

Section of Epidemiology Mumps Investigation Guidelines

Pathogen

Mumps is an acute viral illness caused by an RNA virus in the Paramyxoviridae family.

Clinical symptoms

Prodromal symptoms are nonspecific and may include myalgia, anorexia, malaise, headache and low-grade fever. The most common manifestation is unilateral or bilateral swelling of one or more of the salivary glands, usually the parotid glands (parotitis), which occurs in 30%-40% of infected persons. Parotitis tends to occur within the first 2 days and may be first noted as earache and tenderness on palpation of the angle of the jaw. Symptoms tend to decrease after 1 week and usually resolve after 10 days.

Approximately 40-50% of infections may only have nonspecific or respiratory symptoms only. As many as 20% of mumps infections are asymptomatic.

Differential diagnosis

Mumps virus is the only cause of epidemic parotitis. Parotitis – especially sporadic cases – may be due to viruses other than mumps. Parotitis can also be caused by Epstein-Barr virus, human herpesvirus B6 (the cause of roseola) cytomegalovirus, parainfluenza virus types 1 and 3, influenza A virus, coxsackieviruses and other enteroviruses, lymphocytic choriomeningitis virus, human immunodeficiency virus, *Staphylococcus aureus*, and nontuberculous *Mycobacterium*.

Complications

Orchitis (testicular swelling) is a common complication and may occur in as many as 50% of postpubertal males. Central nervous system (CNS) involvement is common but fewer than 10% have symptoms of CNS infection.

Other rare complications include arthritis, mastitis, glomerulonephritis, myocarditis, endocardial fibroelastosis, thrombocytopenia, cerebellar ataxia, transverse myelitis, ascending polyradiculitis, pancreatitis, oophoritis, and hearing impairment.

Mumps during the first trimester is associated with an increased rate of spontaneous abortion, but although mumps virus can cross the placenta, there is no evidence that this results in congenital malformation.

Modes of transmission

Transmitted by contact with respiratory secretions or droplets from the respiratory tracts of infected persons.

Mumps exposure

Unprotected face-to-face (<3 feet) contact with an infectious person for at least 5 minutes.

Incubation period

Usually 16 to 18 days, but cases may occur 12 to 25 days after exposure.

Period of communicability

Communicability is probably highest from 2 days before to 5 days after onset of parotitis; mumps virus has been isolated in saliva from 7 days before through 9 days after onset of swelling.

Laboratory testing

Collection of a buccal specimen within 1 to 3 days of parotitis onset is optimal; however virus may be detected for up to 9 days after parotitis onset. **Mumps PCR is the method of choice for rapid clinical diagnosis through the Alaska State Virology Laboratory (ASVL).** ASVL will ship specimens by overnight service to a CDC contract lab in California for PCR testing.

Acute mumps infection may also be laboratory confirmed by the presence of serum mumps IgM, a significant rise in IgG antibody titer in acute- and convalescent-phase serum specimens, or positive mumps virus culture. However, mumps IgM response may be attenuated or absent in vaccinated persons making serologic confirmation difficult. In addition, studies have shown that individuals with detectable mumps IgG titers have still developed mumps infection. ASVL performs IgG antibody testing for immunity; IgM antibody testing or mumps culture is *not* available at ASVL. (Table 1).

