HEALTH ADVISORY

Public Health
Prevent. Promote. Protect.
REGION IV PUBLIC HEALTH
Clark, Cowlitz, Skamania, Wahkiakum counties and Cowlitz Tribe

TO: Physicians and other Healthcare Providers

Please distribute a copy of this information to each provider in your organization.

Questions regarding this information may be directed to the following Region IV health officers:

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Skamania County Community Health, (509) 427-3850

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Alert categories:
Health Alert: conveys the highest level of importance; warrants immediate action or attention. **Health Advisory:** provides important information for a specific incident or situation; may not require immediate action. **Health Update:** provides updated information regarding an incident or situation; no immediate action necessary.

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Dec. 21, 2016

Guidance for providers about mumps from Washington Department of Health

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The following letter to providers has been prepared by Scott Lindquist MD MPH, Washington State Epidemiologist for Communicable Diseases and Deputy Health Officer

Dear Colleagues,

You are likely aware of the current mumps outbreak in Washington State. We are including information about the current outbreak to help you identify and test potential mumps cases in Southwest Washington. We also want you to feel comfortable that you have clear guidance to give your patients and their families.

Since the first 3 cases were confirmed by testing at Public Health Laboratories (PHL) on November 23rd, the outbreak has quickly grown to include 107 cases (28 confirmed, 79 probable) as of December 20th. All cases identified to date have been residents of the King (93), Pierce (9), Spokane (4), and Yakima (1) counties. These cases may be associated with a larger multi-state outbreak where there are currently over 2,000 cases in Arkansas. Nationally over 2,800 cases have been reported in WA, AR, OR, TX, OK, IA, and HI. You should be asking patients about potential mumps exposure in persons who have traveled internationally or to any area with the U.S. where mumps transmission is occurring.

Symptoms of mumps

Mumps causes inflammation of glandular tissue, most commonly salivary glands (parotitis). Swelling is first visible in front of the lower part of the ear. Swelling usually peaks in 1-3 days and then subsides during the next week. One parotid may swell before the other, and in 25% of patients, only one side swells. Up to 20% of infections have no symptoms and up to half have mild symptoms which include:

- Prodromal symptoms like myalgia, anorexia, malaise, headache, low grade fever may precede parotitis by 3-4 days.
- Mumps-specific symptoms are parotitis and orchitis. Other glandular tissue can also be affected. Females can experience oophoritis which may cause pelvic discomfort.
- Other non-specific symptoms that may be experienced by persons with mumps are discomfort with swallowing or upon eating certain foods, jaw pain, ear pain.
- Complications of mumps occur later in the illness and can include hearing loss, aseptic meningitis, pancreatitis, changes in sensorium associated with encephalitis.

Who should be tested?

Any person who has parotitis should be evaluated. Even fully vaccinated persons can develop parotitis or mild nonspecific findings such as upper respiratory infections and abdominal or testicular pain. It is important that you as clinicians evaluate the full differential diagnosis of

mild nonspecific etiologies before requesting mumps testing in the absence of parotitis. If you have questions about testing, you should contact your local public health jurisdiction and also report each suspected case to your local public health jurisdiction.

What is the best testing method?

A buccal swab specimen should be collected from patients with clinical features compatible with mumps. The clinical samples for detection of virus and acute phase serum should be collected as soon as possible upon suspicion of mumps preferably within 3 days of parotitis onset. The early collection of a buccal swab specimen provides the best means of laboratory confirmation, particularly among suspected mumps patients with a history of vaccination. Prolonged viral shedding in urine is possible and may be recommended depending on the timing of clinical symptoms. Serologic testing can also be considered, see additional information below.

Collection of buccal/oral or urine specimens for PCR testing

- On days 0-3 after onset of parotitis (with the date of onset being day 0): Collect a buccal swab only.
- On days 4 – 10 after onset of parotitis (the date of onset being day 0): Collect both buccal swab & urine.
- Please consult with your Local Health Jurisdiction about what testing can still be considered if more than 10 days has elapsed since onset of parotitis.

Serologic testing for mumps

In most cases, if serologic testing is desired, serum can be sent commercially and both IgM and IgG results should be requested. Please note: Follow up to determine IgG results will be important for patients with unknown vaccination status, since a negative PCR cannot rule out mumps on a person previously exposed to mumps antigen, either by vaccination or previous infection.

Guidance for patients and their families

- Mumps spreads through droplets and the direct contact with saliva of an infected person. Maximum infectiousness occurs between 2 days before onset of parotitis until 5 days afterwards. Therefore persons diagnosed with mumps should have respiratory isolation for 5 days after the onset of parotitis. This means they should also be out of work or school until the 6th day after the onset of parotitis.
- Persons exposed to a confirmed or suspect case of mumps should be watched for symptoms from the 9th day after initial exposure through the 25th day after the most recent exposure.
- Exposed persons **who develop symptoms** should isolate themselves from others immediately and contact their healthcare provider. Patients should be made aware that no available test is sensitive to rule out mumps in a person previously exposed to mumps antigen, either through vaccination or through mumps infection.

