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Centers for Disease Control and Prevention

# Coronavirus Disease 2019

# SARS-CoV-2 Testing Strategy: Considerations for Non-Healthcare Workplaces

Updated July 3, 2020

**Note: This document provides guidance on the appropriate use of testing and does not dictate the determination of payment decisions or insurance coverage of such testing, except as may be otherwise referenced (or prescribed) by another entity or federal or state agency.**

These interim considerations on SARS-CoV-2 testing strategies for non-healthcare workplaces during the COVID-19 pandemic are based on what is currently known about the transmission and severity of COVID-19 as of the date of posting, July 3, 2020.

The US Centers for Disease Control and Prevention (CDC) will update these considerations as needed and as additional information becomes available. Please check the CDC website periodically for updated interim guidance.

## Purpose

The purpose of this document is to provide employers with strategies for consideration of incorporating testing for SARS-CoV-2, the virus that causes COVID-19, into a workplace COVID-19 preparedness, response, and control plan.

Employers are encouraged to collaborate with state, territorial, tribal and local health officials to determine whether and how to implement the following testing strategies and which one(s) would be most appropriate for their circumstances. These considerations are meant to supplement, **not replace,** any federal, state, local, territorial, or tribal health and safety laws, rules, and regulations with which workplaces must comply. These strategies should be carried out in a manner consistent with law and regulation, including laws protecting employee privacy and confidentiality. They should also be carried out consistent with Equal Employment Opportunity Commission guidance regarding permissible testing policies and procedures. Employers paying for testing of employees should put procedures in place for rapid notification of results and establish appropriate measures based on testing results including instructions regarding self-isolation and restrictions on workplace access.

# Considerations for use of a strategy to test for SARS-CoV-2 infection

SARS-CoV-2 testing may be incorporated as part of a comprehensive approach to reducing transmission in non-healthcare workplaces. Symptom screening, testing, and contact tracing [58 pages] are strategies to identify workers infected with SARS-CoV-2, the virus that causes COVID-19, so that actions can be taken to slow and stop the spread of the virus.

Employees undergoing testing should receive clear information on:

- the manufacturer and name of the test, the type of test, the purpose of the test, the reliability of the test, any limitations associated with the test, who will pay for the test, and how the test will be performed, and
- how to understand what the results mean, actions associated with negative or positive results, who will receive the results, how the results may be used, and any consequences for declining to be tested.

Individuals tested are required to receive patient fact sheets as part of the test's emergency use authorization.

The Occupational Safety and Health Administration has issued interim guidance for enforcing the requirements of 29 CFR Part 1904 with respect to the recording of occupational illnesses, specifically cases of COVID-19. Under OSHA's recordkeeping requirements, COVID-19 is a recordable illness, and thus employers are responsible for recording cases of COVID-19, if the case meets certain requirements. Employers are encouraged to frequently check OSHA's webpage at www.osha.gov/coronavirus for updates.

# Testing for SARS-CoV-2 infection

Viral tests approved or authorized by the Food and Drug Administration (FDA) are used to **diagnose current infection** with SARS-CoV-2, the virus that causes COVID-19. Viral tests evaluate whether the virus is present in respiratory or other samples. Results from these tests help public health officials identify and isolate people who are infected in order to minimize SARS-CoV-2 transmission.

Antibody tests approved or authorized by the FDA are used to **detect past infection** with SARS-CoV-2. CDC does not currently recommend using antibody testing as the sole basis for diagnosing current infection. Depending on when someone was infected and the timing of the test, the test may not find antibodies in someone with a current SARS-CoV-2 infection. In addition, it is currently not known whether a positive antibody test indicates immunity against SARS-CoV-2; therefore, antibody tests should not be used at this time to determine if an individual is immune.

# Categories for SARS-CoV-2 testing

CDC describes strategies for SARS-CoV-2 viral testing for five categories of people:

- Testing individuals with signs or symptoms consistent with COVID-19
- Testing asymptomatic individuals with recent known or suspected exposure to SARS-CoV-2 to control transmission
- Testing asymptomatic individuals without known or suspected exposure to SARS-CoV-2 for early identification in special settings

- Testing to determine resolution of infection (e.g., discontinuation of home isolation)
- Public health surveillance for SARS-CoV-2

## Testing individuals with signs or symptoms consistent with COVID-19

Employers may consider conducting daily in-person or virtual health checks (e.g., symptom and/or temperature screening) to identify employees with signs or symptoms consistent with COVID-19 before they enter a facility, in accordance with CDC's General Business FAQs. Employers should follow guidance from the Equal Employment Opportunity Commission regarding confidentiality of medical records from health checks.

