

# Measles Specimen Collection and Shipment

## NORTH CAROLINA STATE LABORATORY OF PUBLIC HEALTH

The NC Department of Health and Human Services, Division of Public Health, Communicable Disease Branch must approve testing for measles at the North Carolina State Laboratory of Public Health (NCSLPH) prior to specimen collection. All measles specimens submitted to the NCSLPH must meet the testing criteria. This measles guidance applies only to testing at the NCSLPH. Contact the NCDHHS, Division of Public Health, Communicable Disease Branch (919-733-3419, available 24/7) immediately if measles is suspected. Contact NCSLPH (919-733-3937) for testing guidance prior to specimen collection.

## STEP ONE: Specimen Collection (Symptomatic Patients)

### Real-Time PCR (RT-PCR) Detection of Measles

Acceptable specimen types: Nasopharyngeal (NP) swabs in liquid transport media AND urine.

#### 1: Nasopharyngeal Swabs

- Swabs must be synthetic tipped, sterile swab of appropriate size with an aluminum or plastic shaft
- **ALL specimens for testing at NCSLPH must be collected in either Viral Transport Media, Universal Viral Transport, or Universal Transport Medium (VTM, UVT, UTM).**
  - Dry swabs or swabs submitted in media other than VTM, UTM, or UVT will be rejected.
- Store NP swabs at 2-8 °C for up to 72 hours after collection / Freeze at < -70 °C for longer storage



#### 2: Urine

- Submit 10-50 mLs in a sterile cup
- Store urine at 2-8 °C for up to 72 hours after collection. DO NOT freeze urine.

<https://www.copanusa.com/blogs/new-study-shows-the-impacts-of-the-variability-in-instructions-for-performance-of-nasopharyngeal-swabs-in-the-era-of-covid-19/>

**NOTE:** SLPH prefers to receive both NP swab and urine from symptomatic patients; however, NP swab can be submitted without a paired urine specimen.

### Measles-specific IgM Serologic Testing

Acceptable specimen type - serum only; 2-3 mLs in a plastic screw-capped vial.

- Store serum at 2-8 °C for up to 48 hours after collection/ freeze at < -70 °C for longer storage
- Serum specimens may be submitted with specimens for RT-PCR testing



**NOTE:** Detection of measles-specific IgM antibodies is optimal >3 days from onset of rash.

For a demonstration on how to collect a nasopharyngeal (NP) swab correctly, please watch [this](#) video from the New England Journal of Medicine.

# STEP TWO: Specimen Labeling & Submitting Forms

## Label Specimens Completely

- Specimen Type
- Patient first and last name
- Patient date of birth
- Date of specimen collection

Call NCSLPH Customer Service at 919-733-3937 for any questions related to specimen collection, storage, and shipment. After business hours, please contact the BTEP duty phone at 919-807-8600.

## Fill Out Specimen Submission Forms Completely

- Virology submission form for RT-PCR (Swabs/Urine)
- Special Serology submission form for measles IgM serology testing

# STEP THREE: PACKAGE & SHIP

Local Health Departments (LHDs) can order specimen collection supplies and packaging/shipping supplies online from the NCSLPH online supply ordering system.

Depending on the testing prioritization, specimens may be sent to NCSLPH using either DOA Medical Courier OR private commercial courier (DASH, FedEx, UPS):

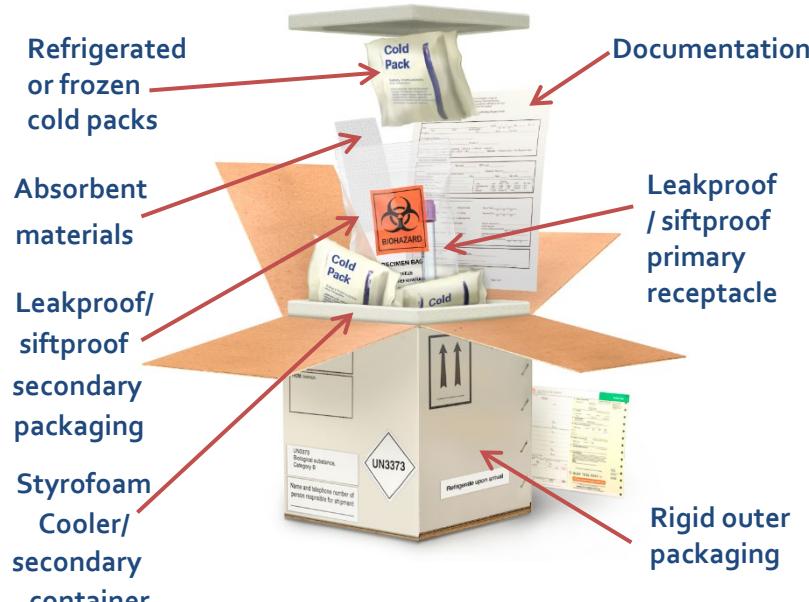
- **LHDs utilizing NCDOA Medical Courier for specimen shipment**, continue packaging according to current NCSLPH guidelines.

Scan the QR code to watch a tutorial on NCSLPH shipping guidelines.



- **If shipping with UPS, FedEx, or other courier services**, specimens must meet Category B, UN3373 requirements.

### Category B



### Label the package completely:

Attention: Virology/Serology Unit  
North Carolina State Laboratory of Public Health  
4312 District Drive  
Raleigh, NC 27607-5490

Specimens must be shipped on frozen ice packs and received cold (2-8 °C) within the specified time from collection, depending on the specimen type:

- Swabs and urine received cold within 72 hours of collection. NP swabs can be frozen and shipped on dry ice if received >72 hours from collection
  - Urine cannot be frozen
- Serum specimens must be received cold within 48 hours of collection. Serum can be frozen and shipped on dry ice if received >48hrs from collection

## RESULTS REPORTING

Results are posted electronically to the NCSLPH Clinical and Environmental Lab Results website associated with the submitter's EIN number

OR

NCSLPH Lab Web Portal (LWP) - for areas that have access to the LWP