ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
PUBLIC HEALTH DEPARTMENT

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COVID-19 Testing at the Alameda County Public Health Department: Test request, prioritization, and specimen collection and shipping procedures – 3/4/2020

On March 4, 2020 the Centers for Disease Control and Prevention (CDC) expanded criteria for COVID-19 testing (https://www.cdc.gov/coronavirus/2019-nCoV/hcp/clinical-criteria.html). To manage the increased volume of testing requests and ensure the highest priority patients are tested in a timely manner, Alameda County Public Health Department (ACPHD) has developed interim instructions for testing through the Alameda County Public Health Laboratory (ACPHL) until COVID-19 tests are available through clinical and commercial laboratories.

Although clinicians may order the COVID-19 PCR test on any patient for whom they believe it is clinically indicated, ACPHD will focus public health testing on the following highest priority groups:

Clinical Features	&	Epidemiologic Risk
Fever[1] **or** signs/symptoms of lower respiratory illness (e.g. cough or shortness of breath)	**AND**	Any person, including health care workers[2], who has had close contact[3] with a laboratory-confirmed[4] COVID-19 patient within 14 days of symptom onset
Fever[1] **and** signs/symptoms of a lower respiratory illness (e.g., cough or shortness of breath) requiring hospitalization	**AND**	A history of travel from geographic areas with a CDC travel warning of at least Level 3[5] within 14 days of symptom onset

For patients with suspected COVID-19:

1. **Immediately institute COVID infection control precautions**. Place a surgical mask on the patient and place the patient in an airborne infection isolation room if possible. If not, place them private room with the door closed and signage indicating airborne, contact, and standard precautions with eye protection should be used. Do not allow the patient to wait in a waiting room.

2. **Conduct the patient history and clinical examination and collect specimens if COVID-19 is clinically suspected.** Collect nasopharyngeal (NP) and oropharyngeal (OP) swabs, the preferred specimens, using all COVID-19 infection control precautions. Only collect sputum if the patient can spontaneously cough up a deep sputum sample, and do not perform sputum induction. If the patient is intubated, you may collect a tracheal aspirate. Lower respiratory tract specimens cannot be tested at ACPHL so the testing turnaround time for these specimens will be longer. Do not collect serum.

3. **Label the specimens completely**. Incomplete or incorrect labeling will delay testing and may result in cancellation of testing. Write on the specimen vial:
   - Patient name
   - Date of collection
   - Specimen type – specify if “NP” or “OP”. Do not write “NP/OP” or “swab”.
   - CDC ID number, once it is provided by ACPHD

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Ask your laboratory to refrigerate specimens at 2-8°C in your facility for up to 48 hours while awaiting testing approval from ACPHD.

4. **Complete ACPHL specimen submittal forms, one for each specimen**. Incomplete specimen submittal forms will delay result reporting**.** Required fields:
   - Patient name, date of birth, sex
   - Patient address
   - CDC COVID ID number, once it is provided to you by ACPHD
   - Ordering clinician name and telephone number
   - Submitting laboratory name, address, phone number and fax number
   - Specimen collection date and time
   - Specimen source: specify if NP swab or if OP swab
   - Test name, COVID 19 PCR

5. **Advise patient to self-isolate until results return**. Provide the CDC guidance: https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-prevent-spread.html. For patients who are not in ACPHD priority categories for testing, self-isolation may be prolonged. We do not have an estimated turnaround time for lower priority testing categories.

6. **Complete the CDC's COVID-19 Person Under Investigation form.** Download from https://www.cdc.gov/coronavirus/2019-ncov/downloads/pui-form.pdf. Send to ACPHD for review and prioritization. Fax to 510-273-3744 OR securely email to AcuteCD@acgov.org. If emailing, put in the subject line, Request for COVID-19 testing.

7. **If ACPHD approves testing within 48 hours of specimen collection, finish specimen submittal**. ACPHD will email testing approval with a CDC COVID-19 ID number. The COVID-19 ID number is unique to each patient. Do not reuse prior COVID-19 ID numbers. Laboratory personnel must write in the CDC COVID-19 ID number on the specimen labels and the specimen submittal forms and ship the specimens to ACPHL following the packaging and shipping guidance at the bottom of this guidance.

8. **If ACPHD does not approve testing within 48 hours of specimen collection, you may send specimens and specimen submittal forms to ACPHL**. Specimens sent to ACPHL that do not have a COVID-19 ID number will be frozen and will be tested at a future date as laboratory capacity allows. The turnaround time will depend on the volume of high-priority test specimens received.

9. **Test turnaround time at ACPHL** is currently one to two business days from the time specimens are received. This may change depending on testing volume. Results will be sent to your healthcare facility.

10. **Please limit phone calls to ACPHD to reporting only individuals who clearly meet ACPHD's highest priority groups for testing.** We will only respond to calls received from 8:30 am to 5 pm, 7 days per week. This will allow us to focus on testing the highest risk individuals and tracing and quarantining of contacts to confirmed and high suspect cases.

