Disease/Medical Condition

MUMPS

(also known as “infectious parotitis” and “epidemic parotitis”; caused by mumps virus)

Date of Publication: June 14, 2013

Is the initiation of non-invasive dental hygiene procedures* contra-indicated? Yes, during the period of communicability (see below).

- Is medical consult advised? Yes, if the patient/client is not already under medical care or diagnosis is uncertain.

Is the initiation of invasive dental hygiene procedures contra-indicated?** Yes, during the period of communicability (see below) and in the presence of significant morbidity.

- Is medical consult advised? See above
- Is physician or dentist clearance required? No
- Is antibiotic prophylaxis required? No
- Is postponing treatment advised? Yes, during the period of communicability

Oral management implications

- **Mode of transmission** is via airborne transmission or droplet spread (coughing, sneezing, and talking), as well as direct contact with saliva or mucus of infected persons. The virus may also spread indirectly when someone with mumps touches an item with contaminated hands and then someone else touches the same item and rubs his/her mouth, nose or eyes. Mumps is less contagious than chickenpox or measles.

- Persons infected with mumps are infectious from 7 days prior to 9 days after the onset of salivary gland swelling (parotitis), while maximum infectiousness occurs from 2 days prior until 5 days after parotitis onset. Asymptomatic persons with mumps (i.e., those without parotitis or other symptoms) can also be infectious to others.

- Mumps can be prevented by immunization. MMR vaccine provides protection against measles, mumps, and rubella, while the MMRV vaccine also protects against varicella (chicken pox). In Canada, it is recommended that children receive two doses of a combined mumps-containing vaccine. The first dose (for mumps protection) is usually given when children are one year old and the second (for measles protection) is given either when they are 18 months or before they start school (between ages 4 and 6 years); Ontario has adopted the school-entry regimen.

- Given long-standing provincial immunization programs, mumps is now uncommon in Canada. However, unimmunized persons remain at risk of contracting mumps given potential contact with persons from other countries where mumps remains endemic, or with certain religious communities which object to immunization.

- Suspect mumps cases, particularly in persons with travel history to areas with endemic or epidemic measles, should be reported to local public health authorities (i.e., local public units in Ontario). Patients/clients should be isolated for at least 5 and up to 9 days after their salivary glands begin to swell. Immunization of susceptible contacts may help limit the spread of disease, but does not always prevent infection.

- Health care workers, including dental hygienists, should ensure they are appropriately immunized. A simple blood test is available to determine immunity status and hence whether adult immunization is indicated.

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Oral management implications (cont’d)

- Health care workers who contract mumps should refrain from working during the acute illness phase (including at least 5 days after onset of parotitis), as well as after relevant exposure and during the incubation period if not vaccinated. Health care workers without evidence of immunity should be excluded from the 12th day after the first unprotected exposure to mumps through the 25th day after the last exposure. Because the mumps vaccine cannot be reliably used to prevent the development of mumps after exposure, this exclusion includes unvaccinated health care personnel who receive a first dose of vaccine after an exposure. “Relevant exposure” includes unprotected face-to-face interaction (e.g., no mask) with 1 metre (3 feet) of an infectious mumps case.

Oral manifestations

- Parotitis occurs in fewer than half of individuals infected with mumps, and, when present, usually lasts 7–10 days. It manifests as pain, tenderness and swelling in one or both parotid salivary glands. First visible in front of the lower part of the ear, swelling then extends downward and forward as fluid builds up in the skin and soft tissue of the face and neck. Swelling usually peaks in 1–3 days and then subsides over the course of the next week. The swollen gland pushes the angle of the ear up and out. As swelling worsens, the angle of the mandible below the ear becomes no longer visible. Often the mandible cannot be palpated, because of swelling of the parotid gland. One parotid gland may swell before the other, and, in about 25% of affected patients/clients, swelling remains unilateral. The submandibular and sublingual salivary glands may also swell, but this occurs in only about 10% of cases. The salivary gland involvement results in pain upon mastication.

- Mumps infection may be confused with swelling of the neck’s lymph nodes. Lymph node swelling can be differentiated from mumps by the well-defined borders of the lymph nodes, their location behind the angle of the jawbone, and lack of ear protrusion or obscuring of the angle of the jaw.

- The differential diagnosis for swelling of the major salivary glands includes chronic nonspecific sialadenitis, acute postoperative parotitis, Sjögren’s syndrome, and sarcoidosis.

Related signs and symptoms

- The incubation period of mumps (i.e., time from exposure to clinical illness) ranges from 12–25 days. Persons with mumps usually first feel ill with nonspecific symptoms such as headache, muscle aches, fatigue, and decreased appetite, which precede the onset of parotitis. A low-grade fever may persist for 3 to 4 days. Respiratory symptoms may also occur (particularly in children less than 5 years of age), and up to 20% of persons with mumps develop no obvious signs or symptoms. Mumps is usually a mild disease in children, whereas adults tend to have more serious disease and more complications.

- Most persons who contract mumps recover fully. However, mumps can sometimes cause complications, occasionally serious in nature, and these complications may occur even in the absence of parotitis. Complications include:
  - Orchitis (inflammation of the testicles) in males who have reached puberty, which rarely leads to sterility
  - Encephalitis (inflammation of the brain)
  - Meningitis (inflammation of meninges membranes covering the brain and spinal cord)
  - Oophoritis (inflammation of the ovaries) and mastitis (inflammation of the breasts) in females who have reached puberty
  - Temporary or permanent hearing loss

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References and sources of more detailed information

- US Centers for Disease Control and Prevention  http://www.cdc.gov/mumps/about/disease-overview.html
- Public Health Agency of Canada  http://www.phac-aspc.gc.ca/
- Ontario Ministry of Health and Long-Term Care. Publicly Funded Immunization Schedules for Ontario – August 2011.

* Includes oral hygiene instruction, fitting a mouth guard, taking an impression, etc.

** Ontario Regulation 501/07 made under Dental Hygiene Act, 1991. Invasive dental hygiene procedures are scaling teeth and root planing, including curetting surrounding tissue.

Date: March 8, 2013