



NCSLPH Measles Specimen Collection and Testing Guidelines, 6/25/2018

Testing Criteria for Measles: All suspect or probable cases of measles must be reported to the **Communicable Disease Branch at (919) 733-3419 for prior approval for laboratory testing.** Individuals presenting with fever, cough, coryza and/or conjunctivitis, and a rash are considered suspect cases.

Testing Systems Employed: Serological specimens will be evaluated at the NCSLPH using an Indirect Immunofluorescent Antibody (IFA) test to detect IgM and IgG antibody. Nasopharyngeal (NP) swabs, throat swabs, and urine will be processed for viral isolation and PCR analysis at the NCSLPH.

SPECIMENS SHOULD BE COLLECTED AT THE FIRST CONTACT WITH A SUSPECTED CASE

Specimen	Test	Specimen Volume	Shipment	Expected TAT
Serum*	IgM and IgG IFA	1 – 3 ml	Refrigerated (4°), place on cold packs	1 – 2 days
NP or Throat Swab	Viral Culture** PCR	2ml VTM	Refrigerated (4°), place on cold packs	Culture: 1 - 2 weeks PCR: 3 days
Urine	Viral Culture** PCR	15 ml (20 – 35 ml preferred)	Refrigerated (4°), place on cold packs	Culture: 1 - 2 weeks PCR: 3 days

*Note: Optimal collection for this specimen type is ≥ 3 days post-onset of rash. Collection prior to this time may result in a false negative test due to the lack of detectable levels of IgM and IgG immunoglobulin.

**Note: Measles virus isolation is most successful when samples are collected on the first day of rash through 3 days following onset of rash; however, it is possible to detect virus up to day 7 following rash onset.

SPECIMEN COLLECTION AND STORAGE

- Collection instructions for viral culture:
Nasopharyngeal Swab – Carefully swab the posterior nasopharyngeal area via the external nares with a dry sterile tipped swab. Break off the swab tip into a vial containing 2 ml of viral transport medium. Screw the cap on tightly.

Throat Swab – Vigorously rub the posterior wall of the pharynx with a dry, sterile, swab. The swab should not touch the tongue or buccal mucosa. Break off the swab tip into a vial of viral transport medium. Screw the cap on tightly.

Urine: Collect clean voided urine. Transfer to a plastic shipping tube.

- All specimen types should be refrigerated promptly after collection. Temporary storage and transport temperature should be 4° - 8°C. DO NOT FREEZE.
- Clearly label each specimen with patient's first and last name, either date of birth, SSN, or other unique identifier, specimen source, and collection date.
- Complete the appropriate specimen submission forms and **request Measles testing only during times of active Measles surveillance**:
 - Serological specimens: DHHS# 3445, found at <http://slph.ncpublichealth.com/Forms/DHHS-3445-SpecialSerology-20130809.pdf>
Include the statement: "Prior approval/consultation received from:" the name of the individual in the Communicable Disease Branch that provided approval for testing.
 - Swabs and urine for culture: DHHS# 3431, found at <http://slph.ncpublichealth.com/Forms/DHHS-3431-Virology-20130809.pdf>
- Do not use calcium alginate tipped OR wooden shafted swabs. Calcium alginate may inactivate some viruses. Wooden shafts may be toxic to viruses.

SHIPPING OF DIAGNOSTIC SPECIMENS (PLEASE NOTE THE CHANGE OF ADDRESS)

- Ship specimen(s) to the State Laboratory the same day collected.
- Wrap the properly labeled inoculated transport medium (primary container) or serological specimen in absorbent material, i.e. paper towel, and place into a leak proof secondary container (50ml conical tubes).
- Place two frozen ice packs in the shipping container.
- Place secondary container(s) containing specimen(s) between the ice packs.
- Place completed forms in plastic bag and slide into space at narrow end of ice pack.
- Ship specimens to:
Attention: Virology/Serology
North Carolina State Laboratory of Public Health
4312 District Drive
Raleigh, NC 27607-5490
- Ship specimens by the fastest means possible. Transit time of less than 24 hours will optimize virus detection.

Please contact John Bunting (919-807-8824) or Segun Awe (919-807-8821) at the NCSLPH if you have questions regarding sample collection or shipment.