubella virus from maternal blood (3).  |

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| Incubation Period             | Not applicable (2).  |
| Period of Communicability     | Birth to 9-12 months of age, rarely longer. A small number of infants with congenital rubella continue to shed virus in nasopharyngeal secretions and urine for 1 year or more and can transmit infection to susceptible contacts (3). |
| Susceptibility and Resistance | Fetuses of pregnant women who are susceptible and are exposed to rubella (2).  |

#### 5) Reporting Requirements:

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| 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.  |
| 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 five (5) business days of receipt of initial notification</b> as per <i>iPHIS Bulletin</i> Number 17: Timely Entry of Cases (4).</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> |

#### 6) Prevention and Control Measures:

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| Personal Prevention Measures                | Not applicable  |
| Infection Prevention and Control Strategies | <p>Prevention strategies:</p> <ul style="list-style-type: none"> <li>• Immunization with Rubella vaccine now given as MMR vaccine (1) as per the Canadian Immunization Guide and the current Publicly Funded Immunization Schedules for Ontario;</li> <li>• Healthcare workers should provide evidence of adequate immunization for rubella as per the Ontario Hospital Association/Ontario Medical Association, <i>OHA/OMA Communicable Diseases Surveillance Protocols for Ontario Hospitals</i>, 2004, and</li> <li>• Routine practices and respiratory isolation precautions are recommended for hospitalized cases.</li> </ul> |
| Management of Cases                         | <p>Refer to <i>Ontario Regulation 569</i> for relevant data to collect. Ensure that the investigation includes:</p> <ul style="list-style-type: none"> <li>• Confirming the diagnosis as per the case definition;</li> <li>• Determining the mother's immunization and antenatal</li> </ul>   |

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|                                | <p>serological status, and</p> <ul style="list-style-type: none"> <li>• Determining the possible source and exposure to rubella during her pregnancy including clinical details of her infection and possible setting/location of exposure.</li> </ul> <p>Infants with congenital rubella should be isolated from non-immune pregnant women, infants and children, and should be considered infectious until there are 2 sets of negative tests. Urine and nasopharyngeal (NP) specimens in addition to serology should be collected shortly after birth and again in 1-2 months. If the test results are not negative the infant is considered infectious and should continue to be isolated from non-immune persons. Regular testing should be done until tests are negative.</p> <p>There is no specific treatment for congenital rubella except for symptomatic and supportive care (3).</p> |
| Management of Contacts         | <p>A contact is any susceptible person who has had close contact with the newborn during the period of communicability.</p> <ul style="list-style-type: none"> <li>• Pregnant contacts should be advised to consult with their physician or midwife. Physician should confirm rubella susceptibility status and where this is negative, perform serology to determine if infected.</li> <li>• Assess immunization status of identified contacts and immunize where appropriate.</li> <li>• Alert contacts about signs and symptoms.</li> <li>• Advise contact to seek medical attention upon symptom onset and inform the local public health unit.</li> </ul>   |
| Management of Outbreaks        | Not applicable   |
| <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) Plotkin SA, Reef S. Rubella vaccine. In: Plotkin SA, Orenstein WA, Offit P, editors. Vaccines. 4<sup>th</sup> ed. Philadelphia: Saunders; 2004. p. 707-43.</p> <p>(3) 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. 574-9.</p> <p>(4) 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>National Advisory Committee on Immunization. Canadian Immunization Guide. 7<sup>th</sup> ed. Ottawa: Public Health Agency of Canada; 2006. [cited 2008 June 24] 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</p>  |

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guideline. Can Commun Dis Rep. 2002 Mar;28 Suppl 1:1-264. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/02pdf/28s1e.pdf>.

Ontario Hospital Association; Ontario Medical Association. Rubella disease surveillance protocol for Ontario hospitals. Toronto: Ontario Hospital Association; 2008. Available from [http://www.oha.com/Client/OHA/OHA\\_LP4W\\_LND\\_WebStation.nsf/resources/Communicable+Disease+Surveillance+Protocols/\\$file/Rubella+Protocol+Revised+January+2008.pdf](http://www.oha.com/Client/OHA/OHA_LP4W_LND_WebStation.nsf/resources/Communicable+Disease+Surveillance+Protocols/$file/Rubella+Protocol+Revised+January+2008.pdf).

Gregg MB, editor. Field epidemiology. 2<sup>nd</sup> ed. New York: Oxford University Press; 2002.

*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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