Table 1. Specimens for mumps testing submitted to ASVL

Test	Mumps Virus
Testing Lab	Alaska State Virology Laboratory - Fairbanks
Disease(s)	Mumps, Orchitis
Organism(s)	Mumps Virus
Test Method	<p>Serology (Mumps IgG Antibody)</p> <ol style="list-style-type: none"> This test is used to determine immune status. The test is performed at ASVL by EIA. <p>PCR (Mumps Virus Nucleic Acid)</p> <ol style="list-style-type: none"> This test is used to determine active infection. Testing will be performed at a CDC contract lab.
Specimen	<p>Serology</p> <ul style="list-style-type: none"> Centrifuged serum in SST (serum separator tubes – tiger top, marble top or yellow top without additives) ; 1 ml minimum <p>PCR</p> <ol style="list-style-type: none"> Buccal swab in Universal Transport Media (UTM). Throat swab in UTM. <p><i>(Swabs: use synthetic material swabs only – cotton or calcium-alginate tips and wooden or metal shafts are not acceptable)</i></p>
Storage/Transport	<p>Serology</p> <ul style="list-style-type: none"> Store refrigerated or frozen; indicate date frozen (if applicable) on requisition Ship on frozen packs (preferred) or cold packs Ambient temperature shipping is not recommended per reagent manufacturer guidelines <p>PCR</p> <ol style="list-style-type: none"> Ship inoculated UTM to ASVL on cool packs (4°C). ASVL will overnight the sample to the CDC Contract Lab.
Results	<p>Serology</p> <ol style="list-style-type: none"> Negative: No significant level of detectable antibody. Presumed to be susceptible to primary infection. Equivocal: A borderline result. Result falls w/in $\pm 10\%$ of the positive threshold. Resubmission may be indicated. Positive: Immunity by vaccination or infection. <p>PCR</p> <ol style="list-style-type: none"> Not Detected <ul style="list-style-type: none"> Mumps Virus nucleic acid was not detected. Detected <ul style="list-style-type: none"> Mumps Virus nucleic acid was detected.
Turnaround Time	<p>Serology: 7-10 days</p> <p>PCR: 2 days from date of receipt at CDC Contract Lab.</p>

Specimen Collection

A buccal swab is the preferred specimen. A throat swab may also be collected. Specimens should be collected using a Dacron® or other synthetic swab* on a plastic shaft. Place swab in a tube containing universal transport media (UTM) and ship on cold packs to ASVL. Specimens should be shipped on cold packs within 24 hours. If shipping is delayed, freeze at -70 and ship frozen.

*Swabs: use synthetic material swabs only – cotton or calcium-alginate tips and wooden or metal shafts are not acceptable.

CDC specimen collection guidance is available here:
<http://www.cdc.gov/mumps/lab/detection-mumps.html>

ASVL request forms are available at:
<http://www.dhss.alaska.gov/dph/Labs/Documents/publications/FbxSupplyReq.pdf>

Complete the patient and submitter information. In the Miscellaneous Viral Serology area, select Mumps, check patient is symptomatic. In the remarks box, write PCR testing.

Detailed ASPHL information available here:
<http://dhss.alaska.gov/dph/Labs/Pages/publications/default.aspx>

Shipping Options

Specimen shipping should be coordinated with SOE.

- **Mail**
Alaska State Viral Laboratory P.O. Box 60230
Fairbanks, AK 99706-0230
- **Goldstreak** to ASVL in Fairbanks:
Contact SOE at 269-8000 or ASVL at 371-1000 to advise of flight information and air bill number. A courier will pick up the specimen and deliver to ASVL.
- **Overnight delivery to the CDC Contract laboratory** (this must be pre-approved and coordinated with SOE and ASVL) via FedEx Next Day Air. SOE/ASVL will provide the FedEx account number to charge for the shipment. (Please Note: Do not schedule shipments on Friday for weekend delivery as the reference lab is not open on the weekends and cannot accept the delivery.)
 - Fax a copy of the completed (VPD) submittal form and FedEx shipping label to the California Department of Public Health Lab at (510) 307-8578.
 - Fax the ASVL laboratory request form and VPD submittal form to ASVL at (907) 474-4036.

- Be sure to place a copy of the completed (VPD) submittal form from the California Department of Public Health in the box that will be shipped via FedEx.
 - Ship to:
California Department of Public Health
Marina Bay Parkway
Richmond, CA 94804
ATTN: Specimen Receiving
Phone: (510) 307-8585
- TAT for PCR is 2 business days from date of receipt at California. Genotyping TAT is ten business days from date of receipt at California. If PCR is positive, preliminary report is generated and reflexes to genotyping. If it is negative, final report generated, and no further testing is necessary.

Case definition

Suspect: Parotitis, acute salivary gland swelling, orchitis, or oophoritis unexplained by another more likely diagnosis, **OR**

A positive lab result with no mumps clinical symptoms (with or without epidemiological-linkage to a confirmed or probable case).

Probable: Acute parotitis or other salivary gland swelling lasting at least 2 days, or orchitis or oophoritis unexplained by another more likely diagnosis, in: A person with a positive test for serum anti-mumps immunoglobulin M (IgM) antibody, **OR**

A person with epidemiologic linkage to another probable or confirmed case or linkage to a group/community defined by public health during an outbreak of mumps.

