



STATE OF HAWAII
DEPARTMENT OF HEALTH
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In reply, please refer to:
File:

August 19, 2020
CORRECTED

**MEDICAL ADVISORY: UPDATE #16—CORONAVIRUS DISEASE 2019 (COVID-19)
TYPES OF COVID-19 TESTS**

Dear Healthcare Provider:

In addition to testing [priority patients](#) with suspected COVID-19, the Hawaii Department of Health (HDOH) recommends testing for persons (symptomatic or asymptomatic) who have been in close contact with a confirmed COVID-19 case. Close contact is defined as:

- Within 6 feet of an infected person for 15 minutes or longer, or
- Directly in contact with the infected person's secretions (e.g. coughed on)

In general, while wearing a mask protects others from the wearer, HDOH uses a conservative approach to assess close contacts irrespective of mask wearing outside of settings where specialized training in personal protective equipment (PPE) use (e.g., healthcare) or direct observation and enforcement of appropriate mask usage (e.g., courts) have been implemented. Therefore, healthcare personnel (HCP) wearing [appropriate PPE](#) at all times while caring for a patient with COVID-19 would not be considered a close contact.

Contacts should be identified from 2 days before the case's symptom onset until the case went into isolation. For an asymptomatic case with laboratory confirmed COVID-19, identify contacts who were exposed in the 2 days before the date of specimen collection until the case was isolated.

Persons identified as close contacts must remain in quarantine for 14 days from the date of last exposure to the infected case, or if having ongoing contact, 14 days after the case is released from isolation. **COVID-19 testing of close contacts will not shorten the quarantine period**; however, testing may identify those close contacts who are already infected, allowing timelier tracing and quarantine of persons they may have exposed.

Types of COVID-19 Tests

Testing for SARS-CoV-2 should be conducted in consultation with a healthcare provider. Authorized assays for diagnostic viral testing include:

- Molecular (nucleic acid) tests: detect SARS-CoV-2 nucleic acid (RNA)
- Antigen tests: detect SARS-CoV-2 viral particles

Viral (nucleic acid or antigen) tests check samples from the respiratory system (such as nasopharyngeal swabs) and are recommended to diagnose an acute infection. For initial diagnostic testing, the Centers for Disease Control and Prevention (CDC) recommends collection of an upper respiratory specimen (see attached table for acceptable specimens). A nasopharyngeal swab for nucleic acid testing is currently the **preferred diagnostic test**. While a positive antigen test may be

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considered accurate,¹ because of decreased sensitivity, there is an increased chance of false negatives. Patients suspected to have COVID-19 with a negative antigen test should have a confirmatory nucleic acid test.

Serological tests, which detect the presence of IgM and IgG antibodies against SARS-CoV-2 cannot be used to diagnose an acute infection. At this time, these tests only indicate exposure to SARS-CoV-2 at some point in the past and cannot be used to suggest immunity.

Proper collection of specimens² is critical in the laboratory diagnosis of infectious diseases. Incorrectly collected specimens may lead to false negative test results. For more information, including illustrations and step-by-step guidance see the [CDC Influenza Specimen Collection instructions](#). These instructions are applicable for respiratory viruses in general and not specific to influenza viruses.

For more information on testing for COVID-19, see the attached table and [CDC's Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens](#).

COVID-19 is considered an URGENT CATEGORY NOTIFIABLE CONDITION; providers are **REQUIRED to report** any persons with **any COVID-19 positive test results** and those strongly suspected to have COVID-19, to prevent the further spread of disease in our communities. If you have any questions or need to report a patient with confirmed/suspected COVID-19 or suspected Multi-system Inflammatory Syndrome in Children (MIS-C), please contact us at one of the numbers below.

Oahu (Disease Reporting Line).....(808) 586-4586
Maui District Health Office(808) 984-8213
Kauai District Health Office(808) 241-3563
Big Island District Health Office (Hilo).....(808) 933-0912
Big Island District Health Office (Kona)(808) 322-4877
After hours on Oahu(808) 600-3625
After hours on neighbor islands(800) 360-2575 (toll free)

This is a rapidly evolving situation. To ensure you are accessing the latest information, please visit HDOH's COVID-19 webpage at: <https://health.hawaii.gov/coronavirusdisease2019/> or CDC's COVID-19 website at: <https://www.cdc.gov/coronavirus/2019-ncov/index.html>.

We appreciate your partnership in identifying cases of COVID-19 and preventing the further spread of disease in our communities.

Sincerely,



Sarah Y. Park, MD, FAAP
State Epidemiologist

¹ False positive results have also been reported for certain rapid antigen assays. Reported test performance characteristics should be carefully reviewed to guide use and interpretation of any particular assay.

