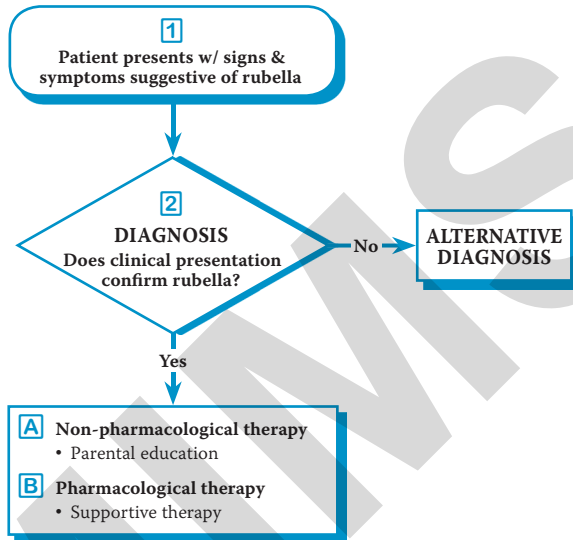


Rubella (1 of 3)



1 RUBELLA

- Also known as German measles or 3-day measles, is a mild & self-limiting disease associated w/ a characteristic rash
- Before vaccination era, the peak incidence is in 5-14 yrs of age
 - Currently, it involves the adolescents or young adults

Etiology

- A single-stranded RNA virus classified as a togavirus, genus *Rubivirus*
- Transmission is through airborne or droplets shed from resp secretions
- Highly communicable on the onset of the rash, however viral shedding may also occur 5-7 days before, to 5-7 days or more following appearance of the rash
- Incubation period is 14-21 days

Signs & Symptoms

- Prodromal symptoms of low-grade fever, conjunctivitis, sore throat, coryza, headaches, malaise & lymphadenopathy usually last for 1-5 days before the onset of rash
 - The prominent lymph nodes are the suboccipital, postauricular & anterior cervical nodes
- Rash is maculopapular & appears 14-17 days after exposure
 - Rash begins on the face & forehead as small, irregular pink macules that coalesce
 - It spreads centrifugally to the trunk & extremities as discrete macules
 - It then resolves w/in 3 days in the same order it appeared, usually w/o desquamation
 - May be more prominent after taking a bath or a hot shower
 - The rash may be pruritic
- Forchheimer spots on the soft palate may be noted about the time of rash onset, but are not diagnostic
- May be asymptomatic in 25% to 50% of patients

1 RUBELLA (CONT'D)

Congenital Rubella Syndrome (CRS)

- Neonatal manifestations of rubella during maternal infection
- Severity of effects on the fetus varies according to the gestational age at which the maternal infection occurs
 - The most severe & widespread defects occur during maternal infection in the 1st trimester of gestation
- May have several manifestations including the following:
 - Deafness - most common finding
 - Eye defects (eg cataracts, glaucoma, salt-&-pepper retinopathy)
 - Cardiac abnormalities (eg patent ductus arteriosus, pulmonic stenosis)
 - Neurologic defects (eg microcephaly, mental retardation)
- Manifestations may be delayed from 2-4 yr & may include DM, glaucoma, thyroid dysfunction

Complications

- Uncommon in patients & generally not life-threatening
- May include postinfectious thrombocytopenia, orchitis, Guillain-Barré syndrome & peripheral neuritis
- Encephalitis is the most serious complication, occurs in 2 forms
 - Postinfectious encephalitis appears w/in 7 days after the onset of rash
 - May present w/ seizures, confusion, ataxia & focal neurologic signs
 - Most patients recover completely
 - Progressive rubella panencephalitis has an onset & course similar to subacute sclerosing panencephalitis, a complication of measles

2 DIAGNOSIS

- Diagnosis is based on clinical findings

Lab Exam

- Serologic test is the most common method of confirming rubella infection, however it is seldom needed except in pregnant women where it is imperative
 - There is a fourfold rise in rubella IgG antibody titer in acute- & convalescent-phase serum specimens
 - Presence of rubella specific IgM antibody
 - In newborns, increased levels of IgM antibodies indicate a recent infection acquired after birth
 - Ideal time for serum collection is w/in 7-10 days after the onset of illness & 14-21 days later
 - Enzyme-linked immunosorbent assay (ELISA) is often used to test for rubella antibodies
- Positive viral culture may confirm rubella infection
 - Virus may be isolated from blood, throat, nasal, urine & cerebrospinal fluid specimens of rubella & CRS patients
 - Rubella virus may be isolated during the acute phase, 1 wk before to 2 wks after the onset of rash
 - Not generally used for routine diagnosis