Workers with COVID-19 symptoms should be immediately separated from other employees, customers, and visitors, and sent home or to a healthcare facility, depending on how severe their symptoms are, and follow CDC guidance for caring for oneself. To prevent stigma and discrimination in the workplace, make employee health screenings as private as possible. Consistent with CDC's recommendations, workers with COVID-19 symptoms should be referred to a healthcare provider for evaluation and potential testing. Waiting for test results prior to returning to work is preferred to keep potentially infected workers out of the workplace.

Employers are encouraged to implement flexible sick leave and supportive policies and practices as part of a comprehensive approach to prevent and reduce transmission among employees. The Families First Coronavirus Response Act (FFCRA or Act) requires certain employers to provide their employees with paid sick leave or expanded family and medical leave for specified reasons related to COVID-19. Employers with fewer than 500 employees are eligible for 100% tax credits for Families First Coronavirus Response Act COVID-19 paid leave provided through December 31, 2020, up to certain limits.

Positive test results using a viral test indicate that the employee has COVID-19 and should not come to work and should isolate at home. Decisions to discontinue home isolation for workers with COVID-19 and allow them to return to work may follow either a symptom-based, time based, or a test-based strategy (see Testing to determine resolution of infection below).

## Testing asymptomatic individuals with recent known or suspected exposure to SARS-CoV-2 to control transmission

Case investigation is typically initiated when a health department receives a report from a laboratory of a positive SARS-CoV-2 viral test result or a report from a healthcare provider of a patient with a confirmed or probable diagnosis of COVID-19 [10 pages].

Viral testing is recommended for all close contacts of persons with COVID-19. Because of the potential for asymptomatic and pre-symptomatic transmission of SARS-CoV-2, it is important that individuals exposed to people with known or suspected COVID-19 be quickly identified and quarantined. Viral testing can detect if these individuals are currently infected. The health department may reach out to the employer for assistance in identifying close contacts of the worker as well as possible contacts. Employers are encouraged to work with public health departments investigating cases of COVID-19 and tracing contacts to help reduce the spread of SARS-CoV-2 in their workplaces and communities.

Because there may be a delay between the time a person is exposed to the virus and the time that virus can be detected by testing, early testing after exposure at a single time point may miss many infections[1]. Testing that is repeated at different points in time, also referred to as serial testing, may be more likely to detect infection among close contacts of a COVID-19 case than testing done at a single point in time.

Even if close contacts are monitored with serial testing, it is critical that they strictly adhere to other preventive measures including social distancing, wearing cloth face coverings for source control if the hazard assessment has determined that they do not require personal protective equipment such as a respirator or medical facemask for protection, and practicing hand hygiene.

Testing may also be considered for possible close contacts [58 pages] of persons diagnosed with COVID-19 in collaboration with the local health department if resources permit. A risk-based approach to testing possible contacts of a person with confirmed COVID-19 may be applied. Such an approach should take into consideration the likelihood of exposure, which is affected by the characteristics of the workplace and the results of contact investigations. In some settings, broader testing (i.e., testing beyond individually identified close contacts to those who are possible close contacts), such as targeting workers who worked in the same area and during the same shift, may be considered as part of a strategy to control the transmission of SARS-CoV-2 in the workplace. The rationale is that identification of contacts may be imprecise. High-risk settings that have demonstrated potential for rapid and widespread dissemination of SARS-CoV-2 include:

- High-density critical infrastructure workplaces
- Workplaces where employees live in congregate settings (e.g., fishing vessels, offshore oil platforms, farmworker housing or wildland firefighter camps)
- Workplaces with populations at risk for severe illness if they are infected, such as nursing homes

Employers are encouraged to consult with state, local, territorial, and tribal health departments to help inform decision-making about broad-based testing.

If employees are tested after close contact or possible close contact with someone who has a confirmed or probable diagnosis of COVID-19, care should be taken to inform these employees of their possible exposure to SARS-CoV-2 in the workplace while maintaining confidentiality of the individual with COVID-19, as required by the Americans with Disabilities Act (ADA) and consistent with the U.S. Equal Employment Opportunity Commission (EEOC) guidance regarding What You Should Know About COVID-19 and the ADA, the Rehabilitation Act, and Other EEO Laws .

