RUBELLA (GERMAN MEASLES)

Includes confirmed and possible cases.

Background

This case definition was developed by the Armed Forces Health Surveillance Division (AFHSD) for the purpose of epidemiological surveillance of rubella infection.

Clinical Description

Rubella, commonly known as "German Measles," is an acute viral infection transmitted via respiratory tract secretions. Viral replication occurs in the nasopharynx and regional lymph nodes, following an incubation period of approximately 14 days. Symptoms are often mild, with up to 50% of infections presenting as subclinical or asymptomatic. In pediatric patients, a characteristic maculopapular rash is typically the presenting symptom. In older children and adults, the rash is preceded by a prodrome of low-grade fever, malaise, lymphadenopathy, and mild upper respiratory symptoms. The clinical course is variable. In general, the rash lasts two to three days, while lymphadenopathy can take several weeks to resolve. Resolution of primary infection typically confers lifelong immunity. Rubella vaccination is highly effective for preventative and is a requirement for entry into military service.[1]

Case Definition and Incidence Rules *(October 2017 - present)*

For surveillance purposes, a *confirmed* case of rubella is defined as:

- One record of a reportable medical event (RME) *with* laboratory or epidemiological confirmation.

For surveillance purposes, a *possible* case of rubella is defined as:

- One record of a RME of rubella *without* laboratory or epidemiological confirmation; or
- *One hospitalization or outpatient medical encounter* with a case defining diagnosis of a *possible* case of rubella (see ICD9 and ICD10 code lists below) in the *first* diagnostic position; AND *at least one* "rubella-associated symptom" (see ICD9 and ICD10 code lists below) in *any* other diagnostic position.

Incidence rules:

For individuals who meet the case definition:

- The incidence date is considered the date of onset documented in a RME report, or the first hospitalization or outpatient medical encounter that includes a case defining diagnosis of rubella.

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[1] Rubella (German Measles, Three-Day Measles). Centers for Disease Control and Prevention (CDC). July 15, 2024. Available at: https://www.cdc.gov/rubella/hcp/clinical-overview/index.html. Accessed June 2026.

Case Definition and Incidence Rules *(continued)*

- An individual is considered an incident case *once per lifetime*.

Exclusions *(applies to possible cases of rubella only):*

- Cases with *one* medical encounter with evidence of rubella immunization *within 7 days* before or after the case defining encounter; indicated by the following vaccine administered (CVX) codes: 03 measles, mumps, rubella [MMR]), 04 (measles and rubella [M/R]), 06 (rubella), 38 (rubella/mumps), 94 (measles, mumps, rubella, varicella [MMRV]).
- Individuals with evidence of a positive test for serologic immunity to rubella *within 7 days* before or after the case defining encounter.
- Cases with *one* Current Procedure Code (CPT) or *one* ICD10/9 procedure code indicating rubella vaccination or antibody testing recorded during the *same* medical encounter; as indicated by the following codes.
  - ICD10: Z23 (encounter for immunization) plus a procedure code for type of immunization.
  - ICD9 codes: Need for prophylactic vaccination and inoculation against…V04.3 (rubella alone), V04.8 (other viral diseases), V04.89 (other viral diseases), V05.8 (other specified disease), V05.9 (unspecified single disease), V06.4 (MMR), V06.8 (other combinations), V06.9 (unspecified combined vaccine), 99.47 (rubella vaccine), 98.48 (administration of MMR vaccine).
  - CPT codes: 86762 (rubella antibody[IgG] test), 90706 (rubella vaccine), 90707 (MMR vaccine), 90708 (measles and rubella vaccine, live, SQ), 90709 (rubella and mumps vaccine, SQ), 90710 (MMRV vaccine, live, SQ), 96372 (therapeutic, prophylactic, or diagnostic injections, SQ or IM), 90772 (therapeutic, prophylactic, or diagnostic injections, SQ or IM).

Codes

The following ICD9 and ICD10 codes are included in the case definition:

Condition	ICD-10-CM Codes	ICD-9-CM Codes
Varicella zoster infection *(Possible case)*	*B06 (rubella [German measles])*	*056 (rubella)*
	B06.0 (rubella with neurological complications)	056.0 (rubella with neurologic complications)
	- B06.00 (rubella with neurological complication, unspecified)	- 056.00 (rubella with unspecified neurological complication)

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	- B06.01 (rubella encephalitis)	- 056.01 (encephalomyelitis due to rubella)
	- B06.02 (rubella meningitis)	- 056.09 (rubella with other neurological complications)
	- B06.09 (other neurological complications of rubella)	
	B06.8 (rubella with other complications)	056.7 (rubella with other specified complications)
	- B06.81 (rubella pneumonia)	- 056.79 (rubella with other specified complications)
	- B06.82 (rubella arthritis)	- 056.71 (arthritis due to rubella)
	- B06.89 (other rubella complications)	- 052.8 (rubella with unspecified complication)
	B01.9 (rubella without complication)	056.9 (rubella without mention of complication)