Confirmed

A positive mumps laboratory confirmation for mumps virus with reverse transcription polymerase chain reaction (RT-PCR) or culture in a patient with an acute illness characterized by any of the following:

- Acute parotitis or other salivary gland swelling, lasting at least 2 days
- Aseptic meningitis
- Encephalitis
- Hearing loss
- Orchitis
- Oophoritis
- Mastitis
- Pancreatitis

SOE reporting requirements

- Healthcare providers must report suspected or probable mumps cases to the SOE within 5 working days.

- Clusters or outbreaks of suspected or confirmed mumps are immediately reportable to the SOE.
- Suspect, probable and confirmed cases are entered into AK-STARS.
- PHN or EPI nurse complete the mumps surveillance form:
 - <http://www.cdc.gov/vaccines/pubs/surv-manual/appx/appendix10-2-mum-wrsht.pdf>
 EPI staff will enter mumps surveillance form data under *CDC form* tab in AK-STARS.
- Advise Immunization Program Manager
- FTR for outbreaks

Immunization

Live-attenuated mumps vaccine is given as part of measles, mumps and rubella (MMR) vaccine in the U.S. Post-licensure data estimate the effectiveness of 1 dose of mumps vaccine at approximately 80% (64%-95%) and two doses at 90% (88%-90%). However, in recent large outbreaks, mumps infections have occurred in many persons with a history of 2 doses of mumps vaccine and some studies indicate that vaccine-induced immunity may wane.

Postexposure prophylaxis (PEP)

None. Neither mumps vaccine nor immune globulin (IG) is effective for mumps postexposure prophylaxis.

Case investigation

1. Confirm clinical signs and symptoms of mumps.
2. Arrange for laboratory testing. Submit specimens to ASVL for testing, if feasible.
3. Ensure case isolation for 5 days after parotitis onset.
4. Interview the suspected case to determine the possible source of exposure, i.e., contact with a person with mumps and/or recent travel to an area of the world where mumps is endemic/epidemic.
5. Identify all household and other close contacts and assess their mumps immunity status.
6. Assess occupational status of household contacts; if any household member is a healthcare worker, see section on “Mumps in Healthcare Settings”.
7. Refer known susceptible contacts and contacts who’ve had only one dose of MMR vaccine or who have unknown MMR immunization status. Postexposure vaccination will not prevent or alter the clinical severity of mumps. However, if the current exposure to mumps does not cause infection, vaccination should induce protection against subsequent infection.

8. If one confirmed case occurs in a childcare center or school, exposed persons who have had only one dose of MMR should be recommended to receive a second dose (≥ 28 days after the first dose). In outbreaks among older children and adolescents, offering a third MMR dose to contacts with 2 documented MMR doses may be considered .

Mumps on College Campuses and Other Congregate Living Settings

Notify SOE of any suspected mumps cases in college students. Mumps can spread quickly on college campuses even among persons with two doses of MMR vaccine. Action steps should include immediate testing and isolation of the suspected case, and consideration of vaccination of contacts.

Contacts who have only received 0 or 1 dose of MMR vaccine should be brought up to date. While MMR vaccination will not serve as postexposure prophylaxis, it may protect against future exposures if transmission continues in the same setting.

The same approaches used on college campuses may be applied to other settings as well, e.g., jails, prisons, military barracks or other congregate living settings.

Mumps in Healthcare Settings

Healthcare personnel with active mumps illness and those who lack evidence of immunity and have had unprotected exposures to mumps should be excluded from work from the 12th day after the first unprotected exposure to mumps through the 25th day after the last exposure. Unprotected exposures are defined as being within three feet of a patient with a diagnosis of mumps without the use of proper personal protective equipment. Irrespective of their immune status, all exposed healthcare personnel should report any signs or symptoms of illness during the incubation period, from 12 through 25 days after exposure. See: <http://www.cdc.gov/vaccines/pubs/surv-manual/chpt09-mumps.html>

SOE Mumps Investigation Guidelines adapted from California Department of Public Health – March 2016. Available at: http://www.cdph.ca.gov/HealthInfo/discond/Documents/CDPH%20mumps%20quicksheet_Mar%202016.pdf



Information for Healthcare Providers about Suspected Cases of Mumps

Mumps virus natural history

- 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 days, and without other apparent cause.
- Virus transmission is via direct contact with respiratory droplets (i.e., coughing or sneezing), saliva or contact with contaminated fomites.
- Incubation period is generally 16-18 days (range 12-25 days).
- Maximum infectiousness occurs between two days before onset of parotitis and five days afterwards.

