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Laboratory Testing for Mumps

On May 10, 2006 the Wisconsin State Laboratory of Hygiene (SLH) suspended mumps serology testing for IgG and IgM. The reason for this suspension relates to concerns about false positive IgM test results. The City of Milwaukee Health Department Laboratory has also suspended IgG and IgM testing for mumps citing the same concerns. There is no evidence that private laboratories are experiencing the same problems but at this time there is insufficient information on the validity of their assays. Therefore, we are not in a position to recommend the use of private reference laboratories for continued serologic testing for IgG and IgM as a reliable method to diagnose mumps. IgG testing for pre-exposure immune status testing is still appropriate. At this time there is no need to submit a convalescent specimen for individuals previously tested with the exception of those individuals tested at the SLH that were IgG negative on the acute specimen. For those individuals a convalescent specimen, drawn at least two weeks after the acute specimen, should be submitted for further testing.

The SLH will continue to accept specimens for viral culture and polymerase chain reaction (PCR) to test for mumps. Specimens should be collected as follows:

- **Saliva:** Collect a saliva specimen by swabbing the area around the Stensen's ducts (adjacent to the second upper molars) preferably within the first 5 days of illness. To collect a saliva sample, swab the inside of the cheek around the molars. Prior to collecting the sample, massage the cheek directly in front of the ears to stimulate saliva. Place the swab in a tube of virus transport medium.
- **Urine:** Collect a clean-voided urine, preferably within 14 days of illness.
- **CSF:** In cases of central nervous system disease (aseptic meningitis), collect and submit a CSF specimen without dilution or additives.

Saliva swabs can be sent using any of the commercially available transport media. Empty sterile containers can be used for submitting urine specimens. All specimens should be kept at refrigerator temperatures before and during transport. If insurance coverage is not available for the viral culture testing, the specimens can be submitted with a request for fee exempt testing. Please work with your local health department when requesting fee exempt testing.

Polymerase Chain Reaction (PCR) tests will be run on all specimens that are submitted for viral culture. All PCR tests will be run at no charge.

Specimen collection and transport supplies are available from the WSLH at (800) 862-1088, or (608) 265-2966 in the Madison area.

The accompanying Recommended Mumps Diagnostic Testing Table will assist you in making the decision on whether testing is appropriate.



DIVISION OF PUBLIC HEALTH

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Recommended Mumps Diagnostic Testing Table

Patient presentation	Contact with confirmed, probable or suspect case	Specimens for mumps testing	Mumps testing method	Comments
Parotitis	Not applicable	Saliva swab & Urine	Culture & PCR	Testing will be performed to identify those patients who may be shedding virus.
Febrile respiratory illness	Yes	Saliva swab & Urine	Culture & PCR	Testing will be performed to identify those patients who may be shedding virus.
	None or unknown	Testing not recommended	Testing not recommended	Monitor for development of parotitis or other clinical signs or symptoms of mumps (e.g., orchitis, oophoritis, etc.)
Asymptomatic	Yes	Testing not recommended	Testing not recommended	Verify immunization history and vaccinate if indicated; monitor for development of parotitis, other clinical signs or symptoms of mumps (e.g., orchitis, oophoritis, etc.), or febrile respiratory illness.
	None or unknown	Testing not recommended	Testing not recommended	Verify immunization history and vaccinate if indicated.

- Because of low sensitivity and high specificity of the tests, culture and PCR can be used to diagnose mumps but not to conclusively rule out mumps virus infection.
- Testing individuals without specific clinical indicators of mumps (e.g., parotitis) greatly increases the likelihood of false positive results.
- **Clinical Case Definition:** An illness with acute onset of unilateral or bilateral tender, self-limited swelling of the parotid or other salivary gland, lasting ≥ 2 days, and without other apparent cause.