

RUBELLA

Case definition

CONFIRMED CASE

Laboratory confirmation of infection in the absence of recent immunization with rubella-containing vaccine:

- isolation of *rubella* virus from an appropriate clinical specimen
OR
- detection of rubella virus RNA
OR
- seroconversion or a significant [i.e. fourfold or greater] rise in rubella IgG titre, by any standard serologic assay, between acute and convalescent sera.
OR
- positive serologic test for rubella IgM antibody using a recommended assay in a person with an epidemiologic link to a laboratory-confirmed case or who has recently travelled to an area of known rubella activity.
OR
- Clinical illness in a person with an epidemiologic link to a laboratory-confirmed case.

PROBABLE CASE

Clinical illness

- in the absence of appropriate laboratory tests
OR
- in the absence of an epidemiologic link to a laboratory-confirmed case
OR
- in a person who has recently travelled to an area of known rubella activity

Causative agent

Rubella virus, of the genus *Rubivirus*

Source

Humans

Incubation

Usually 14-17 days, but can be as long as 21 days.

Transmission

Rubella is spread through direct or droplet contact from nasopharyngeal secretions from someone with the infection. Congenital rubella syndrome is transmitted to the fetus during pregnancy in 25% of cases of susceptible women who were exposed to rubella during their first trimester of pregnancy. Infants with congenital rubella may shed the virus for up to a year after birth.

Communicability

One week before and at least 4 days after the onset of the rash. Infants with congenital rubella may shed the virus for up to one year after birth.

Symptoms

Usually a mild febrile disease characterized by a maculopapular discrete rash, slight fever, conjunctivitis and postauricular, occipital or posterior cervical lymphadenopathy. Children usually will have few or no symptoms, but adults may experience a 1-5 day low-grade fever, headache and malaise. Some arthritis and arthralgia may accompany symptoms, especially in female adults. Encephalitis and thrombocytopenia are rare.

Diagnostic testing

- Throat swab, urine for culture/polymerase chain reaction (PCR)
- Fetal autopsy [all organs, abortus]
- Cerebral spinal fluid for culture/PCR
- Blood, clotted or serum for serology, enzyme immunoassay

Treatment

None. Supportive care in the home unless symptoms of fever and headache indicate encephalitis.

PUBLIC HEALTH MANAGEMENT & RESPONSE

Case management

Initiate case follow-up immediately.

Educating case and family

- If individual is pregnant, discuss serological testing for immune status. Provide counselling regarding possible risks of rubella infection for the fetus. Refer to family doctor for further discussion.
- Educate the individual or family about rubella, including transmission, communicability and the need to isolate the individual from public places for 7 days from the appearance of the rash.
- Determine the infection source. Discuss social events, visitors from out of province, any contact with others who have been ill or with infants who may have congenital rubella syndrome.

If the case is from a child care setting

Case finding

Absent school/child care attendees should be reached in order to determine if they are cases. Case finding for source should be done for the 3 weeks prior to the onset of the rash.

Excluding cases

Students ill during school that are suspect rubella cases should be sent home but not on public transportation or the school bus. These suspect cases should be reported to public health (PH).

Evaluating staff, students, attendees and parents and siblings of attendees

Investigate all women of reproductive age for possible exposure and refer to their family physician.

Informing parents

Inform parents of the need for their children to be immunized immediately if their children are susceptible (see [sample letter](#)).

If the case is from an institution

- A health care worker should be excluded.
- Health care facilities may wish to handle the investigation. PH should be involved as well.

- In hospitals and institutions, patients suspected of having rubella should be managed under contact isolation precautions and placed in a private room; attempts should be made to prevent exposure of non-immune pregnant women.
- Immunization of contacts, while not contraindicated (except during pregnancy) will not necessarily prevent infection or illness. Passive immunization with immune globulin is not indicated.
- Identify pregnant female contacts, especially those in their first trimester. Such contacts should be tested serologically for susceptibility (if not known) or for early infection and advised accordingly.
- All cases of rubella must be reported to PH.

Exclusion

Cases should be excluded from school, child care or work until 7 days after the appearance of the rash. Isolation of each individual is important so as not to infect those who may be susceptible. PH will inform the school, child care centre or employer about the exclusion.

PH will inform the school, child care centre or employer when it is permissible for the case to return

Education

- Immunization of all infants according to the N.S. immunization schedule.
- Immunization of all susceptible contacts including:
 - all post-pubertal females who are not known to have immunity to rubella (they should not receive vaccine if they are pregnant)
 - all individuals with no documentation of MMR vaccine and born after 1970
- Prenatal tests for rubella immunity should be done on a routine basis. Vaccine should be administered to all postpartum women who are non-immune before discharge from hospital.
- Investigation of immune status of health care personnel and immunization given to all who are non-immune.

Contact tracing

Discuss in detail the dates, names and places where the individual may have been in contact with others during the time of communicability, with special emphasis on exposure for pregnant women. Include:

- household contacts and extended family members
- social events
- work, school, child care settings
- medical or clinical facilities

Use a calendar to help the client recall dates and activities.

Identifying and immunizing susceptible contacts

- Reach all contacts by phone or in person. Anyone who cannot establish immunity should be considered susceptible. Individuals who are considered immune are those who have:
 - documented evidence of immunization since 1970 with rubella vaccine after the first birthday **OR**
 - physician documented evidence of rubella **OR**
 - laboratory evidence of immunity
- Immunity for infants who are born with congenital rubella syndrome usually lasts only 1 year, during which time they may shed the virus. Immunization for these infants is an important consideration after the first year of life.
- All individuals who have been exposed to the virus and who have no medical contraindications to the vaccine should immediately be given rubella vaccine. Post-pubertal females should be advised not to get pregnant for one month after receiving rubella vaccine. Immunization with rubella vaccine is contraindicated in pregnancy. Postpartum women who are non-immune should be given rubella vaccine before discharge from hospital.
- Provide information about rubella to all individuals who may have been exposed to the virus, especially women who may be pregnant or of reproductive age. Information about the signs and symptoms of the disease and the importance of isolation from other possible contacts, including health care workers, child care settings and schools, and especially other pregnant women, is essential.
- Follow up contacts within 1 week to confirm that they have had immunization or whether they have or have not become infected.

Surveillance forms

novascotia.ca/dhw/populationhealth/surveillanceguidelines/NS_Notifiable_Disease_Surveillance_Case_Report_Form.pdf

novascotia.ca/dhw/populationhealth/surveillanceguidelines/Vaccine_Preventable_Case_Report_Form.pdf

General Information Sheet

Sample letter

REFERENCES

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cdha.nshealth.ca/pathology-laboratory-medicine

[Provincial Microbiology Users Manual](#)