Symptoms	**ICD-10-CM Codes**	**ICD-9-CM Codes**
Rubella-associated symptoms	B09 (unspecified viral infection characterized by skin and mucous membrane lesions)	057.9 (viral exanthema, unspecified)
	B30.9 (viral conjunctivitis, unspecified)	077.9 (unspecified diseases of conjunctiva due to viruses and chlamydia) - 077.99 (unspecified diseases of conjunctiva due to viruses)
	H10.0 (mucopurulent conjunctivitis)	--
	H10.01 (acute follicular conjunctivitis…)	372.0x (acute conjunctivitis) 372.02 (acute follicular conjunctivitis)
	- H10.011 (right eye)	
	- H10.012 (left eye)	
	- H10.013 (bilateral)	
	- H10.019 (unspecified eye)	
	H10.02 (other mucopurulent conjunctivitis…)	372.03 (other mucopurulent conjunctivitis)
	- H10.021 (right eye)	
	- H10.022 (left eye)	
	- H10.023 (bilateral)	
	- H10.029 (unspecified eye)	
	H10.1 (acute atopic conjunctivitis…)	372.05 (acute atopic conjunctivitis)

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	- H10.10 (unspecified eye)	
	- H10.11 (right eye)	
	- H10.12 (left eye)	
	- H10.13 (bilateral)	
	H10.2[2,3] (other acute conjunctivitis)	--
	H10.22 (pseudomembranous conjunctivitis…)	372.04 (pseudomembranous conjunctivitis)
	- H10.221 (right eye)	
	- H10.222 (left eye)	
	- H10.223 (bilateral)	
	- H10.229 (unspecified eye)	
	H10.23 (serous conjunctivitis, except viral…)	372.01 (serous conjunctivitis, except viral)
	- H10.231 (right eye)	
	- H10.232 (left eye)	
	- H10.233 (bilateral)	
	- H10.239 (unspecified eye)	
	H10.3 (unspecified acute conjunctivitis…)	372.00 (acute conjunctivitis, unspecified)
	- H10.30 (unspecified eye)	
	- H10.31 (right eye)	
	- H10.32 (left eye)	
	- H10.33 (bilateral)	
	H10.8 (other conjunctivitis)	372.3 (other and unspecified conjunctivitis)
	- H10.89 (other conjunctivitis)	--
	H10.9 (unspecified conjunctivitis)	- 372.30 (conjunctivitis, unspecified) - 372.33 (conjunctivitis in mucocutaneous disease) - 372.39 (other conjunctivitis)
	J00 (acute nasopharyngitis; common cold)	*460 (acute nasopharyngitis; common cold)*
	M25.5 (pain in joint)	*719.4 (pain in joint…)*
	M25.50 (pain in unspecified joint)	- 719.40 (site unspecified) - 719.48 (other specified sites)

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	M25.51 (pain in *shoulder…*)	- 719.41 (shoulder region)
	- M25.511 (right shoulder)	
	- M25.512 (left shoulder)	
	- M25.519 (unspecified shoulder)	
	M25.52 (pain in *elbow…)*	- 719.42 (upper arm)
	- M25.521 (right elbow)	
	- M25.522 (left elbow)	
	- M25.529 (unspecified elbow)	
	M25.53 (pain in *wrist…)*	- 719.43 (wrist)
	- M25.531 (right wrist)	
	- M25.532 (left wrist)	
	- M25.539 (unspecified wrist)	
	M25.54 (pain in *joints of hand…)*	- 719.44 (hand)
	- M25.541 (right hand)	
	- M25.542 (left hand)	
	- M25.549 (unspecified hand)	
	M25.55 (pain in *hip…)*	- 719.45 (pelvic region and thigh)
	- M25.551 (right hip)	
	- M25.552 (left hip)	
	- M25.559 (unspecified hip)	
	M25.56 (pain in *knee…)*	- 719.46 (lower leg)
	- M25.561 (right knee)	
	- M25.562 (left knee)	
	- M25.569 (unspecified knee)	
	M25.57 (pain in *ankle and joints of foot…*)	- 719.47 (ankle and foot)
	- M25.571 (right ankle and joints of right foot)	
	- M25.572 (left ankle and joints of left foot)	
	- M25.579 (unspecified ankle and joints of unspecified foot)	

