

Acceptable samples for Measles Virus testing:

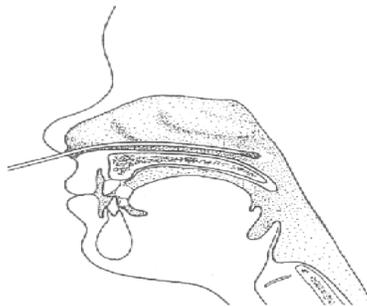
1. **Respiratory - Nasopharyngeal (NP) aspirate or swab, oropharyngeal (OP) swab:** PCR testing. Collect within 1-4 days of the onset of symptoms.
2. **Urine:** PCR testing. Urine samples may not be positive until >4 days after symptom onset. Preferably, a urine specimen to be accompanied with a respiratory specimen for improved virus detection.
3. **Serum:** IgM and IgG testing. IgM antibodies are detectable after 4-5 days of the onset of symptoms.

Specimen Collection Supplies

1. Screw-capped 15 ml tube with 3 ml of **viral transport medium** collection tube. Universal transport media for viral collections is also acceptable. Dry swabs without transport media will be rejected.
2. Store the transport medium at room temperature until use and monitor expiration dates on the tube.
3. Flock-tipped plastic-shaft swabs. Cotton-tipped swab with wooden shafts are **NOT** acceptable and will be rejected.
4. Sealable multi-compartment plastic biohazard bag with absorbent sheets.
5. Foam packing insert with cardboard mailer and frozen cold pack. Samples sent without cold pack will be rejected.

NP Swab (preferred specimen) or Aspirate

1. Pass the NP swab through the nares. (see diagram below)
2. Resistance will be met, and this will confirm contact with the nasopharynx.
3. Rub the swab tip several times across the mucosal surface.
4. This will loosen and collect cellular material.
5. Allow a time of contact of up to 30 seconds.
6. Withdraw the swab and place in the **viral transport medium**.
7. Make sure the liquid medium covers the swab tip.
8. Break or cut the end of the swab and screw the vial lid on tightly.

**Oropharyngeal Swab**

1. Using plastic handled swab, vigorously swab both the tonsils and the posterior pharynx. (see diagram at right)
2. Place swab into the **viral transport media**. Make sure liquid medium covers the swab tip.
3. Break or cut the end of the swab.
4. Screw the vial lid on tightly.



Urine

Collect a minimum volume of 50 ml of urine in a sterile leak proof container. Spin down at 2500 x g for 15 minutes in refrigerated centrifuge (4°C). Transfer the sediment into a VTM collection tube. If centrifugation is not possible, submit the whole urine.

Serum

Collect 5 ml of blood in a red-top or serum-separator tube (SST) for IgG and IgM tests. Centrifuge the tubes and submit the serum.

Specimen Submission Form – available on the website listed below.

1. Complete a specimen submission form for each source with following information and FI outbreak number, if applicable:
2. Patient Name (Last, First, Middle), Address - City, including Zip Code and County
3. Date of Birth and Sex, Date of Onset and Collection
4. Agent suspected and lab exam: Measles – PCR or Serology
5. Source of Specimen: respiratory source (NP, OP), urine, or serum
6. Submitter name, address, and phone number

Specimen Packaging and Storage Instructions

1. Label the containers with patient's name, DOB, specimen source and the collection date.
2. This information must appear on **BOTH** the specimen and the specimen submission form or testing will **NOT** be performed.
3. Place the transport media tube in one of the compartments of the biohazard bag.
4. Seal the specimen bag and store in the refrigerator specimen at 2-8° C until shipping.
5. Place the biohazard bag containing the specimen into the foam box.
6. Add the **FROZEN** cold pack and close the foam box. Place foam box into the cardboard mailer.
7. Put the completed specimen submission form in the clear plastic bag.
8. Seal the bag and place it between the form box and cardboard mailer. Close the outer mailer and seal it with tape.

Shipping Instructions

1. Ship the specimen as soon as possible after collection.
2. Refrigerate specimen if they will not be shipped immediately.
3. The specimen must arrive at Bureau of Laboratories/State Public Health Laboratory within 24-48 hours of collection.
4. Keep the specimen cold until it reaches the laboratory.
5. Package the specimen appropriately and ship overnight to the address below.
6. Do not ship specimens out on Fridays, weekends, day before a holiday or holidays, unless approved by Maria Strohecker, 484-870-6289 or mstrohecke@pa.gov.

NOTE: If specimen will not arrive at the Bureau of Laboratories/State Public Health Laboratory within 24-48 hours of collection, freeze and keep specimen at -70°C and ship overnight with FROZEN cold packs. Processing specimens within 24 hours of collection will enhance the sensitivity of PCR testing.

Reference

<https://www.cdc.gov/measles/lab-tools/rt-pcr.html>