Notification and reporting

If you suspect a case of mumps, contact the Section of Epidemiology immediately at (907) 269-8000, or 1-800-478-0084 (after hours). Epidemiology staff are available 24 hours a day to assist in case consultation, to facilitate transport of specimens, and provide public health recommendations for managing a suspected or confirmed case.

Laboratory Specimens

Mumps PCR is the method of choice for rapid clinical diagnosis through the Alaska State Virology Laboratory (ASVL). ASVL will ship specimens by overnight service to a CDC contract lab in California for PCR testing. ASVL no longer performs culture for mumps virus. IgG antibody testing for immunity is available at ASVL (Table 1).

Specimen Collection

- A buccal swab is the preferred specimen. A throat swab may also be collected. Specimens should be collected using a Dacron® or other synthetic swab on a plastic shaft. Place swab in a tube containing universal transport media (UTM) and ship on cold packs to ASVL. Specimens should be shipped on cold packs within 24 hours. If shipping is delayed, freeze at -70 and ship frozen.

Swabs: use synthetic material swabs only – cotton or calcium-alginate tips and wooden or metal shafts are not acceptable.

- To collect a buccal swab: 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. The parotid duct (Stensen's duct) drains in this space near the upper rear molars.

Illustration of Parotid Gland and Instructions for Collection of Buccal Fluid is available here: <http://www.cdc.gov/mumps/lab/detection-mumps.html> Place swab in a tube containing universal transport media (UTM) and ship to ASVL on cold packs.

Laboratory Request Forms

1. ASVL laboratory request form:
<http://dhss.alaska.gov/dph/Labs/Documents/publications/FbxSupplyReq.pdf>
2. Complete the patient and submitter information. In the Miscellaneous Viral Serology area, select Mumps, check patient is symptomatic. In the remarks box, write PCR testing.

Table 1. Specimens for mumps testing submitted to ASVL

Test	Mumps Virus
Testing Lab	Alaska State Virology Laboratory - Fairbanks
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Organism(s)	Mumps Virus
Test Method	<p>Serology (Mumps IgG Antibody)</p> <ol style="list-style-type: none"> 1. This test is used to determine immune status. 2. The test is performed at ASVL by EIA. <p>PCR (Mumps Virus Nucleic Acid)</p> <ol style="list-style-type: none"> 1. This test is used to determine active infection. 2. Testing will be performed at a CDC contract lab.
Specimen	<p>Serology</p> <ul style="list-style-type: none"> • Centrifuged serum in SST (serum separator tubes – tiger top, marble top or yellow top without additives) ; 1 ml minimum <p>PCR</p> <ol style="list-style-type: none"> 1. Buccal swab in Universal Transport Media (UTM). 2. Throat swab in UTM. <p><i>(Swabs: use synthetic material swabs only – cotton or calcium-alginate tips and wooden or metal shafts are <u>not</u> acceptable)</i></p>
Storage/Transport	<p>Serology</p> <ul style="list-style-type: none"> • Store refrigerated or frozen; indicate date frozen (if applicable) on requisition • Ship on frozen packs (preferred) or cold packs • <i>Ambient temperature shipping is not recommended per reagent manufacturer guidelines</i> <p>PCR</p> <ol style="list-style-type: none"> 1. Ship inoculated UTM to ASVL on cool packs (4°C). 2. ASVL will overnight the sample to the CDC Contract Lab.
Results	<p>Serology</p> <ol style="list-style-type: none"> 1. <i>Negative</i>: No significant level of detectable antibody. Presumed to be susceptible to primary infection. 2. <i>Equivocal</i>: A borderline result. Result falls w/in $\pm 10\%$ of the positive threshold. Resubmission may be indicated. 3. <i>Positive</i>: Immunity by vaccination or infection. <p>PCR</p> <ol style="list-style-type: none"> 1. Not Detected <ul style="list-style-type: none"> • Mumps Virus nucleic acid was not detected. 2. Detected <ul style="list-style-type: none"> • Mumps Virus nucleic acid was detected.
Turnaround Time	<p>Serology: 7-10 days</p> <p>PCR: 2 days from date of receipt at CDC Contract Lab.</p>

- Detailed ASPHL information available here:
<http://dhss.alaska.gov/dph/Labs/Pages/publications/default.aspx>



Mumps Fact Sheet

What is mumps?

