**VDH COVID-19 MOLECULAR TESTING ALGORITHM**

**For healthcare providers to understand who to test and what recommendations to provide based on the results**

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**April 5, 2021**

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**YES**

**Does the patient have symptoms* consistent with COVID-19?**

- **TEST POSITIVE**
  - **Box A**
    - Indicates RNA was not detected
    - Follow situation-specific infection prevention measures
    - Negative test does not rule out the potential for future infection

  - **TEST NEGATIVE**
    - Consider testing†

- **TEST POSITIVE**
  - Test for COVID-19^†
  - Refer to VDH Healthcare Personnel Guidance to assess and manage exposed, asymptomatic healthcare personnel

- **TEST NEGATIVE**
  - See specific setting guidance (e.g., nursing home, assisted living facility, correctional facility)

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**NO#**

- **If any of these describe the patient:**
  - Pregnant and presenting in labor
  - Neonates born to women with confirmed or suspected COVID-19
  - Undergoing aerosol-generating procedures with limited PPE at the facility (if testing, test within 48 hours of procedure)
  - Undergoing major time-sensitive surgeries (if testing, test within 48 hours of surgery)
  - Immunocompromised person being admitted to the hospital
  - Undergoing immunosuppressive procedures

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**Recommendations are based on CDC guidance, VDH Guidance, and Infectious Diseases Society of America Guidelines on the Diagnosis of COVID-19. Molecular testing is still considered the gold standard of SARS-CoV-2 diagnostic testing.**

* COVID-19 patients may present with a variety of symptoms.

† Asymptomatic individuals who have recovered from COVID-19 or been fully vaccinated for COVID-19 may not need to be tested. See here for more information.

‡ For known specimen collection locations in Virginia, see here. Serology testing can be used for public health surveillance or research purposes, but is not recommended for diagnosing current COVID-19 infection or making decisions about returning to work. All COVID-19 test results (positive and negative) must be reported to VDH within 24 hours

¶ If there is a known exposure, test immediately. If negative, retest 5-7 days after last exposure or immediately if symptoms develop. If testing is not readily available for all close contacts, prioritize symptomatic close contacts or those at increased risk for severe COVID-19.

§ VDH recommends individuals quarantine for 14 days after last exposure. If individuals are unable to quarantine for the full 14 days and do not have symptoms, counting the date of last exposure as Day 0, quarantine may end after Day 10 with no test or after Day 7 with a negative PCR or antigen test performed on or after Day 5. Individuals who have recovered from COVID-19 or who have been fully vaccinated for COVID-19 may not be required to quarantine. In all cases, individuals should continue monitoring for symptoms and follow all recommendations for the full 14-day period after last exposure with some exceptions for fully vaccinated people. Individuals without a known exposure to someone with COVID-19 should isolate until at least 24 hours after symptoms resolve (if symptomatic and regardless of vaccination status) or follow protective measures in place in the community (if asymptomatic).

¶ For COVID-19, VDH defines close contact as being within six feet of someone known to have COVID-19 for a total of 15 minutes or longer over a 24-hour period, or having exposure to respiratory secretions from an infected person (e.g., being coughed or sneezed on, sharing a drinking glass or utensils, kissing), starting from two days before the person became sick (or two days before specimen collection if asymptomatic) until the person was isolated.

† A negative molecular test result for SARS-CoV-2 means that at the time of collection, RNA from this virus was not present in the specimen above the limit of detection.
**VDH COVID-19 ANTIGEN TESTING ALGORITHM**

**Yes**

**Does the patient have symptoms* consistent with COVID-19?**

- **Test using ANTIGEN†. If results are not provided at point-of-care, patient should isolate regardless of vaccination status**
  - Indicates current infection‡
  - Patient should isolate until no longer infectious and close contacts should quarantine§
  - If admitted to a healthcare facility, use transmission-based precautions
  - Follow situation-specific patient management (e.g., delay major surgeries, if possible)

- **Test using ANTIGEN if molecular testing (e.g., PCR) unavailable†**
  - Indicates presumptive current infection
  - Patient should isolate while awaiting confirmatory test result
  - Confirm positive result with a molecular test done in a high complexity CLIA certified laboratory
  - Patient with positive confirmatory test should isolate until no longer infectious and close contacts should quarantine§
  - Patient with negative confirmatory test and no known exposures should follow preventative measures§

- **See specific setting guidance (e.g., nursing home, assisted living facility, correctional facility)**

**Test Positive**

- Patient should isolate

**Test Negative**

- Indicates no antigens were detected; however, amount of antigen in a sample decreases as duration of illness increases, particularly ≥ 5 days after symptom onset.
- Confirm negative antigen result with a molecular test done in a high-complexity CLIA certified laboratory. Patient should isolate while awaiting confirmatory test result.
- If molecular testing is not available, clinical discretion can be used in whether to recommend the patient isolate.
- Patient with positive confirmatory test should isolate until no longer infectious and close contacts should quarantine§
- Patient with negative confirmatory test should isolate based on exposure and symptoms.§

**No#**

- If this describes the patient:
  - A close contact‡ to a known COVID-19 case
  - Patients who have a recent history of international travel or known exposure to someone with COVID-19

- **If this describes the patient:**
  - Patients who have recovered from COVID-19 or been fully vaccinated for COVID-19

- **If this describes the patient:**
  - Residents and/or staff of congregate settings

**TEST POSITIVE**

- Indicates no antigens were detected
- Patient should remain in quarantine for 14 days after the last date of exposure until indicated§
- Perform molecular test if symptoms develop
- Retest close contact 5-7 days after last exposure

**TEST NEGATIVE**

- Indicates no antigens were detected
- No additional case follow-up necessary
- Reinforce prevention measures

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* COVID-19 patients may present with a variety of symptoms.

# Asymptomatic individuals who have recovered from COVID-19 or been fully vaccinated for COVID-19 may not need to be tested. See [here](https://www.vdh.virginia.gov/covid19/) for more information.

† Point-of-care (POC) tests must be performed at a CLIA-certified laboratory or testing site. More information can be found on the [VDH Office of Licensure and Certification website](https://www.vdh.virginia.gov/lac/). All results (positive and negative) must be reported to VDH within 24 hours.

§ False positives can occur, especially in low prevalence populations.

¶ When confirming an antigen test result with a PCR test, the confirmatory PCR test should be performed in a high complexity CLIA certified laboratory. The follow-up specimen should be collected within 24 hours of the original test, if possible, and no more than 48 hours after the antigen test. Specimens collected more than 48 hours after the initial test may lead to discordant results.

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