A NON-PHARMACOLOGICAL THERAPY

Parental Education

- Assure parents that the disease is generally benign, self-limiting & w/o complications
- High-risk individuals to acquire the disease are those who are unimmunized & potentially pregnant family members
- Isolation of patients from susceptible individuals should be done for 7 days after the rash onset
 - CRS patients should be maintained in contact precautions as they may shed the virus up to 1 yr of age

Prevention

- Rubella vaccine is available as a single-antigen preparation or combined w/ other vaccines [eg mumps & rubella (MMR), or also w/ varicella (MMRV)]
 - MMRV is approved for use in healthy children ≥ 1 -12 yrs of age
 - Routine vaccination against rubella is recommended for all children ≥ 12 mth; second dose should be routinely given at 4-6 yrs of age
 - Children ≤ 12 yr w/o previous immunization should be given at least 1 dose of MMR or MMRV
 - May be effective, theoretically, as post-exposure prophylaxis if given w/in 3 days of exposure
 - Single antigen is not routinely recommended

*Not all products are available or approved for above use in all countries.
Specific prescribing information may be found in the latest MIMS.*

PHARMACOLOGICAL THERAPY

Supportive Therapy

Antipyretics

- May be used to relieve fever

Antihistamines

- May be used to control the pruritus

PREVENTION FOR EXPOSED PREGNANT WOMEN

- Counseling regarding the risks & benefits of termination of pregnancy should be offered to susceptible pregnant women exposed to rubella

Post-exposure Prophylaxis

- Immunoglobulin may be given if termination of pregnancy is not an option based on maternal predilection
 - May reduce the risk of clinical infection but may not give an assurance of prevention of fetal infection
 - Dose of 0.55 mL/kg IM may be given

Dosage Guidelines

VACCINES		
Drug	Dosage	Remarks
Live attenuated measles, mumps & rubella virus vaccine ¹ (MMR)	0.5 mL/dose IM/SC 1st dose: 12-15 mth of age 2nd dose: 4-6 yr of age 2nd dose may be administered at least 4 wk since the 1st dose <i>If the 2nd dose is not given, the schedule should be completed by 11-12 yr old visit</i>	Adverse Reactions <ul style="list-style-type: none"> • CNS effects (fever, seizures, headache, rarely Guillain-Barré syndrome); Dermatologic effects (rash, urticaria); GI effects (diarrhea, N/V); Other effects (inj site reactions, joint symptoms, lymphadenopathy) • May cause temporary suppression of tuberculin skin test sensitivity Special Instructions <ul style="list-style-type: none"> • Administered into the anterolateral aspect of thigh or arm • Contraindicated in patients w/ allergic reaction to neomycin, gelatin or any component of the formulation, in patients w/ known anaphylactoid reaction to eggs, w/ blood dyscrasias or malignant neoplasms affecting the bone marrow or lymphatic systems & those w/ primary & acquired immunodeficiency states • Use w/ caution in patients w/ history of postvaccination thrombocytopenia, cerebral injury, seizures
Rubella vaccine (live attenuated)	0.5 mL/dose deep SC	Adverse Reactions <ul style="list-style-type: none"> • CNS effects (headache, dizziness); GI effects (N/V, diarrhea); Dermatologic effects (induration, rash, urticaria, burning/ stinging at inj site); GI effects (diarrhea, N/V); Other effects (fever, sore throat, regional lymphadenopathy, polyneuritis, arthralgia/ arthritis) Special Instructions <ul style="list-style-type: none"> • Administered into the anterolateral aspect of thigh or arm • Contraindicated in patients w/ acute infectious diseases, leukemia, severe anemia & other severe blood diseases, severe renal impairment, decompensated heart disease, w/ previous dose of gamma-globulin or blood transfusion

¹Combination w/ Varicella vaccine is available. Please refer to the latest MIMS for specific prescribing information.

All dosage recommendations are for children w/ normal renal & hepatic function unless otherwise stated.

Not all products are available or approved for above use in all countries.

Products listed above may not be mentioned in the disease management chart but have been placed here based on indications listed in regional manufacturers' product information.

Specific prescribing information may be found in the latest MIMS.

Please see the end of this section for the reference list.