It is an infection caused by the mumps virus.

How is mumps spread?

Mumps is spread by respiratory droplet transmission with mucus or droplets from the nose or throat of an infected person, usually when a person coughs or sneezes.

Who gets mumps?

Anyone, but it is more common in infants, children and young adults. Of people who are not immunized, >85% will have mumps by adulthood, but symptoms may have been mild and therefore not recognized.

What are the symptoms of mumps?

The most common symptoms are fever, headache, and swollen salivary glands under the jaw. The disease can lead to hearing loss, aseptic meningitis (infection of the covering of the brain and spinal cord) and, in 20% to 30% of males who have reached puberty, the disease can cause painful, swollen testicles.

How soon do symptoms appear?

They may appear 12 - 25 days after infection, but usually within 18 days.

How long is an infected person able to spread the disease?

Most mumps transmission occurs before the salivary glands begin to swell and within the 5 days after the swelling begins. Therefore, CDC recommends isolating mumps patients for 5 days after their glands begin to swell.

What is the treatment for mumps?

There is no specific treatment. Supportive care should be given as indicated.

Is there a vaccine to prevent mumps?

Yes. Two doses of mumps-containing vaccine, given as combination MMR vaccine, separated by at least 4 weeks, are routinely recommended for all children. The first dose is given on or after the first birthday; the second is given at 4 - 6 years of age. MMR is a live, attenuated vaccine. Pregnant women and persons with immunodeficiency or immunosuppression should not receive live attenuated vaccines.

What can be done to stop the spread of mumps?

Anyone with mumps should not go back to child care, school, work, or other public places until 5 days after swelling onset. Contacts to a mumps case should have their immunization status evaluated. Anyone who is not immune and has not received 2 doses of a mumps-containing vaccine should be vaccinated. Persons who may have been exposed should be educated on the signs and symptoms of mumps disease and should seek medical attention as soon as any of these symptoms begin.

Fast Facts about MUMPS



Symptoms

- Fever
- Headache
- Muscle aches
- Tiredness
- Loss of appetite
- Swollen and tender salivary glands under the ears or jaw on one or both sides of the face (parotitis)

Vaccination

The MMR (measles, mumps, and rubella) vaccine is the best way to prevent mumps. The MMR vaccine should be routinely given when children are 12-15 months old, and a second dose should be given when they are 4-6 years old. Two doses of the vaccine are more effective against mumps than one dose and prevent most, but not all, cases of mumps and mumps complications.

Transmission

Mumps is spread by droplets of saliva or mucus from the mouth, nose, or throat of an infected person, usually when the person coughs, sneezes or talks. Items used by an infected person, such as cups or soft drink cans, can also be contaminated with the virus, which may spread to others if those items are shared. In addition, the virus may spread when someone with mumps touches items or surfaces without washing their hands and someone else then touches the same surface and rubs their mouth or nose.

Most mumps transmission likely occurs before the salivary glands begin to swell and within the 5 days after the swelling begins. Therefore, CDC recommends isolating mumps patients for 5 days after their glands begin to swell.

If you have mumps, there are several things you can do to help prevent spreading the virus to others:

- Minimize close contact with other people, especially babies and people with weakened immune systems who cannot be vaccinated.
- Stay home from work or school for 5 days after your glands begin to swell, and try not to have close contact with other people who live in your house.
- Cover your mouth and nose with a tissue when you cough or sneeze, and put your used tissue in the trash can. If you don't have a tissue, cough or sneeze into your upper sleeve or elbow, not your hands.
- Wash hands well and often with soap, and teach children to wash their hands too.
- Don't share drinks or eating utensils.
- Regularly clean surfaces that are frequently touched (such as toys, doorknobs, tables, counters) with soap and water or with cleaning wipes.

Complications

Most people with mumps recover fully. However, mumps can occasionally cause complications, and some of them can be serious. Complications may occur even if a person does not have swollen salivary glands (parotitis) and are more common in people who have reached puberty.