## Testing asymptomatic individuals without known or suspected exposure to SARS-CoV-2 for early identification in special settings

Viral testing of workers without symptoms may be useful to detect COVID-19 early and stop transmission quickly, particularly in areas with moderate to substantial community transmission. When communities experience moderate to substantial transmission, workplace settings for which these approaches may be considered include:

- Workplaces where physical distancing is difficult and workers are in close contact (within 6 feet for 15 minutes or more) with co-workers or the public
- Workplaces in remote settings where medical evaluation or treatment may be delayed
- Workplaces where continuity of operations is a high priority (e.g., critical infrastructure sectors )

- Workplaces providing congregate housing for employees (e.g. fishing vessels, offshore oil platforms, farmworker housing or wildland firefighter camps)

Approaches may include initial testing of all workers before entering a workplace, periodic testing of workers at regular intervals, and/or targeted testing of new workers or those returning from a prolonged absence. Several factors may be helpful in determining the interval for periodic testing including:

- The availability of testing
- The latency between exposure and development of a positive SARS-CoV-2 viral test
- Businesses that fall into one of the workplace categories described above
- The rate or change in rate of people getting infected in the surrounding community
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- Your relevant experience with workplace outbreaks

State, local, territorial, and tribal health departments may be able to provide assistance on any local context or guidance impacting the workplace. Before testing a large proportion of asymptomatic workers without known or suspected exposure, employers are encouraged to have a plan in place for how they will modify operations based on test results and manage a higher risk of false positive results in a low prevalence population.

## Testing to determine resolution of infection

The decision to discontinue home isolation and return to work for employees with suspected or confirmed COVID-19 should be made in the context of local circumstances. Options include a symptom-based (i.e., time-since-illness-onset and time-since-recovery strategy), time based, or a test-based strategy. Viral tests have detected viral RNA in some people's respiratory samples after they have recovered from COVID-19. Prolonged viral shedding has been demonstrated without direct correlation with replication competent virus. The determination of which strategy to use should be made in consultation with healthcare providers and public health professionals.

Under the Americans with Disabilities Act, employers are permitted to require a healthcare provider's note to verify that employees are healthy and able to return to work. However, as a practical matter, employers should be aware that healthcare provider offices and medical facilities may be extremely busy during periods of community transmission of SARS-CoV-2 and may not be able to provide such documentation in a timely manner. In such cases, employers should consider not requiring a healthcare provider's note for employees who are sick to validate their illness, qualify for sick leave, or to return to work. Most people with COVID-19 have mild illness, can recover at home without medical care, and can follow CDC recommendations to determine when to discontinue home isolation and return to work.

## Public health surveillance for SARS-CoV-2

Testing is considered to be surveillance when conducted to detect transmission hot spots, or to better understand disease trends in a workplace. These goals are consistent with employer-based occupational medicine surveillance programs. Occupational medicine surveillance programs may use testing to assess the burden of SARS-CoV-2 in the workforce, assess factors that place employees at risk for workplace acquisition of SARS-CoV-2, or evaluate the effectiveness of workplace infection control programs. Surveillance should only be undertaken if the results have a reasonable likelihood of benefiting workers.

## Footnote

1. The rate of false negative nucleic acid tests, a type of viral test, after exposure have been reported as: day 1: 100%; day 4: 67%; day 5: 38%; day 8: 20%; day 9: 21%; and then rising to 66% on day 21. See: https://www.acpjournals.org/doi/full/10.7326/M20-1495

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Updated July 22, 2020



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Workers with COVID-19 symptoms should be immediately separated from other employees, customers, and visitors, and sent home or to a healthcare facility, depending on how severe their symptoms are, and follow CDC guidance for caring for oneself. To prevent stigma and discrimination in the workplace, make employee health screenings as private as possible. Consistent with CDC's recommendations, workers with COVID-19 symptoms should be referred to a healthcare provider for evaluation and potential testing. Waiting for test results prior to returning to work is preferred to keep potentially infected workers out of the workplace.

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Case investigation is typically initiated when a health department receives a report from a laboratory of a positive SARS-CoV-2 viral test result or a report from a healthcare provider of a patient with a confirmed or probable diagnosis of COVID-19 .

Viral testing may be recommended for close contacts of persons with COVID-19 in jurisdictions with testing capacity. Because of the potential for asymptomatic and pre-symptomatic transmission of SARS-CoV-2, it is important that individuals exposed to people with known or suspected COVID-19 be quickly identified and quarantined. Viral testing can detect if these individuals are currently infected. The health department may reach out to the employer for assistance in identifying close contacts of the worker as well as possible contacts. Employers are encouraged to work with public health departments investigating cases of COVID-19 and tracing contacts to help reduce the spread of SARS-CoV-2 in their workplaces and communities.

Because there may be a delay between the time a person is exposed to the virus and the time that virus can be detected by testing, early testing after exposure at a single time point may miss many infections[1]. Testing that is repeated at different points in time, also referred to as serial testing, may be more likely to detect infection among close contacts of a COVID-19 case than testing done at a single point in time.

Even if close contacts are monitored with serial testing, it is critical that they strictly adhere to other preventive measures including social distancing, wearing cloth face coverings for source control if the hazard assessment has determined that they do not require personal protective equipment such as a respirator or medical facemask for protection, and practicing hand hygiene.

