

Rubella

Reporting Obligations

Rubella is designated as a disease of public health significance and is reportable under the *Ontario Health Protection and Promotion Act*. Report all suspect and confirmed cases within **one business day** to the health unit.

REPORTING FORM

Epidemiology

Aetiologic Agent:

Rubella virus (family *Togaviridae*) is the cause of this vaccine preventable disease.

Clinical Presentation:

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. Serious complications are rare, with up to 50% of infections being subclinical, however encephalitis can occur as well as arthritis/ arthralgia, particularly among adult females. The main goal of immunization is the prevention of rubella infection in pregnant women which may give rise to congenital rubella syndrome (CRS) or congenital rubella infection in the infant (CRI).

CRS can result in miscarriage, stillbirth, and fetal malformations, including congenital heart disease, cataracts, deafness, and intellectual disabilities. The greatest risk of fetal damage following maternal infection is highest in the first trimester (90%) which is reduced as the pregnancy progresses and is very uncommon after the 20th week.

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.

Incubation Period:

From 14- 21 days.

Period of Communicability:

The rubella virus is very contagious, and transmission can occur 1 week before and at least 4 days after the appearance of the rash. Infants with CRS may shed virus for months after birth.

Risk Factors/Susceptibility

Rubella-susceptible persons are all individuals who have not received at least one dose of rubella-containing vaccine. Immunity is usually permanent after immunization and natural infection.

Diagnosis & Laboratory Testing

Laboratory confirmation of infection in the absence of immunization with rubella-containing vaccine in the last 7 – 42 days is needed for a confirmed case. Tests include any of the following:

- Isolation of rubella virus in culture from clinical samples (throat, NP swabs/aspirates, urine)
- Nucleic acid amplification test (NAT) to detect rubella virus RNA
- Serology for rubella IgM antibody
- A significant (i.e., fourfold, or greater) rise in rubella Immunoglobulin G (IgG) antibody level or a seroconversion using a recommended IgG assay in paired acute and convalescent sera

Note that IgM serology has the potential for false positive findings. Further confirmation (IgG paired serology or rubella virus detection) is required in cases specifically where there is no established epidemiological link such as travel or exposure history. Because of the implications of acute rubella infection in a pregnant woman and the potential for a false positive IgM result, avidity testing of Rubella IgG antibodies is recommended for pregnant women with a positive IgM result when there is no change in observed rubella IgG levels. Although in North America most people consider a rubella IgG level of >10 IU/ml to confer immunity against rubella infection, the actual level that correlates with protection has not been fully defined.

TESTING INFORMATION & REQUISITION

Treatment & Case Management

There is no specific treatment for rubella infection. 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. Public Health staff will be involved with case and contact management.

Patient Information

PATIENT FACT SHEET

References

1. [Ontario. Ministry of Health. Infectious Diseases Protocol. Appendix 1: Rubella.](#) Toronto: Queen's Printer for Ontario; 2022 [cited 2024 Mar 12].

Additional Resources

1. [MOHLTC. Publicly Funded Immunization Schedules for Ontario; June 2022.](#)
2. [Simcoe Muskoka HealthSTATS: Rubella](#)
3. [PHO. Rubella and Congenital Rubella Syndrome \(CRS\); Oct 2019.](#)