Complications of mumps can include

- Inflammation of the testicles (orchitis) in males who have reached puberty, which rarely leads to sterility
- Inflammation of the brain (encephalitis) and/or tissue covering the brain and spinal cord (meningitis)
- Inflammation of the ovaries (oophoritis) and/or breasts (mastitis) in females who have reached puberty
- Temporary or permanent deafness



For more information call **800-CDC-INFO**
(800-232-4636) or visit www.cdc.gov/mumps





Fairbanks
Alaska State Public Health Laboratory
 P.O. Box 60230
 Fairbanks, AK 99706-0230
 Office: 371-1000 After Hours: 855-371-1001
 HIPAA Compliant Fax: 907-474-4036

Fairbanks Lab Request Form v01/11/2016

This Space is for Alaska State Virology Lab Use Only

Patient Information: Preprinted Labels are Recommended

Identifiers on the specimen itself should match the Lab Request **exactly**.

At a minimum, the specimen should be labeled with **two** identifiers:

1. The patient's full first and last name OR unique ID
2. The patient's date of birth (DOB) OR other identifier

Last Name: **First Name:** **MI:**

Unique Patient ID (Chart #, Prison #): **Other Identifier:**

DOB (MM/DD/YYYY): **Gender:** **Race:**

DOD (Date of Death): **City/Village:**

Medicare #: **Medicaid #:**

Please Check All that Apply

Inpatient Outpatient Long Term Care Patient Pregnant Unknown

Influenza vaccination status ONLY Flu Shot Nasal Spray NOT Vaccinated Unknown Status

***Describe Relevant Travel History:** ***Describe Contact with Swine or Fowl:**

Collection Date: **Collection Time:**

Specimen Information

All specimens should arrive w/in 7 days of collection & be shipped on frozen packs.

Serum/Plasma **Date Frozen:** **Date Shipped:**

Respiratory Specimen in UTM (indicate type in box to the right)

Please Note: For surveillance purposes, the Respiratory Viral Panel (RVP) will be performed on all respiratory specimens received regardless of additional testing requested. A Nasopharyngeal (NP) swab is preferred.

Genital swab in UTM

Skin swab in UTM

Cerebral Spinal Fluid

Stool

Urine

Vomitus

Other Specimen Type:

If the desired test is not on this form, please review the Anchorage Public Health Lab Request Form (<http://dhss.alaska.gov/dph/Labs/Documents/publications/AncSupplyReq.pdf>). Contact the laboratory to request testing for Biological/Chemical Terrorism Agents.

***If a novel strain of influenza, norovirus, or a vaccine preventable disease: symptomatic measles, mumps, rubella, varicella zoster (chicken pox or shingles) is suspected, consult the Section of Epidemiology before shipping specimens to the laboratory. Contact the Section of Epidemiology at 907-260-8000 or 1-800-478-0084.**

Norovirus PCR *

Other*

Submitter Information - Report results to:

Facility Name: (Hospital/Clinic/Corrections, etc.) **Phone Number:**

Ordering Clinician: **Physician UPIN:**

Mailing Address: **FAX# (HIPAA Compliant):**

City: **State:** **Zip:**

ICD9/ICD10 Diagnosis Codes: **Special Project Code:**

Virology Tests Available

Please refer to our Test Directory <http://dhss.alaska.gov/dph/Labs/Documents/LaboratoryTests.pdf> to determine acceptable specimen types for the tests listed below.

Respiratory Viral Panel (RVP) PCR
 Influenza A/H3, Influenza A/H1N1, Influenza B, RSV (A & B), Adenovirus (B/E and C), Rhinovirus, Metapneumovirus, Parainfluenza (1,2,3,4), Coronavirus (NL63, OC43, HKU1, 229E)
Name of Rapid Influenza Kit Used: **Rapid Influenza Result:**

Viral Culture Check here if Cytomegalovirus suspected

HIV screen: detects early antigen p24 and antibody to HIV 1 & 2
Name of Rapid HIV Kit Used: **Rapid HIV Result:**

Hepatitis A Virus (check one box below)
 Immunization Check (Total Ab) Symptomatic (Total Ab + IgM)