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State, local, territorial, and tribal health departments may be able to provide assistance on any local context or guidance impacting the workplace. Before testing a large proportion of asymptomatic workers without known or suspected exposure, employers are encouraged to have a plan in place for how they will modify operations based on test results and manage a higher risk of false positive results in a low prevalence population.

## Testing to determine resolution of infection

The decision to end home isolation and return to work for employees with suspected or confirmed SARS-CoV-2 infection should be made in the context of clinical and local circumstances. Polymerase chain reaction (PCR) amplification tests have detected SARS-CoV-2 RNA in some people's respiratory samples after they have recovered from COVID-19. Prolonged viral shedding has been demonstrated without direct evidence for virus capable of replicating or causing infection. Consequently, in most cases, evidence supports a symptom-based strategy to determine when to discontinue home isolation or precautions. For persons who are severely immunocompromised, a test-based strategy could be considered in consultation with infectious diseases experts. For all others, a test-based strategy is no longer recommended except to discontinue isolation or precautions earlier than would occur under the symptom-based strategy.

Under the Americans with Disabilities Act, employers are permitted to require a healthcare provider's note to verify that employees are healthy and able to return to work. However, as a practical matter, employers should be aware that healthcare provider offices and medical facilities may be extremely busy during periods of community transmission of SARS-CoV-2 and may not be able to provide such documentation in a timely manner. In such cases, employers should consider not requiring a healthcare provider's note for employees who are sick to validate their illness, qualify for sick leave, or to return to work. Most people with COVID-19 have mild illness, can recover at home without medical care, and can follow CDC recommendations to determine when to discontinue home isolation and return to work.

## Public health surveillance for SARS-CoV-2

Testing is considered to be surveillance when conducted to detect transmission hot spots, or to better understand disease trends in a workplace. These goals are consistent with employer-based occupational medicine surveillance programs. Occupational medicine surveillance programs may use testing to assess the burden of SARS-CoV-2 in the workforce, assess factors that place employees at risk for workplace acquisition of SARS-CoV-2, or evaluate the effectiveness of workplace infection control programs. Surveillance should only be undertaken if the results have a reasonable likelihood of benefiting workers.

### Footnote

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Centers for Disease Control and Prevention

COVID-19

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Updated Oct. 21, 2020

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## Summary of Changes

**Revisions made on October 21, 2020**

- Added links to the updated close contact definition.
- Updated language to align with updated definition.

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Workers with COVID-19 symptoms should be immediately separated from other employees, customers, and visitors, and sent home or to a healthcare facility, depending on how severe their symptoms are, and follow CDC guidance for caring for oneself. To prevent stigma and discrimination in the workplace, make employee health screenings as private as possible. Consistent with CDC's recommendations, workers with COVID-19 symptoms should be referred to a healthcare provider for evaluation and potential testing. Waiting for test results prior to returning to work is preferred to keep potentially infected workers out of the workplace.

Employers are encouraged to implement flexible sick leave and supportive policies and practices as part of a comprehensive approach to prevent and reduce transmission among employees. The Families First Coronavirus Response Act (FFCRA or Act) requires certain employers to provide their employees with paid sick leave or expanded family and medical leave for specified reasons related to COVID-19. Employers with fewer than 500 employees are eligible for 100% tax credits for Families First Coronavirus Response Act COVID-19 paid leave provided through December 31, 2020, up to certain limits.

Positive test results using a viral test indicate that the employee has COVID-19 and should not come to work and should isolate at home. Decisions to discontinue home isolation for workers with COVID-19 and allow them to return to work may follow either a symptom-based, time based, or a test-based strategy (see Testing to determine resolution of infection below).

## Testing asymptomatic individuals with recent known or suspected exposure to SARS-CoV-2 to control transmission

Case investigation is typically initiated when a health department receives a report from a laboratory of a positive SARS-CoV-2 viral test result or a report from a healthcare provider of a patient with a confirmed or probable diagnosis of COVID-19 .

Viral testing may be recommended for close contacts (people who have been within 6 feet for a total of 15 minutes or more) of persons with COVID-19 in jurisdictions with testing capacity. Because of the potential for asymptomatic and pre-symptomatic transmission of SARS-CoV-2, it is important that individuals exposed to people with known or suspected COVID-19 be quickly identified and quarantined. Viral testing can detect if these individuals are currently infected. The health department may reach out to the employer for assistance in identifying close contacts of the worker as well as possible contacts. Employers are encouraged to work with public health departments investigating cases of COVID-19 and tracing contacts to help reduce the spread of SARS-CoV-2 in their workplaces and communities.

Because there may be a delay between the time a person is exposed to the virus and the time that virus can be detected by testing, early testing after exposure at a single time point may miss many infections[1]. Testing that is repeated at different points in time, also referred to as serial testing, may be more likely to detect infection among close contacts of a COVID-19 case than testing done at a single point in time.

