

Mumps Information

Clinical Background:

Mumps, a viral illness, is on the routine list of vaccinations for children. Nebraska and Iowa are experiencing an outbreak of Mumps and requests for testing have increased dramatically over the last 30 days. The reasons given by the State Department of Health for the possible recurrence of Mumps include:

- Primary vaccine failure with lack of seroconversion and no development of immunity.
- Vaccine mishandling causing primary vaccine failure.
- Waning of immunity, more likely to occur as time since vaccination accumulates.

Symptoms:

The most classic symptom of mumps is the development of parotitis, resulting in pain, swelling and tenderness over the gland on the side of the cheek. The development of parotitis is typically bilateral and develops an average of 16 to 18 days after exposure. Other symptoms associated with mumps include low grade fevers, myalgia, anorexia, fatigue and headache. Fever and these other symptoms may precede parotitis and can last up to 3-4 days. Parotitis can last from a week to 10 days.

Infectious Status:

Acute infection with mumps has a window of communicability of 3 – 4 days before and after onset of parotitis. Mumps outbreaks are occurring in highly vaccinated populations and the diagnosis should not be discounted in persons who have received the vaccine.

Testing:

The following recommendations for testing were provided by the Nebraska State Department of Health. They recommend a combination of tests to confirm the diagnosis:

1. Parotid gland swab (this requires viral transport media) and clean-catch urine for viral culture. Culturing can be done up to nine days following onset of symptoms by vigorous rubbing of the tonsils, oropharynx and the area around the opening of the parotid glands (Stensen's ducts). The duct is a 2 mm raised bump with a central hole found on the mucous membrane of the inner cheek by the 2nd upper molar, bilaterally, and may appear as a bluish papilla. Massage the cheek from back to front by stroking forward from the ear to the front of the face. Observe the Stensen's duct for clear fluid and collect the fluid if there and swab the area if not. Saliva specimen requires viral transport media during shipping. Do not use calcium alginate swabs or swabs on wooden shafts. Refrigerate specimens at 2-8°C immediately after collection. DO NOT FREEZE;

Note: Physicians Laboratory recommends that parotid culture collection be performed by personnel with a good understanding of anatomy to ensure a proper collection is performed.

2. Serologic testing to detect IgM antibody in an “acute” specimen. Not all infected individuals will potentially develop a detectable IgM antibody, especially in mild cases and with previous vaccinations. An IgG antibody is typically ordered with the IgM antibody; and
3. Clean catch urine specimen for culture.

Ideally specimens for all three types of testing should be collected: urine specimen, parotid gland swab, and serum. At a minimum, a parotid gland saliva swab specimen placed in viral transport media should be submitted for culture.

Health Care Workers:

Health care facilities are advised to insure that all health care workers are fully immune with: 1) documentation of two MMRs, or 2) serologic evidence of immunity, or 3) age over 65 years, in which case natural immunity from acquired disease can be assumed.

Additional Considerations:

- Staff over 65 years of age most likely has natural immunity due to disease.
- Staff from 45-65 years of age should prove immunity through documentation of vaccination or positive IgG serology. Those in this age group grew up when the chance of exposure to wild mumps virus was markedly declining (thus escaping “natural” immunity) and when the opportunity to receive mumps vaccine was uncertain.
- Staff less than 45 years of age can be assumed to have one dose of MMR if they went to school in Nebraska and received the required immunizations. A second dose should be given if not previously documented in the person’s medical history.