Hepatitis B Virus (check one box below)
 Screen (Core Antibody, positives reflex to Surface Antibody & Surface Antigen)
 Immunization Check (Core Antibody & Surface Antibody)
 Prenatal (Core Antibody & Surface Antigen)
 Symptomatic, Occupational Exposure, or Previous Surface Antigen Positive (Core Antibody, Surface Antibody, & Surface Antigen)
 Perinatal (Surface Antibody & Surface Antigen, SOA Epidemiologic Program)

Hepatitis C Virus (check one box below)
 Screen (positives reflex to genotyping assay)
 Genotyping only (known HCV antibody positive)

Herpes Simplex Virus Serology

Mumps virus Immunization Check (IgG Antibody)

Rubeola virus (Measles) Immunization Check (IgG Antibody)

Rubella virus Immunization Check (IgG Antibody)

Varicella Zoster Virus (herpes zoster) Immunization Check (IgG Antibody)

Vaccine Preventable Diseases* (All specimens referred to CDC reference lab. Check all that apply.)

Rubella virus **Onset Date of Rash or Parotitis (mumps only):**

Mumps virus **Vaccination Status:**

Rubeola virus (Measles)

Varicella Zoster Virus (chicken pox or shingles)

**California Department of Public Health – Viral and Rickettsial Disease Laboratory
Vaccine Preventable Disease (VPD) Submittal Form**

Patient Information				Submitter Information			
Name (Last, First):				(Your Institution's Agency Number If Known)			
Date of Birth:	Age	Age Units	Gender:	(Your Institution's Name)			
			M F	Alaska State Virology Laboratory			
City:		State:		(Your Institution's Address)			
				931 Sheenjok Drive			
Occupation:				(City, State, Zip Code)			
				Fairbanks, AK 99775			
Your Patient ID Number (optional):		CalREDIE # if available		(Telephone Number)		(Secure Fax Number)	
				(_907_)_371__ - _1000__		(_907_)_474__ - _4036__	
Your Specimen ID#:		Date Collected:		Date Shipped:		Lab Point of Contact:	
						Bonnie Bond	
CDPH Use Only VRDL Accession #				Specimen Type:			
				<input type="checkbox"/> Serum <input type="checkbox"/> Stool <input type="checkbox"/> Buccal Swab <input type="checkbox"/> NP Swab <input type="checkbox"/> Scab <input type="checkbox"/> Other _____ <input type="checkbox"/> Throat Swab <input type="checkbox"/> Urine <input type="checkbox"/> Skin Lesion Swab			
Symptom Onset: ____/____/____ <small>(MM/DD/YYYY)</small>		Rash Onset: ____/____/____ <small>(MM/DD/YYYY)</small>		Parotitis Onset: ____/____/____ Mumps only <small>(MM/DD/YYYY)</small>			
Vaccination History: Was patient vaccinated? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown							
If Yes, Date of Last Vaccination:							
<input type="checkbox"/> MMR ____/____/____ <input type="checkbox"/> MMRV ____/____/____ <input type="checkbox"/> Varicella ____/____/____ <input type="checkbox"/> Rotavirus ____/____/____ <input type="checkbox"/> Other ____/____/____							
Submitter Lab Results:							
Test		Specimen/Date Collected/Results					
Culture		_____					
PCR		_____					
Serology IgM		_____					
Serology IgG		_____					
Test Order:							
<input type="checkbox"/> Measles IgM Serology <u>and</u> PCR		<input type="checkbox"/> Rubella virus PCR		<input type="checkbox"/> Rubella Genotyping		<input type="checkbox"/> Varicella zoster virus PCR	
<input type="checkbox"/> Measles virus PCR		<input type="checkbox"/> Measles virus Genotyping		<input type="checkbox"/> Mumps virus PCR		<input type="checkbox"/> Mumps virus Genotyping	
<input type="checkbox"/> Measles virus Genotyping		<input type="checkbox"/> Mumps virus Genotyping		<input type="checkbox"/> Mumps virus Genotyping		<input type="checkbox"/> Rotavirus PCR	
For questions or consultation regarding this sample, please contact us at (510) 307-8585.				Dongxiang Xia, MD, PhD, D(ABMM), SV(ASCP)			
Version: 3/11/2013				APHL/CDC VPD			
				Viral and Rickettsial Disease Laboratory			
				California Department of Public Health			
				850 Marina Bay Parkway			
				Richmond, CA 94804 phone (510) 307-8585 fax (510) 307-8578			