Even if close contacts are monitored with serial testing, it is critical that they strictly adhere to other preventive measures including social distancing, wearing cloth face coverings for source control if the hazard assessment has determined that they do not require personal protective equipment such as a respirator or medical facemask for protection, and practicing hand hygiene.

Testing may also be considered for possible close contacts of persons diagnosed with COVID-19 in collaboration with the local health department if resources permit. A risk-based approach to testing possible contacts of a person with confirmed COVID-19 may be applied. Such an approach should take into consideration the likelihood of exposure, which is affected by the characteristics of the workplace and the results of contact investigations. In some settings, broader testing (i.e., testing beyond individually identified close contacts to those who are possible close contacts), such as targeting workers who worked in the same area and during the same shift, may be considered as part of a strategy to control the transmission of SARS-CoV-2 in the workplace. The rationale is that identification of contacts may be imprecise. High-risk settings that have demonstrated potential for rapid and widespread dissemination of SARS-CoV-2 include:

- High-density critical infrastructure workplaces
- Workplaces where employees live in congregate settings (e.g., fishing vessels, offshore oil platforms, farmworker housing or wildland firefighter camps)
- Workplaces with populations at risk for severe illness if they are infected, such as nursing homes

Employers are encouraged to consult with state, local, territorial, and tribal health departments to help inform decision-making about broad-based testing.

If employees are tested after close contact or possible close contact with someone who has a confirmed or probable diagnosis of COVID-19, care should be taken to inform these employees of their possible exposure to SARS-CoV-2 in the workplace while maintaining confidentiality of the individual with COVID-19, as required by the Americans with Disabilities Act (ADA) and consistent with the U.S. Equal Employment Opportunity Commission (EEOC) guidance regarding What You Should Know About COVID-19 and the ADA, the Rehabilitation Act, and Other EEO Laws .

## Testing asymptomatic individuals without known or suspected exposure to SARS-CoV-2 for early identification in special settings

Viral testing of workers without symptoms may be useful to detect COVID-19 early and stop transmission quickly, particularly in areas with moderate to substantial community transmission. When communities experience moderate to substantial transmission, workplace settings for which these approaches may be considered include:

- Workplaces where physical distancing is difficult and workers are in close contact with co-workers or the public
- Workplaces in remote settings where medical evaluation or treatment may be delayed
- Workplaces where continuity of operations is a high priority (e.g., critical infrastructure sectors )
- Workplaces providing congregate housing for employees (e.g. fishing vessels, offshore oil platforms, farmworker housing or wildland firefighter camps)

Approaches may include initial testing of all workers before entering a workplace, periodic testing of workers at regular intervals, and/or targeted testing of new workers or those returning from a prolonged absence. Several factors may be helpful in determining the interval for periodic testing including:

- The availability of testing
- The latency between exposure and development of a positive SARS-CoV-2 viral test
- Businesses that fall into one of the workplace categories described above
- The rate or change in rate of people getting infected in the surrounding community
- How many employees tested positive during previous rounds of testing
- Your relevant experience with workplace outbreaks

State, local, territorial, and tribal health departments may be able to provide assistance on any local context or guidance impacting the workplace. Before testing a large proportion of asymptomatic workers without known or suspected exposure, employers are encouraged to have a plan in place for how they will modify operations based on test results and manage a higher risk of false positive results in a low prevalence population.

## Testing to determine resolution of infection

The decision to end home isolation and return to work for employees with suspected or confirmed SARS-CoV-2 infection should be made in the context of clinical and local circumstances. Polymerase chain reaction (PCR) amplification tests have detected SARS-CoV-2 RNA in some people's respiratory samples after they have recovered from COVID-19. Prolonged viral shedding has been demonstrated without direct evidence for virus capable of replicating or causing infection. Consequently, in most cases, evidence supports a symptom-based strategy to determine when to discontinue home isolation or precautions. For persons who are severely immunocompromised, a test-based strategy could be considered in consultation with infectious diseases experts. For all others, a test-based strategy is no longer recommended except to discontinue isolation or precautions earlier than would occur under the symptom-based strategy.

Under the Americans with Disabilities Act, employers are permitted to require a healthcare provider's note to verify that employees are healthy and able to return to work. However, as a practical matter, employers should be aware that healthcare provider offices and medical facilities may be extremely busy during periods of community transmission of SARS-CoV-2 and may not be able to provide such documentation in a timely manner. In such cases, employers should consider not requiring a healthcare provider's note for employees who are sick to validate their illness, qualify for sick leave, or to return to work. Most people with COVID-19 have mild illness, can recover at home without medical care, and can follow CDC recommendations to determine when to discontinue home isolation and return to work.

