

MUMPS FACT SHEET

(Infectious parotitis)

Agent: Mumps virus.

Brief Description: An illness with acute onset of unilateral or bilateral swelling of the parotid gland or other salivary glands (parotitis), and without other apparent cause. Symptoms such as myalgia, anorexia, malaise, headache, and low-grade fever may precede parotitis by several days. Asymptomatic infections also occur; parotitis is present in only 30-40% of infected persons. Not all cases of parotitis – especially sporadic ones – are due to mumps infection; however, mumps is the only known cause of epidemic parotitis. Complications can include meningitis, arthritis, inflammation of the testicles or ovaries, inflammation of the pancreas and deafness.

Reservoir: Humans.

Mode of Transmission: Airborne, by droplet spread, or by direct contact with saliva of an infected person.

Incubation Period: Commonly 15 to 18 days, range 14 to 25 days.

Clinical Case Definition: An illness with acute onset of unilateral or bilateral tender, self-limited swelling of the parotid or other salivary gland, lasting greater than or equal to 2 days, and without other apparent cause.

Lab Criteria for Diagnosis:

- Positive serologic test for mumps immunoglobulin M (IgM) antibody, or
- Significant rise between acute- and convalescent-phase titers in serum mumps immunoglobulin G antibody level by any standard serologic assay, or
- Isolation of mumps virus from clinical specimen.

Diagnostic Testing:

A. Serology

1. Specimen needed: Serum/blood - acute and convalescent.
2. Outfit: Other serology, order # 0504.

3. Form: 3432 (revised 4/00).
4. Lab Test Performed: Mumps serology (IgG and IgM; must write in IgM on this form).
5. Lab Performing Test: State Immunology Laboratory, Georgia Public Health Laboratory, (GPHL) in Decatur.
6. Transport Requirements: Acute sera (for IgG and IgM) should be collected as soon as possible after onset of parotitis for examining seroconversion. The convalescent specimen for IgG detection should be drawn about 2 weeks later. IgM antibodies are detectable within a few days after illness onset, peak about a week after onset and remain elevated for several weeks to months.

B. Culture

1. Specimen Needed: throat swab, urine, or cerebrospinal fluid (CSF).
2. Outfit: Viral culture, order #0575.
3. Form: 3595R.
4. Lab Test Performed: Mumps culture.
5. Lab Performing Test: State Virology Laboratory, GPHL in Decatur.
6. *Transport Requirements: Virus may be isolated from the buccal mucosa from 7 days. Before, until 9 days after salivary enlargement. Ideally, the specimen should be collected within 72 hours of the onset of illness. If tests are to be performed within 72 hours after collection, transport specimens at 4° Celsius. Otherwise, freeze the specimen at -70° Celsius.*

Case Classification:

- **Probable:** a case that meets the clinical case definition, has noncontributory or no serologic or virologic testing, and is not epidemiologically linked to a confirmed or probable case.

- **Confirmed:** a case that is laboratory confirmed or that meets the clinical case definition and is epidemiologically linked to a confirmed or probable case. A laboratory-confirmed case does not need to meet the clinical case definition.

Comment: False-positive IgM results by immunofluorescent antibody assays have been reported. Other serologic tests include Enzyme-Linked Immunosorbent Assay (ELISA or EIA) and Hemagglutination Inhibition (HI).

Period of Communicability: Persons with mumps are usually considered infectious from 2 days before until 4 days after onset of parotitis. Virus has been isolated from saliva from 7 days before parotitis and 9 days after onset of illness.

Vaccination: Live attenuated mumps virus vaccine is recommended for persons \geq 12 months of age unless medically contraindicated or unless a person is immune as defined by documentation of 1) immunization with at least one dose of mumps vaccine on or after the first birthday, 2) serological evidence of mumps immunity, or 3) birth in or before 1957. With use of MMR for measles vaccination under the currently recommended 2-dose schedule, most children and adolescents now receive two doses of mumps vaccine. Mumps vaccine, as MMR, is recommended at 12-15 months of age and 4-6 years of age.

Post-exposure Prophylaxis: There is no evidence that giving mumps vaccine provides protection to those already exposed. However, in those susceptible persons who were exposed but not infected, the vaccine will provide future immunity, and its use in these situations is not contraindicated.

Treatment: Supportive only.

Investigation:

1. Call the Notifiable Diseases Epidemiology Section (404) 657-2588. Complete the Mumps Surveillance Worksheet (from the Centers for Disease Control and Prevention's Manual for the Surveillance of Vaccine Preventable Diseases, Appendix 11). Identification of suspected or confirmed cases of mumps is important in the initiation of control measures to prevent the spread of disease among susceptible persons. Essential components of the case investigation include the following:
 - a) Establish a diagnosis of mumps (submit specimens for serology).
 - b) Obtain accurate and complete immunization histories.
 - c) Identify the source of infection.
 - d) Assess potential transmission and identify contacts.
 - e) Obtain specimens for virus isolation.
2. Fax the completed sheet and the completed Notifiable Disease Report Form (#3095) and any pertinent lab results to the Notifiable Disease Epidemiology Section (404) 657-7517.

Outbreak Control: The main strategy for controlling a mumps outbreak is to define the at-risk population and a transmission setting, and to rapidly identify and vaccinate susceptible persons or, if a contraindication exists, to exclude susceptible persons from the setting to prevent exposure and transmission.

Reporting: Report all probable or confirmed cases **IMMEDIATELY** by phone to the local health department, District Health Office, or the Epidemiology Branch at 404-657-2588. If calling after regular business hours, it is very important to report cases to the Epidemiology Branch answering service. After verbal report has been made, please transmit the case infor-

mation electronically through the State Electronic Notifiable Disease Surveillance System (SENDSS), or complete and mail a GA Notifiable Disease Report Form (#3095).

**(Georgia code requires notification of both lab-confirmed and clinical mumps diagnosis within 7 days; however, immediate notification enables a prompt case investigation and public health response.)

Reported Cases of Mumps in Georgia, 1993-1999

Year	Number of Cases
1993	20
1994	18
1995	11
1996	9
1997	11
1998	2
1999	4

References:

1. American Academy of Pediatrics. Mumps. In: Peter G, and Pickering, L, eds. *2000 Red Book: Report of the Committee on Infectious Diseases*. 25th Ed. Elk Grove Village, IL: American Academy of Pediatrics; 2000: 405-408.
2. Chin J, ed. Mumps. In: *Control of Communicable Diseases Manual*. 17th ed. Washington, DC: American Public Health Association, 2000: 353-355.
3. Centers for Disease Control and Prevention. *Manual for the surveillance of vaccine-preventable disease*. Centers for Disease Control and Prevention: Atlanta, GA, 1999.
4. CDC. Case Definitions for Infectious Conditions under Public Health Surveillance. *MMWR* Vol. 46(RR10), 1997: 1-55.
5. CDC. Measles, mumps, and rubella—vaccine use and strategies for elimination of measles, rubella, and congenital rubella syndrome and control of mumps: Recommendations of the Advisory Committee on Immunization Practices

(ACIP). *MMWR* Vol. 47(RR-8), 1998: 1-57.

6. Wharton, Melinda. Mumps. In: Maxcy-Rosenau-Last: *Public Health and Preventive Medicine*. Wallace, R, ed. 14th Ed. Appleton & Lange, Stamford, CT, 1998: 93-95.

Links:

- CDC Mumps Fact Sheet – <http://www.cdc.gov/nip/publications/pink/mumps.pdf>
- CDC National Immunization Program – <http://www.cdc.gov/nip/>