² Mid-nasoturbinate or nasal swab collection, while less sensitive than nasopharyngeal swab collection, may be preferable for populations less likely to tolerate nasopharyngeal swabbing (e.g., children, patients with dementia).

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COVID-19

HAWAII DEPARTMENT OF HEALTH

COVID-19 Test Types

TEST TYPE	DETECTS	SPECIMEN	RESULTS	NOTES
MOLECULAR * (Nucleic Acid Testing) *PREFERRED DIAGNOSTIC TEST	Nucleic acid from SARS-CoV-2 (RNA)	Respiratory*	Positive: Active COVID-19 infection. Negative: SARS-CoV-2 RNA not present in the specimen. Does not exclude the possibility of COVID-19 (False Negative). If suspicion for COVID-19 remains, consider repeat test in 24 – 48 hours.	<ul style="list-style-type: none"> • Considered very accurate. • Does not distinguish between replicating (infectious) and remnants of viral RNA/DNA.
ANTIGEN	Viral particles	Respiratory*	Positive: Active COVID-19 infection. Negative: Increased chance of False Negatives. Depending on suspicion for COVID-19, may need Molecular Test to confirm result.	<ul style="list-style-type: none"> • Positive test generally considered accurate¹ • Not as sensitive as Molecular Test. • May not detect all active infections (False Negatives).
SEROLOGICAL (Antibody)	Presence of IgM and IgG antibodies (some tests also detect IgA) against SARS-CoV-2	Blood	Positive: Indicates likely infection with COVID-19 at some time in the past.	<ul style="list-style-type: none"> • Cannot be used to diagnose an acute (current) infection or show whether a person has COVID-19. • Lack of evidence on whether having antibodies indicates protection against re-infection with COVID-19.

*See following page

¹ False positives have been identified and should be a consideration in low prevalence conditions. This test is best used with symptomatic persons.

SPECIMEN TYPE:	COLLECTED BY:	SWAB TYPE:	HOW TO COLLECT (USING APPROPRIATE PPE):	PLACE SWAB IN:
Nasopharyngeal (NP)* *PREFERRED SPECIMEN	Healthcare Provider (HCP)	Synthetic fiber swab with plastic or wire shaft	<ul style="list-style-type: none"> • Insert minitip swab with a flexible shaft (wire or plastic) through the nostril parallel to the palate (not upwards) until resistance is encountered or the distance is equivalent to that from the ear to the nostril of the patient, indicating contact with the nasopharynx. • Swab should reach depth equal to distance from nostrils to outer opening of the ear. • Gently rub and roll the swab. Leave swab in place for several seconds to absorb secretions. • Slowly remove swab while rotating it. • Specimens can be collected from both sides using the same swab. 	Sterile transport tube containing 2–3 mL or either: a) Viral transport medium (VTM) b) Amies transport medium c) Sterile saline
Oropharyngeal (OP)	HCP	<ul style="list-style-type: none"> • Insert swab into the posterior pharynx and tonsillar areas. • Rub swab over both tonsillar pillars and posterior oropharynx and avoid touching the tongue, teeth, and gums. 		
Nasal mid-turbinate (NMT) also called Deep Nasal Swab	HCP or by a supervised onsite self-collection (using a flocked tapered swab)	Flocked tapered swab	<ul style="list-style-type: none"> • Tilt patient’s head back 70 degrees. • While gently rotating swab, insert swab less than one inch (about 2 cm) into nostril (until resistance is met at turbinates—do not force). • Rotate swab several times against nasal wall (at least several seconds) and repeat in other nostril using the same swab. 	
Anterior nares (nasal swab)	HCP or home or supervised onsite self-collection (using flocked or spun polyester swab)	Flocked or spun polyester swab	<ul style="list-style-type: none"> • Insert swab at least 1 cm (0.5 inch) inside the nostril and firmly sample the nasal membrane by rotating the swab and leaving in place for 10 to 15 seconds. • Sample both nostrils with same swab. 	
Nasopharyngeal wash/aspirate or nasal wash/aspirate (NW)	HCP	N/A	<ul style="list-style-type: none"> • Attach catheter to suction apparatus. • Have patient sit with head tilted slightly backward. • Instill 1–1.5 mL of non-bacteriostatic saline (pH 7.0) into one nostril. • Insert the tubing into the nostril parallel to the palate (not upwards). Catheter should reach depth equal to distance from nostrils to outer opening of ear. • Begin gentle suction/aspiration and remove catheter while rotating it gently. 	Sterile transport tube with non-bacteriostatic saline used to collect the specimen