

Henrico Health District
Mumps - Information for Health Care Providers

Organism	Mumps virus (a paramyxovirus, genus Rubulavirus) Other organisms cause parotitis; only mumps causes <u>epidemic</u> parotitis
Reservoir	Humans are the only naturally occurring host Asymptomatic and atypical cases can transmit the virus There is no carrier state
Transmission	Respiratory droplets; direct contact with nasal, throat secretions or saliva; rarely airborne
Incubation Period	Average 16 to 18 days (range of 12-25 days)
Infection Control	Droplet and standard precautions (use surgical mask if within 3 feet of patient.) Place patient in exam room immediately upon arrival. If no exam room is available the patient should sit three or more feet away from others and be seen as soon as possible. A patient with mumps symptoms should put on a procedure/surgical mask immediately and wear for the duration of visit.
Symptoms & Signs	20% - asymptomatic 40-50% - nonspecific or respiratory symptoms alone 30-40% - classic symptoms of a prodrome of low-grade fever, anorexia, malaise, and headache for 2-3 days followed by non-suppurative salivary gland inflammation and tenderness, usually the parotid gland; may begin as ear-ache or palpable jaw angle tenderness; symptoms usually resolve after 10 days
Complications	Most common - viral meningitis (1-10% of patients with parotitis), epididymo-orchitis (20-30% of post-pubertal males – sterility is rare), oophoritis (5% of post-pubertal females), mastitis (30% of post-pubertal females) Rare - pancreatitis, deafness, arthritis, encephalitis; death is rare Excess fetal deaths associated with gestational infections; no congenital abnormalities
Treatment	Symptomatic: Analgesics-antipyretics; warm or cold packs for inflammation; warm salt water gargles, soft foods, and extra fluids may also help. Avoid fruit juice or acidic foods, since these stimulate the salivary glands, which can be painful. Immune globulin is not effective and should not be used.
Differential Diagnosis	Suppurative parotitis; drugs (phenylbutazone, thiouracil, iodides, phenothiazines); HIV in children; parainfluenza 3 virus; coxsackie virus; influenza A virus
Case Definition	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 or more days , and without other apparent cause. <ul style="list-style-type: none"> - Suspect - A case with clinically compatible illness or that meets the clinical case definition without laboratory testing, or a case with laboratory tests suggestive of mumps without clinical information - Probable Case - A case that meets the clinical case definition without laboratory confirmation and is epidemiologically linked to a clinically compatible case - Confirmed Case - A case that: 1) meets the clinical case definition or has clinically compatible illness, and 2) is either laboratory confirmed or is epidemiologically linked to a confirmed case
Laboratory Testing*	Collect: 1) a serum sample [7-10 ml of blood in a red top or serum separator tube - store and ship cold (ice packs)] and 2) a mumps viral specimen (parotid gland/buccal swab) on each person with suspected mumps as close to symptom onset as possible. <ul style="list-style-type: none"> • Viral Culture - Collect buccal swab if patient presents within 72 hours of onset of parotitis (about 10% sensitivity.) • Serology (Mumps IgM, IgG) – Collect first sample when patient presents; collect