## Public health surveillance for SARS-CoV-2

Testing is considered to be surveillance when conducted to detect transmission hot spots, or to better understand disease trends in a workplace. These goals are consistent with employer-based occupational medicine surveillance programs. Occupational medicine surveillance programs may use testing to assess the burden of SARS-CoV-2 in the workforce, assess factors that place employees at risk for workplace acquisition of SARS-CoV-2, or evaluate the effectiveness of workplace infection control programs. Surveillance should only be undertaken if the results have a reasonable likelihood of benefiting workers.

### Footnote

1. The rate of false negative nucleic acid tests, a type of viral test, after exposure have been reported as: day 1: 100%; day 4: 67%; day 5: 38%; day 8: 20%; day 9: 21%; and then rising to 66% on day 21. See: https://www.acpjournals.org/doi/full/10.7326/M20-1495

Last Updated Oct. 21, 2020

Centers for Disease Control and Prevention

COVID-19

To maximize protection from the Delta variant and prevent possibly spreading it to others, get vaccinated as soon as you can and wear a mask indoors in public if you are in an area of substantial or high transmission.

# Interim Guidance for SARS-CoV-2 Testing in Non-Healthcare Workplaces

Updated Mar. 17, 2021

## Summary of Recent Changes

Updates as of March 17, 2021

- Added description of nucleic acid amplification tests (NAATs) and antigen tests as types of viral tests to align with the Overview of Testing for SARS-CoV-2
- Added considerations on incorporating testing of asymptomatic individuals without known or suspected exposure to SARS-CoV-2 (screening testing) in select workplace settings as part of a workplace COVID-19 prevention and control plan
- Updated considerations on frequency of testing

View Previous Updates

## Key Points

- Workplace-based testing for SARS-CoV-2, the virus that causes COVID-19, could identify workers with SARS-CoV-2 infection, and thus help prevent or reduce further transmission. The purpose of this guidance is to provide employers with considerations for incorporating testing for SARS-CoV-2 into a workplace COVID-19 preparedness, response, and control plan in select non-healthcare workplaces.
- This guidance includes descriptions of different types of SARS-CoV-2 tests; scenarios where SARS-CoV-2 testing may be used; considerations for screening testing (testing asymptomatic workers with no known or suspected exposure to SARS-CoV-2); and use of antigen tests for serial screening testing, including in high-density critical infrastructure workplaces.
- Screening testing could be effective in helping to prevent transmission for select workplace settings.
- These interim considerations on SARS-CoV-2 testing strategies for select non-healthcare workplaces during the COVID-19 pandemic are based on what is currently known about the transmission and severity of COVID-19 and is subject to change as additional information becomes available.

**Note: This document provides guidance on the appropriate use of testing and does not dictate the determination of payment decisions or insurance coverage of such testing, except as may be otherwise referenced (or prescribed) by another entity or federal or state agency.**

# Introduction

The purpose of this document is to provide employers with strategies for consideration of incorporating testing for SARS-CoV-2, the virus that causes COVID-19, into workplace preparedness, response, and control plans in select non-healthcare workplaces. For workplaces with healthcare personnel, including those that work in nursing homes, please refer to Interim Guidance on Testing Healthcare Personnel for SARS-CoV-2 and Interim SARS-CoV-2 Testing Guidelines for Nursing Home Residents and Healthcare Personnel.

Employers are encouraged to collaborate with state, territorial, tribal and local health officials to determine whether and how to implement the following testing strategies and which one(s) would be most appropriate for their circumstances. These considerations are meant to supplement, not replace, any federal, state, local, territorial, or tribal health and safety laws, rules, and regulations with which workplaces must comply. These strategies should be carried out in a manner consistent with existing laws and regulations, including laws protecting employee privacy and confidentiality. They should also be carried out consistent with Equal Employment Opportunity Commission (EEOC) guidance regarding permissible testing policies and procedures. Employers paying for testing of employees should put procedures in place for rapid notification of results and establish appropriate measures based on testing results, including instructions regarding self-isolation and restrictions on workplace access.

# Considerations when testing

SARS-CoV-2 testing may be incorporated as part of a comprehensive approach to reducing transmission in non-healthcare workplaces. Symptom screening, testing, and contact tracing are strategies to identify workers infected with SARS-CoV-2, the virus that causes COVID-19, so that actions can be taken to slow and stop the spread of the virus.

COVID-19 vaccine is currently available in limited doses; therefore, CDC's Advisory Committee on Immunization Practices (ACIP) described recommendations for prioritization during the early phases of the vaccination program. As vaccine supply increases and additional priority groups receive vaccine, CDC's priorities for SARS-CoV-2 testing will change and the guidance will be updated. For guidance on quarantine and testing of fully vaccinated people, please visit Interim Public Health Recommendations for Fully Vaccinated People.

