

Mumps Investigation Overview

The following guidelines provide a brief overview of the steps of a mumps investigation. Mumps outbreaks most often occur in the United States in close-contact settings. Mumps cases can be imported from abroad since mumps is endemic globally. Mumps control measures require contact and droplet precautions. Identification of a single case of mumps should trigger public health intervention to prevent an outbreak and notify contacts. Investigations that may be complicated by close congregate setting or other factors should be discussed with the NC DPH Communicable Disease Branch (CDB) (919-733-3419). Contact investigations should proceed for all cases of mumps. When mumps is strongly suspected, attempts to identify susceptible contacts should begin as soon as possible. CDB should be notified of parotitis clusters (3-4 cases) even if mumps has not been confirmed with a laboratory test. Additional resources, such as school letters and line list templates are also available through CDB.

Basic Steps of a Mumps Investigation

1. Collect clinical information	<ul style="list-style-type: none">• Immune status (history of disease or immunization)• Clinical description<ol style="list-style-type: none">a. Onset date of parotitis or other salivary gland swelling (at least 2 days)b. Other symptoms: fever, headache, malaise, anorexia, complications (orchitis, oophoritis, hearing loss, mastitis, meningitis, encephalitis, pancreatitis)• Epidemiologic linkages to similarly ill persons. Incubation period ranges from 12–25 days; parotitis typically develops 16 to 18 days after exposure.• Use information collected from medical records or speak with the case
2. Laboratory testing	<ul style="list-style-type: none">• If patient meets criteria for suspicion of mumps, laboratory specimens should be collected as soon as possible• A buccal swab should be collected for PCR and viral culture, ideally within 3 days and a maximum of 8 days after parotitis onset• Serum should be collected for mumps IgM testing if >3 days after symptom onset
3. Manage the case	<ul style="list-style-type: none">• The infectious period is from 2 days <u>before</u> parotitis onset to 5 days <u>after</u> parotitis onset• Case should isolate at home until no longer infectious
4. Identify all contacts of case during infectious period	<ul style="list-style-type: none">• Notification letters can be sent to those that may have been exposed to the case (e.g., in a school setting, letter could be sent home with persons in the same classroom as the case)• Exposure: close contact with an infectious person (e.g. in the same room)<ol style="list-style-type: none">a. Had direct contact with respiratory or oral secretionsb. Had face-to-face exposure within 3 feet• Consider using a line list to organize this information
5. Gather information about contacts	<ul style="list-style-type: none">• Collect necessary information from contacts, including:<ul style="list-style-type: none">• Symptoms of mumps• Immune status• Date of last exposure to case while infectious• Exposure setting
6. Manage contacts	<ul style="list-style-type: none">• Course of action will depend on the type of contact, presence of symptoms, time since last exposure, and exposure setting. Contacts not up-to-date on mumps vaccination (MMR) should be referred for vaccination
➤ Symptomatic contacts	<ul style="list-style-type: none">• If mumps is suspected, isolate/exclude until no longer infectious. Call ahead and refer to healthcare provider for buccal swab if indicated• Notify school nurse, occupational health or infection control professional in setting of exposure
➤ Asymptomatic healthy non-immune unvaccinated contacts (age 12 months or older)	<ul style="list-style-type: none">• Administer mumps vaccine (MMR) if not contraindicated to protect those not yet infected• Instruct contacts to monitor for symptoms for at least 25 days after last exposure• Outbreak exclusion: Discuss with CD Branch; exclude susceptible contacts until the 26th day after onset in the last case in the affected setting. Once vaccinated, contacts can immediately be readmitted.• Healthcare exclusion: Exclude susceptible contacts from the 12th day after the first unprotected exposure through the 25th day after the last unprotected exposure. Post exposure vaccination does not alter exclusion criteria in healthcare settings.
➤ Asymptomatic healthy contacts (age less than 12 months)	<ul style="list-style-type: none">• No prophylaxis is recommended• Monitor for symptoms for at least 25 days after last exposure