	<p>second sample at least 10 days after first sample (Neither sensitivities nor specificities from vaccinated nor unvaccinated persons have been clearly defined; interpretation of these results is difficult, especially in vaccinated persons.)</p> <ul style="list-style-type: none"> • Mumps is not ruled out by negative laboratory tests if signs/symptoms are consistent with mumps infection. • Testing must be coordinated with Virginia Department of Health if samples are to be sent to state lab or CDC.
Period of Communicability	<ul style="list-style-type: none"> • Virus has been isolated from saliva 7 days before to 9 days after onset of parotitis • Infectious period is considered to be 3 days before to 5 days after onset of parotitis.
Isolation	Exclude from work/school/daycare/patient care/etc. for 5 days after onset of parotitis.
Quarantine	Exclude susceptible individuals from school, workplace, or healthcare facility from days 12-25 after their last exposure – if indicated, mumps immunization should be provided, but does not protect against recent infection (it may protect against future exposure)
Immunity	<p>Acceptable presumptive evidence of immunity:</p> <ul style="list-style-type: none"> • <u>Documentation</u> of two doses of mumps containing vaccine for <ul style="list-style-type: none"> – School-aged children (i.e., grades K-12) – Adults at high risk (i.e., persons who work in health care facilities, international travelers, and students at post-high school educational institutions) • <u>Documentation</u> of one dose of mumps containing vaccine for <ul style="list-style-type: none"> – Preschool aged children – Adults not at high risk • <u>Documented</u> physician-diagnosed case • Positive mumps IgG • Birth before 1957 (in the U.S.) <ul style="list-style-type: none"> – Birth before 1957 is only presumptive evidence of immunity; healthcare facilities should consider recommending one dose of a live mumps virus vaccine for unvaccinated workers born before 1957 who do not have a history of physician-diagnosed mumps or laboratory evidence of mumps immunity. <p>Definition of immunity is more stringent in an outbreak setting.</p>
MMR Vaccine	<ul style="list-style-type: none"> • Live attenuated vaccine; given together as triple antigen vaccine, MMR • Two doses separated by ≥ 4 weeks: 90% - 95% effective <ul style="list-style-type: none"> – <u>First dose</u>: When child is at least 12 months old - doses of MMR vaccine given before this age should be ignored – <u>Second dose</u>: Age 4-6 years (before kindergarten or 1st grade), or at adolescent health visit age 11-12 years • Adults born <u>before 1957</u> who have not received MMR should be offered 1 dose of vaccine • Adults born <u>after 1957</u> who have not received MMR should receive at least 1 dose of vaccine - a 2nd dose of MMR is recommended for high risk populations, if they have not already had it • All healthcare workers should have two doses of MMR, at least 28 days apart • If vaccination status is unknown, vaccination can still be offered - if an unvaccinated individual requires two immunizations, these should be ≥ 28 days apart • Do <u>not</u> give vaccine to: pregnant women, immunosuppressed individuals, and people with a moderate or severe acute illness. • See MMR VIS for additional information.
Vaccine Contraindications	<ul style="list-style-type: none"> • Severe reaction to a previous dose of vaccine; severe allergic reaction to gelatin or neomycin; pregnancy; severe immunosuppression; large daily doses of

	corticosteroids; moderate or severe acute illness; recent blood products <ul style="list-style-type: none"> • If PPD not applied same day as MMR, delay PPD for ≥ 4 weeks
Vaccine Adverse Reactions	Fever - 5-15%; Rash – 5%; Joint symptoms – 25%; Rare = thrombocytopenia, parotitis, deafness, encephalopathy

* Process for sample collection when specimens are being sent to state lab (DCLS):

- Buccal swab for mumps virus culture – 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. Use a virus collection swab (polyester) to swab the buccal cavity, i.e., the space inside the mouth near the upper rear molars between the cheek and the teeth. Immediately place the buccal swab into a tube of viral transport medium and secure screw-capped lid to prevent leakage. Mumps virus grows slowly; DCLS waits 14 days before discarding as negative.
- Serum – Collect 7-10 ml of blood in a red top or serum separator tube (SST). IgM appears in first few days, peaks 1 week after onset, and remains detectable for weeks-months (false-positive IgM results by immunofluorescent antibody titers have been reported – in addition, IgM antibodies may not be present if patient has been vaccinated).
- Each specimen must be labeled with patient name, specimen type, and collection date.
- Specimens should be kept refrigerated during storage and transportation. (Include frozen cold-packs in shipping container to maintain refrigeration temperature.)
- Call local health department (804-501-5216) to coordinate submission of specimens to state lab and CDC.

**Report all suspected and probable cases of mumps to the
Henrico Health Department:
Phone 804-501-5216
Fax 804-501-4108**