Assessing evidence of immunity

- Evidence of adequate vaccination for school-aged children, college students, and students in other postsecondary educational institutions who are at risk for exposure and infection during mumps outbreaks consists of 2 doses of mumps-containing vaccine separated by at least 28 days or
- Laboratory evidence of immunity or lab evidence of disease or
- Born before 1957 or
- Documentation of age-appropriate vaccination with a live mumps virus-containing vaccine:
    - Preschool-aged children and adults not at high risk — 1 dose
    - School-aged children (grades K-12) — 2 doses
    - Healthcare workers — 2 doses
    - Students at post-secondary educational institutions — 2 doses

Accepted evidence of immunity

- Vaccine doses with written documentation of the date of administration at age ≥12 months are the only doses considered to be valid. Self-reported doses and history of vaccination provided by a parent or other caregiver are not considered adequate evidence of immunity. Persons who do not have documentation of adequate vaccination or other acceptable evidence of immunity should be vaccinated.
- Serologic screening for mumps immunity before vaccination is not necessary, nor is it recommended if a person has other acceptable evidence of immunity to these diseases. Similarly, post-vaccination serologic testing to verify an immune response is not recommended.
- Documented age-appropriate vaccination supersedes the results of subsequent serologic testing. If a person who has 2 documented doses of mumps or mumps-containing vaccines is tested serologically and is determined to have negative or equivocal mumps titer results, it is not recommended that the person receive an additional dose of MMR vaccine. Such persons should be considered to have presumptive evidence of immunity.
- Persons who have mumps-specific IgG antibody that is detectable by any commonly used serologic assay are considered to have adequate laboratory evidence of mumps immunity. Persons with an equivocal serologic test result do not have adequate presumptive evidence of immunity and should be considered susceptible, unless they have other evidence of mumps immunity or subsequent testing indicates mumps immunity.
- Facilities should ensure that the mumps immunity status of healthcare personnel is routinely documented and can be easily accessed.

Outbreaks in healthcare facilities

- During an outbreak of mumps, healthcare facilities should recommend 2 doses of MMR vaccine at the appropriate interval for healthcare personnel regardless of birth year who lack laboratory evidence of mumps immunity or laboratory confirmation of disease.

- Healthcare workers include all persons (medical or nonmedical, paid or volunteer, full- or part-time, student or nonstudent, with or without patient-care responsibilities) who work within facilities that provide health care to patients (i.e., inpatient and outpatient, private and public).
- If documentation of adequate evidence of immunity has not already been collected, it might be difficult to quickly obtain documentation of immunity for healthcare personnel during an outbreak or when an exposure occurs. Therefore, healthcare facilities should ensure that the mumps immunity status of healthcare personnel is routinely documented and can be easily accessed.
- Exposed healthcare personnel without acceptable evidence of immunity should be excluded from the 9th day after the first unprotected exposure to mumps through 25 days after the last exposure. The mumps vaccine cannot be used to prevent the development of mumps after exposure. Hence, previously unvaccinated healthcare personnel who receive a first dose of vaccine after an exposure should still be considered non-immune and must be excluded as described above.

Background vaccine information

- **Mumps component:** The mumps component of the combination MMR vaccine that is currently distributed in the United States was licensed in 1968 and contains the live attenuated mumps Jeryl-Lynn vaccine strain.
- **Immune response to mumps vaccination:** Mumps-containing vaccines produce a subclinical or mild, non-communicable infection inducing both humoral and cellular immunity. Antibodies develop among approximately 95% of children vaccinated at age 12 months with a single dose of the vaccine. Almost all persons who do not respond to the mumps component of the first dose of MMR vaccine at age ≥12 months respond to the second dose.
- Response to the vaccine is similar in almost all respects to that noted in natural infection. Antibodies first appear 12-15 days after vaccination and peak at 21-28 days. To ensure protection, vaccine should be given one month (28 days) before any potential exposure to mumps disease.
- One dose of mumps-containing vaccine administered at age ≥12 months was approximately 78% effective in preventing mumps. The effectiveness of 2 doses of mumps-containing vaccine was 88%.

References

- Prevention of Mumps, Rubella, Congenital Rubella Syndrome, and Mumps, 2013: Summary Recommendations of the Advisory Committee on Immunization Practices (ACIP). June 14, 2013 / 62(RR04);1-34 www.cdc.gov/mmwr/preview/mmwrhtml/rr6204a1.htm
- Vaccines, Plotkin & Mortimer pp. 419-446.
- CDC guidance for surveillance and outbreak control for mumps, can be found in the Manual for the Surveillance of Vaccine-Preventable Diseases www.cdc.gov/vaccines/pubs/surv-manual/index.html

- Epidemiology and Prevention of Vaccine-Preventable Diseases, 13th edition, 2015.
- Control of Communicable Diseases Manual. 20th edition

Thank you for your partnership.

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