Employees undergoing testing should receive clear information on

- the manufacturer and name of the test, the type of test, the purpose of the test, the performance specifications of the test, any limitations associated with the test, who will pay for the test, how the test will be performed, how and when they will receive test results, and;
- how to understand what the results mean, actions associated with negative or positive results, the difference between testing for workplace screening versus for medical diagnosis, who will receive the results, how the results may be used, and any consequences for declining to be tested.

Individuals tested are required to receive patient fact sheets as part of the test's emergency use authorization (EUA).

According to the Americans with Disabilities Act (ADA), when employers implement any mandatory testing of employees, it must be "job related and consistent with business necessity." In the context of the COVID-19 pandemic, the U.S. EEOC notes that testing to determine if an employee has SARS-CoV-2 infection with an "accurate and reliable test" is permissible as a condition to enter the workplace because an employee with the virus will "pose a direct threat to the health of others." EEOC notes that testing administered by employers that is consistent with current CDC guidance will meet the ADA's business necessity standard. However, workplace-based testing should not be conducted without the employee's consent. Employers who mandate workplace testing for SARS-CoV-2 infection should discuss further with employees who do not consent to testing and consider providing alternatives as feasible and appropriate such as reassignment to tasks that can be performed via telework.

The Occupational Safety and Health Administration has issued interim guidance for enforcing the requirements of 29 CFR Part 1904 with respect to the recording of occupational illnesses, specifically cases of COVID-19. Under OSHA's recordkeeping requirements, COVID-19 is a recordable illness, and thus employers are responsible for recording cases of COVID-19, if the case meets certain requirements. Employers are encouraged to frequently check OSHA's webpage at www.osha.gov/coronavirus for updates.

# Test types

## Viral tests

Viral tests authorized by the Food and Drug Administration (FDA) are used to **diagnose infection** with SARS-CoV-2, the virus that causes COVID-19. Viral tests evaluate whether the virus is present in respiratory or other specimens. Results from these tests help public health officials identify and isolate people who are infected to minimize SARS-CoV-2 transmission. See FDA's list of In Vitro Diagnostics Emergency Use Authorizations for more information about the performance of specific authorized tests.

- Nucleic acid amplification tests (NAATs), such as real-time reverse transcription-polymerase chain reaction (RT-PCR), detect viral ribonucleic acid (RNA) and indicate a current infection or a recent infection with prolonged viral RNA detection but without direct evidence for virus capable of replicating or of being transmitted to others. NAATs are high-sensitivity, high-specificity tests for diagnosing SARS-CoV-2 infection. Most NAATs need to be processed in a laboratory with variable time to results (~1–2 days), but some NAATs are point-of-care tests with results available in about 15–45 minutes.
- Antigen tests detect the presence of a specific viral antigen. Most can be processed at the point of care with results available in about 15–30 minutes. Antigen tests generally have similar specificity but are less sensitive than NAATs. Depending on the pre-test probability, antigen test results may need confirmation with a NAAT (e.g., a negative test in persons with symptoms or a positive test in persons without symptoms). Use of the Antigen Testing Algorithm [147 KB, 1 page] is **recommended** to determine when confirmatory testing is needed.

## Antibody tests

Antibody (or serology) tests are used to detect previous infection with SARS-CoV-2 and can aid in the diagnosis of Multisystem Inflammatory Syndrome in Children (MIS-C) and in adults (MIS-A). CDC does not recommend using antibody testing to diagnose current infection. Depending on the time when someone was infected and the timing of the test, the test might not detect antibodies in someone with a current infection. In addition, it is not currently known whether a positive antibody test result indicates immunity against SARS-CoV-2; therefore, at this time, antibody tests should not be used to determine if an individual is immune against reinfection. Antibody testing is being used for public health surveillance and epidemiologic purposes. Because antibody tests can have different targets on the virus, specific tests might be needed to assess for antibodies originating from past infection versus those from vaccination. For more information about COVID-19 vaccines and antibody test results, refer to Interim Clinical Considerations for Use of mRNA COVID-19 Vaccines Currently Authorized in the United States.

For more information, please refer to Overview of Testing for SARS-CoV-2.

# Overview of testing scenarios

**Diagnostic testing** is intended to identify current infection in individuals and is performed when a person has signs or symptoms consistent with COVID-19, or when a person is asymptomatic but has recent known or suspected exposure to SARS-CoV-2.

Examples of diagnostic testing include:

- Testing people who have symptoms consistent with COVID-19 and who present to their healthcare provider
- Testing people as a result of contact tracing efforts
- Testing people who indicate that they were exposed to someone with a confirmed or suspected case of COVID-19
- Testing people who attended an event where another attendee was later confirmed to have COVID-19

**Screening tests** are intended to identify infected people who are asymptomatic and do not have known, suspected, or reported exposure to SARS-CoV-2. Screening helps to identify unknown cases so that measures can be taken to prevent

further transmission.