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[1]Fever may be subjective or confirmed
[2]For healthcare personnel, testing may be considered if there has been exposure to a person with suspected COVID-19 without laboratory confirmation
[3]Close contact is defined as:

a) being within approximately 6 feet (2 meters) of a COVID-19 case for a prolonged period of time; close contact can occur while caring for, living with, visiting, or sharing a healthcare waiting area or room with a COVID-19 case – *or* –
b) having direct contact with infectious secretions of a COVID-19 case (e.g., being coughed on) If such contact occurs while not wearing recommended personal protective equipment or PPE (e.g., gowns, gloves, NIOSH-certified disposable N95 respirator, eye protection), criteria for PUI consideration are met. See CDC's updated Interim Infection Prevention and Control Recommendations for Patients with Confirmed COVID-19 or Persons Under Investigation for COVID-19 in Healthcare Settings.

Data to inform the definition of close contact are limited. Considerations when assessing close contact include the duration of exposure (e.g., longer exposure time likely increases exposure risk) and the clinical symptoms of the person with COVID-19 (e.g., coughing likely increases exposure risk as does exposure to a severely ill patient). Special consideration should be given to healthcare personnel exposed in healthcare settings as described in CDC's Interim U.S. Guidance for Risk Assessment and Public Health Management of Healthcare Personnel with Potential Exposure in a Healthcare Setting to Patients with COVID-19.

[4]Documentation of laboratory-confirmation of COVID-19 may not be possible for travelers or persons caring for patients in other countries.
[5]Affected areas are defined as geographic areas where sustained community transmission has been identified. Relevant affected areas will be defined as a country with sustained or widespread community-level transmission (CDC Level 2 or 3 Travel Health Notice).
[6] Category includes single or clusters of patients with severe acute lower respiratory illness (e.g., pneumonia, ARDS) of unknown etiology in which COVID-19 is being considered.

Specimen Collection, Packaging, and Shipping

Maintain proper infection control when collecting specimens: use standard, contact and airborne precautions along with eye protection (goggles/face shields).

Both OP and NP specimens should be submitted. Lower respiratory tract specimens may be submitted but only if clinically indicated and must be sent to the CDC for testing. **Do not send serum or other specimen types.**

Respiratory Specimens

A. Upper respiratory tract
- Nasopharyngeal swab AND oropharyngeal swab (NP/OP swab): Use only synthetic fiber swabs with plastic shafts. Do not use calcium alginate swabs or swabs with wooden shafts, as they may contain substances that inactivate some viruses and inhibit PCR testing. Place swabs immediately into sterile tubes containing 2-3 ml of viral transport media or universal transport media**.**
- **NP and OP specimens should be placed in separate vials clearly marked with patient name, date of collection, specimen type and CDC COVID ID number (once ACPHD approves testing and provides the number). Failure to label specimens completely will result in testing delays or cancellation. Refrigerate at 2-8°C while awaiting testing approval from ACPHD. If testing has not been approved within 48 hours of specimen collection, ship specimens to ACPHL.**

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- Nasopharyngeal swab: Insert a swab into the nostril parallel to the palate. Leave the swab in place for a few seconds to absorb secretions. Swab both nasopharyngeal areas with the same swab.
- Oropharyngeal swab (e.g., throat swab)*:* Swab the posterior pharynx, avoiding the tongue.
- Nasopharyngeal wash/aspirate or nasal aspirate: Collect 2-3 mL into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container. Refrigerate specimen at 2-8°C.

B. Lower respiratory tract, only if clinically indicated and sample available (eg, productive cough, intubation)
   - Bronchoalveolar lavage, tracheal aspirate (only if bronchoscopy is clinically indicated or if patient requires intubation): Collect 2-3 mL into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container. Refrigerate specimen at 2-8°C.
   - Sputum: Sputum induction is not recommended. Have the patient rinse the mouth with water and expectorate deep cough sputum directly into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container. Refrigerate specimen at 2-8°C.

Specimen submittal forms

An ACPHL specimen submittal form must be completed for each specimen and accompany the specimens to the ACPHL. Incomplete specimen submittal forms will result in delayed result reporting. Required fields:

- Patient name, date of birth, sex
- Patient address
- Patient medical record number
- CDC COVID ID number
- Ordering clinician name and telephone number
- Submitting laboratory name, address, phone number and fax number
- Specimen collection date and time
- Specimen source: specify if NP swab or if OP swab
- Mark test name, COVID 19 PCR

Packaging and Shipping to ACPHL

- Specimen containers should be securely sealed and closed, parafilm wrapped around the caps, and placed in a zip lock (ACPHL) specimen bag with an absorbent pad inside, large enough to soak up volume of container contents. The bag must be completely zipped shut and placed in a secondary container that should be metal or plastic if possible.
- **If possible,** package according to Category B, UN 3373 shipping standards. Place in appropriate box, or a bag if no box is available. Place a cold pack inside the box if possible. Address the box/bag to: Alameda County Public Health Laboratory, 2901 Peralta Oaks Court, 2nd floor, Oakland, CA 94605. Store box/package at refrigerator temp (2-8°C) until courier arrives and throughout transit to ACPHL. Unfortunately, due to high volumes of testing requests, ACPHD is no longer able to provide expedited courier services for transporting COVID-19 specimens to ACPHL. ACPHL can accept specimens Monday through Friday, 8:30 am to 5 pm.