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	R21 (rash and nonspecific skin eruption)	*782.1 (rash and other nonspecific skin eruption)*
	R50 (fever of other and unknown origin)	780.6 (fever and other physiologic disturbances of temperature regulation)
	- R50.8 (other specified fever)	--
	- R50.81 (fever presenting with conditions classified elsewhere)	780.61 (fever presenting with conditions classified elsewhere)
	- R50.9 (fever, unspecified)	780.60 (fever, unspecified)
	R53 (malaise and fatigue)	*780.7 (malaise and fatigue)*
	- R53.1 (weakness)	780.79 (other malaise and fatigue)
	- R53.8 (other malaise and fatigue)	
	- R53.81 (other malaise)	
	- R53.83 (other fatigue)	
	R59 (enlarged lymph nodes)	*785.6 (enlargement of lymph nodes)*
	- R59.0 (localized enlarged lymph nodes)	
	- R59.1 (generalized enlarged lymph nodes)	
	- R59.9 (enlarged lymph nodes, unspecified)	

Development and Revisions

- The original case definition was developed in October 2017 by the *Medical Surveillance Monthly Report (MSMR)* staff for use in an *MSMR* article on measles, mumps, rubella, and varicella.[2] The case definition was developed based on reviews of the ICD9 and ICD10 codes, the scientific literature, and previous AFHSD analyses.

Case Definition and Incidence Rule Rationale

- The AFHSD methodology attempts to capture both "confirmed" and "possible" cases of rubella, while recognizing that data regarding "possible" cases lacks specificity and must be interpreted with caution. During case definition development, a review of cases with an initial primary diagnosis of rubella revealed that many were misdiagnoses, tentative "rule out" diagnoses, or miscoded encounters for vaccination or laboratory testing. To optimize specificity and focus on verifiable infections, AFHSD limits possible cases to individuals with rubella listed in the *first* diagnostic position, accompanied by *at least one* associated rubella symptom in any other diagnostic position.

- An RME with a diagnosis of rubella infection characterized as "probable" or "suspected" and never updated to "confirmed" is treated as a "possible" case. Thus, "possible" cases may include

[2] Armed Forces Health Surveillance Branch. Measles, Mumps, Rubella, and Varicella Among Service Members and Other Beneficiaries of the Military Health System, 2010-2016. *MSMR.* 2017; 24(10): 2-10.

"true" rubella cases without follow-up RMEs confirming the diagnosis, as well as cases documented during inpatient or outpatient encounters for which no RMEs were transmitted by local military public health officials.

- To identify the most frequently documented symptoms associated with a primary diagnosis of rubella, the AFHSD conducted a line-listing review. However, the resulting data may not accurately reflect the disease's typical clinical presentation. Investigators utilizing this case definition may want to consider an alternative symptom list.

- The vaccine exclusions used for the case definition apply only to "possible cases" of rubella. The list of exclusions includes vaccination codes specific to and related to rubella vaccination. Related vaccinations given during the same medical encounter as the rubella diagnosis would cast doubt on the accuracy of the diagnosis.

Code Set Determination and Rationale

- In January 2018, the Surveillance Methods and Standards (SMS) working group reviewed the code list for rubella-associated symptoms and made the following determinations to more accurately reflect the acute symptomatology of the illness:

  - *Added* ICD10 codes B30.9 (viral conjunctivitis, unspecified), J00 (acute nasopharyngitis, common cold), and R53 (malaise and fatigue).
  - *Removed* ICD10 codes M12.8^^ (other specified arthropathies, not elsewhere classified), M13 (other arthritis), M25.[0-4,6-9] (other joint disorder, not elsewhere classified) and P39.1 (neonatal conjunctivitis). M25.5^^ (pain in joint) remained in the code set.
  - Corresponding ICD9 codes associated with these modifications were also updated.

Reports

The AFHSD reports on rubella in the following reports:

- Periodic *MSMR* articles.

- The Defense Centers for Public Health-Aberdeen (DCPH-A) publishes a monthly RME Report which can be obtained by sending an email to: dha.apg.Pub-Health-A.mbx.disease-epidemiologyprogram13@health.mil. A link to this email is also available on the Defense Health Agency (DHA) website; https://www.health.mil/Military-Health-Topics/Health-Readiness/Public-Health/AFHSD/Reports-and-Publications/Armed-Forces-Reportable-Medical-Events. Accessed May 2026.

Review

Jun 2026	Case definition updated by the AFHSD SMS working group.
Jan 2018	Case definition reviewed and adopted by the Armed Forces Health Surveillance Center (AFHSC) SMS working group.
Oct 2017	Case definition developed by AFHSB MSMR staff.

Comments

- Rubella is a reportable medical event in the *Armed Forces Reportable Medical Events* surveillance system, listed under "Vaccine Preventable Diseases."