

Health Alerts

Health Update #171 - Mumps: Clinical Criteria for Laboratory Testing & Specimen Collection - May 1, 2006

Mumps: Clinical Criteria for Laboratory Testing & Specimen Collection Guidance

Summary

The New York State Department of Health (NYSDOH) has been following a large outbreak of mumps that originated in Iowa, has spread to neighboring Midwestern states, and has the potential to spread further. NYSDOH and Erie County Department of Health (ECDOH) are requesting that medical providers enhance surveillance for mumps in their patient.

Persons with an acute onset of unilateral or bilateral tender, self-limited swelling of the parotid or other salivary gland should be tested for suspected mumps infection. Providers are encouraged to contact ECDOH (716-858-7697) to report any suspected mumps case. Virus isolation from oral fluid or urine specimen is preferred diagnostic test. Results of IgM and IgG titers obtained close to symptom onset provide important information to aid in the diagnosis of mumps.

Background:

The New York State Department of Health (NYSDOH) has been following a large outbreak of mumps that originated in Iowa, has spread to neighboring Midwestern states, and has the potential to spread further. NYSDOH and Erie County Department of Health (ECDOH) are requesting that medical providers enhance surveillance for mumps in patients at their facilities and affiliated clinics.

Persons who should be tested for suspected mumps infection:

Persons with an acute onset of unilateral or bilateral tender, self-limited swelling of the parotid or other salivary gland, lasting greater than 2 days, without other apparent cause. Other symptoms involving the neck in the absence of parotid or other salivary gland swelling, such as cervical adenopathy, pharyngeal exudate, does NOT qualify the patient as a suspected mumps case. Providers are encouraged to contact ECDOH (716-858-7697) to report any suspected mumps case.

Virus detection:

Mumps viral RNA may be detected from oral fluid or urine samples prior to onset of parotitis until 5-9 days after onset of parotitis (1-4 days is optimal for virus collection). Among previously immunized suspected cases, mumps virus detection is an important method of confirming the case.

Recommended specimens for testing:

For persons with suspected mumps, the ECDOH recommends the collection of both: (1) a specimen for mumps viral isolation (oral fluid or urine) and (2) serum samples for IgM and IgG titers. For the mumps viral specimen a parotid gland/buccal swab is the preferred specimen. Since it is optimal for viral isolation specimens to arrive at lab within 4 hours of collection, providers should contact the virology lab before shipping.

Specimen collection and management:

1. Mumps viral samples: Collect a buccal swab or throat swab sample up to 9 days after symptom onset. Keep samples cold (4C) or frozen (-70C). Bulk urine should be kept cold (4C). Ship specimens using ice packs or dry ice.
 - o Parotid Gland/Buccal swab: may provide the best viral sample. Massage the parotid gland area (the space between the cheek and teeth just below the ear) for about 30 seconds prior to collection of the buccal secretions. The parotid duct (Stensen's duct) drains in this space near the upper rear molars. A throat swab (oropharyngeal or nasopharyngeal swab) can also be collected and added together with the buccal swab. A commercial product designed for collection of throat cultures or a plain Dacron or cotton tipped swab can be used for the collection of the buccal or throat swab.
 - o Place swab in a tube containing 2-3 mls of viral transport medium or other sterile isotonic solution (phosphate buffered saline or cell culture medium).
 - o Urine: collect 5-10 mls from clean catch urine and store in a screw top sterile container, preferably a 15 ml centrifuge tube.
2. Serologic testing: Collect 7-10 ml of blood in a red top or serum separator tube (SST). Store and ship specimens cold (using ice packs).
 - o Acute serum: collect within 5 days after symptom onset
 - o Convalescent serum: collect within 2-5 weeks after symptom onset

Where to send laboratory specimens for testing:

Mumps viral samples can be sent to the following viral laboratories (Optimal for specimens to arrive at lab within 4 hours of collection):

1. Erie County Medical Center (ECMC) Virology Laboratory
Call Jean Myers to arrange receipt of specimens: 716-898-4211
2. Wadsworth- Virology
Call Kim Rush-Wilson @ 518-869-4559 to arrange receipt of specimens.

Mumps serologic testing: Most commercial clinical laboratories perform Mumps IgG tests, but few perform on-site mumps IgM tests.

1. Usual laboratory
2. ECMC Virology laboratory (Jean Myers at 716-898-4211)
Serology: IgG on site; IgM sent out
3. Kaleida Flint Road Laboratory
(chemistry at 716-626-7200 x7958 or Sue Howard at 716-626-7200 x7918)

Serology: IgG on site; IgM sent out
(NO Viral Isolation performed)

4. Wadsworth - Virology (Carol Franchell @ 518-486-3845)
Serology: IgG on site; IgM sent out