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Mumps Virus Sample Collection Guidance

General Information

This document provides sample collection instructions for Mumps virus testing. For any questions regarding specimen collection or shipment for Mumps testing, please contact the DC Public Health Laboratory (PHL) at DC.PHL@dc.gov.

Specimen Collection Guidelines

- **Buccal swab specimen**
 - Collect oral or buccal swab samples as soon as Mumps disease is suspected. RT-PCR has the greatest diagnostic sensitivity when samples are collected at first contact with a suspected case.
 - Buccal or oral swab specimens are obtained by massaging the parotid gland area for 30 seconds prior to swabbing the area around Stensen's duct.
 - Synthetic flocked swabs with a plastic shaft are recommended for the collection of throat specimens. If you do not have flocked swabs, then any other synthetic swab with a plastic shaft will work. Do not use cotton swabs or any swab with a wooden shaft.
 - After collection, using aseptic technique, place the swabs in 2-3 mL of viral transport medium (VTM).
 - Label the tube with the patient's name (last, first), date of birth, patient ID, date and time of collection, and specimen type (swab).
 - Store the tube with the swab and VTM in a 4°C refrigerator and contact DC PHL within 24 hours for a courier pick-up (see courier request section below). If there is a delay in shipment, the sample is best preserved by freezing at -70°C or at a minimum a -20°C freezer and shipped on dry ice.



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- **Serum specimen**

- The first (acute phase) serum sample should be collected as soon as possible upon suspicion of Mumps disease for serology testing. In some cases, the IgM response is not detectable until 5 days after symptom onset.
 - **Note:** if the patient previously received the MMR vaccine, they will have detectable IgG levels.
- Collect two tubes of serum (containing NO anticoagulant or preservative) with at least 6 mL of blood per tube (e.g., red top, tiger top, speckle top, gold top, or other serum separator tube). Do NOT use any blood collection tubes containing anticoagulants or preservatives (e.g., green top, yellow top, or purple top).
- After collection of whole blood allow the blood to clot by leaving it undisturbed in the laminar flow hood for 15 – 30 minutes, but no longer than 1 hour.
 - **Note:** Please be sure to follow blood collection tube manufacturer’s instructions on how to properly allow for clot formation, if different than these instructions.
- Promptly (within 1 hour) centrifuge serum according to manufacturer’s instructions. Use of serum separator tubes (SST) is recommended.
- A minimum of 2 mL of serum is recommended for each tube of blood drawn.
- If an SST is not used, then the serum must be transferred to a sterile tube. Using sterile laboratory technique, transfer the serum into a sterile tube using a sterile transfer pipette. The sterile tube should then be sealed in parafilm to prevent spillage. The transfer pipette should be discarded in a biohazard bag.
 - **Caution:** Do not freeze SST for shipping. Freezing will cause hemolysis and hemolyzed specimen will be unsatisfactory for testing.
- Label the tube with the patient’s name (last, first), date of birth, patient ID, date and time of collection, and specimen type (serum).



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- Serum samples are preferred to be stored in a 4°C refrigerator but must be delivered to the DC PHL within 48 hours. If over 48 hours, transfer the serum into a serum transport tube and ship frozen with dry ice.
- Specimens that are hemolyzed or not spun down will be rejected and not tested.
- **Note:** Serum sample for Mumps IgM antibodies will be shipped to CDC for testing.

Specimen Storage and Shipping

- All buccal swab specimens (except formalin fixed tissues and CSF) should be stored at -70°C or at a minimum of -20°C if not picked up within 72 hours (e.g., sample collection was completed on a Friday afternoon and pick-up will not occur until Monday).
- Buccal swab specimens not stored at a minimum of -20°C need to arrive at the DC PHL within 72 hours for testing to be accepted. If these specimens arrive after 72 hours and were not frozen at -20°C, then it may be rejected.
- If a freezer is not available at your facility (either -70°C or -20°C), please store specimens in the refrigerator at 4°C and indicate this on the courier pick-up email.
- If a refrigerator or freezer is not available at your facility, please indicate this on the courier pick-up email and indicate that this is an **URGENT** request for Mumps specimen pick-up. A courier will need to be dispatched to you immediately to pick up the specimens.
 - **Note:** The DC-PHL is only opened from Monday through Friday from 9am to 5pm and closed for all federal holidays. Therefore, if a refrigerator or freezer is not available at your facility and a patient is scheduled to come in on a Friday or before a holiday, it is recommended to schedule the patient's collection date earlier in the day to ensure the specimen is received by the DC-PHL.
 - **Note:** It is important that frozen samples not thaw during shipping. To prevent this, be sure to ship with dry ice and follow proper Department of Transportation (DOT) and International Air Transport Association (IATA) shipping regulations. If



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no dry ice is available at your facility, please indicate this on the courier pick-up request email that is sent to DC.PHL@dc.gov.

Specimens that are deemed to be improperly stored, packaged, shipped, and/or labeled may be rejected at the discretion of the DC Public Health Laboratory.

Specimen Labeling

Please be sure to properly label **ALL** specimens. Failure to properly label a specimen will result in rejection and the specimen will not be tested. Specimens must be labeled with:

- Patient's first and last name
- Patient's date of birth
- Patient's ID
- Date and time of collection
- Specimen type (e.g., serum, urine, CSF, amniotic fluid)

All information on the specimen labels must **exactly** match the information on the DC PHL External Chain of Custody form and CDC 50.34 form, including the spelling of the patient's first and last names, and date and time of collection. Specimens received with discrepant information on the labels and forms will not be tested.

Required Documentation for Mumps Testing

Complete **all** the following paperwork to accompany specimens:

- [DC PHL External Chain of Custody \(COC\) Form](#)
- [CDC 50.34 Form](#) (this form is typically completed by the ordering provider)

Failure to properly complete the 50.34 form may result in rejection or delays in testing. All 50.34 forms for Mumps testing are required to be electronically completed (written forms will not be accepted) and have the following information:



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- Test requested (Mumps detection (PCR) and genotyping CDC-10241 OR Mumps serology CDC-10245)
- Patient's first and last name
- Patients date of birth
- Patient's ID
- Date and time of collection
- Submitter contact information with fax and email address
- Specimen matrix
- Onset date of symptoms (parotitis or jaw swelling)
- MMR vaccination history (dates if known)

Courier Request

Once specimens are ready for pick up and the appropriate documentation is completed, please submit a courier request at the following link: <https://forms.office.com/g/YvxnK7LbkD> (all fields marked with a * are required).

Please note that DC PHL is not staffed 24 hours a day; for requests received after hours of operation, a courier will be dispatched the next morning. Be advised that courier requests outside of the hours of 8:30am – 5:00pm are subject to availability and request may take longer to complete.

If the proper paperwork is not completed upon pick-up, the courier has the right to refuse the sample. Please do not request a courier for pick-up until all forms are completed.

For questions regarding sample collection, storage, packaging, and shipping, please contact the District of Columbia Public Health Laboratory at (202) 481-3538.



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Additional Points of Contact

Name	Title	Email Address	Work Office	Work Cell
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