Rubella Investigation Overview

The following guidelines provide a brief overview of the steps of a rubella investigation. Although rubella has been eliminated in the United States, it continues to be endemic in many parts of the world. When rubella infection occurs during pregnancy, especially during the first trimester, serious consequences can result including miscarriages, fetal deaths/stillbirths, and severe birth defects known as congenital rubella syndrome (CRS). The most common congenital defects are cataracts, heart defects, and hearing impairment. It is estimated that more than 100,000 infants worldwide are born annually with CRS. To maintain elimination, the United States should continue to maintain high vaccination rates among children; ensure that women of childbearing age, particularly women born outside of the United States, are vaccinated; and maintain sensitive surveillance to detect both rubella and CRS. See CDC webpage at https://www.cdc.gov/rubella/index.html. For additional support, consult the NC Communicable Disease Branch at (919) 733-3419.

Basic Steps of a Rubella Investigation

1. Review Lab Information	• The interpretation of rubella laboratory results must always consider relevant clinical and epidemiological data. PCR and viral culture are the preferred tests when rubella is suspected in a patient. If the test is serology (e.g. IgM), keep in mind that endemic transmission has been eliminated in the Americas, and a positive serology likely indicates a false positive if patient is vaccinated and no epidemiologic links or other risk factors exist.
2. Verify County of Residence	• Only in-state residents should be counted as a case. If out of state, update address in NC EDSS person profile, then assign to State Disease Registrar as "Does not meet criteria". The Communicable Disease Branch will send an interstate notification.
3. Collect Clinical Information	• Use information collected from medical records and speak with the case • Determine date of rash onset, fever, and lymphadenopathy • Identify epidemiologic linkages to similarly ill persons and other risk factors (birth in another country, unimmunized, recent international travel to areas with ongoing transmission or contact with international travelers to endemic areas) • Document this information in NC EDSS
4. Manage the Case	• Incubation period: 17 days, range of 12-23 days • Infectious period: 7 days before to 7 days after rash appears; transmitted primarily through direct or droplet contact from nasopharyngeal secretions • Collect nasopharyngeal swabs, throat swabs, or urine specimens for PCR testing and molecular typing, and blood for serology testing (with Epi On Call approval for SLPH/CDC testing). • Patients with rubella should be isolated for 7 days after they develop rash.

5. Manage Contacts	• Vaccinate eligible, susceptible contacts. One dose of MMR vaccine is about 97% effective at preventing rubella if exposed to the virus.
	  ◦ High-risk contacts includes women of childbearing age in areas with low vaccine coverage rates.
	• People at risk who cannot readily provide acceptable evidence of rubella immunity should be considered susceptible and should be vaccinated.
	• People without evidence of immunity who are exempt from rubella vaccination for medical or religious reasons should be excluded from affected institutions in the outbreak area until 23 days after the onset of rash in the last case of rubella.
	• Unvaccinated people who receive MMR vaccine as part of rubella outbreak control may immediately return to school provided all people without documentation of rubella immunity have been excluded.
	• Evidence of immunity includes:
	  ◦ written documentation of vaccination with one dose of live rubella virus-containing vaccine administered on or after the first birthday,
	  ◦ laboratory evidence of immunity,
	  ◦ laboratory confirmation of rubella disease, or
	  ◦ birth before 1957.

CDC Rubella Page: https://www.cdc.gov/rubella/index.html
CDC Manual for the Surveillance of Vaccine Preventable Diseases Chapter 14: https://www.cdc.gov/surv-manual/php/table-of-contents/chapter-14-rubella.html