Examples of screening testing include:

- Testing employees in a workplace setting
- Testing students, faculty, and staff in a school or university setting
- Testing a person before or after travel
- Testing at home for someone who does not have symptoms associated with COVID-19 and no known exposures to someone with COVID-19

# Choosing a test

When choosing which test to use, it is important to understand the purpose of the testing (e.g., diagnostic, screening), analytic performance of the test within the context of the level of community transmission, need for rapid results, and other considerations. Table 1 summarizes some characteristics of NAATs and antigen tests to consider. Most antigen tests that have received EUA from FDA are authorized for testing symptomatic persons within the first 5, 7, 12, or 14 days of symptom onset. Given the risk of transmission of SARS-CoV-2 from asymptomatic and presymptomatic persons with SARS-CoV-2 infection, use of antigen tests in asymptomatic and presymptomatic persons can be considered. FDA has provided a list of FAQ for healthcare providers who are using diagnostic tests in screening asymptomatic individuals , and the Centers for Medicare & Medicaid Services will temporarily exercise enforcement discretion [40 KB, 1 Page] to enable the use of antigen tests in asymptomatic individuals for the duration of the COVID-19 public health emergency under the Clinical Laboratory Improvement Amendments of 1988 (CLIA). Laboratories that perform screening or diagnostic testing for SARS-CoV-2 must have a CLIA certificate and meet regulatory requirements. Tests that have received an EUA from FDA for point of care (POC) use can be performed with a CLIA certificate of waiver.

## Table 1. NAAT and Antigen Test Differences to Consider When Planning for Diagnostic or Screening Use

| | NAATs | Antigen Tests |
|---|---|---|
| Intended Use | Detect *current* infection | Detect *current* infection |
| Analyte Detected | Viral Ribonucleic Acid (RNA) | Viral Antigens |
| Specimen Type(s) | Nasal, Nasopharyngeal, Oropharyngeal, Sputum, Saliva | Nasal, Nasopharyngeal |
| Sensitivity | Varies by test, but generally high for laboratory-based tests and moderate-high for point-of-care (POC) tests | Varies depending on the course of infection, but generally moderate-to-high at times of peak viral load* |

| | | |
|---|---|---|
| **Specificity** | | |
| | High | |
| | High | |
| **Test Complexity** | | |
| | Varies by Test | |
| | Relatively Easy to Use | |
| **Authorized for Use at the Point-of-Care** | | |
| | Most are not, some are | |
| | Most are, some are not | |
| **Turnaround Time** | | |
| | Most 1-3 days. Some could be rapid in 15 minutes | |
| | Ranges from 15 minutes to 30 minutes | |
| **Cost/Test^** | | |
| | Moderate (~$75-$100/test) | |
| | Low (~$5-$50/test) | |
| **Advantages** | | |
| | Most sensitive test method available | |
| | Short turnaround time for NAAT POC tests, but few available | |
| | Usually does not need to be repeated to confirm results | |
| | Short turnaround time (approximately 15 minutes)+ | |
| | When performed at or near POC, allows for rapid identification of infected people, thus preventing further virus transmission in the community, workplace, etc. | |
| | Comparable performance to NAATs in symptomatic persons and/or if culturable virus present, when the person is presumed to be infectious | |
| **Disadvantages** | | |
| | Longer turnaround time for lab-based tests (1–3 days) | |
| | Higher cost per test | |
| | A positive NAAT diagnostic test should not be repeated within 90 days, because people may continue to have detectable RNA after risk of transmission has passed | |
| | May need confirmatory testing | |
| | Less sensitive (more false negative results) compared to NAATs, especially among asymptomatic people | |

**The decreased sensitivity of antigen tests might be offset if the POC antigen tests are repeated more frequently (i.e., serial testing at least weekly).
^ Costs for: NAATs , Antibody tests
+Refers to point-of-care antigen tests only.



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# Considerations for testing in different scenarios

## Diagnostic testing

### Testing persons with signs or symptoms consistent with COVID-19

Employers may consider conducting daily in-person or virtual health checks (e.g., symptom and temperature screening) to identify employees with signs or symptoms consistent with COVID-19 before they enter a facility, in accordance with CDC's Guidance for Businesses and Employers Responding to Coronavirus Disease 2019 (COVID-19). Employers should follow guidance from the EEOC regarding confidentiality of medical records from health checks.

Vaccinated and unvaccinated workers with COVID-19 symptoms should be immediately separated from other employees, customers, and visitors, and sent home or to a healthcare facility, depending on how severe their symptoms are, and follow CDC guidance for caring for oneself. To prevent stigma and discrimination in the workplace, make employee health screenings as private as possible. CDC recommends that anyone with signs or symptoms of COVID-19 be tested and follow the advice of their healthcare provider. Waiting for test results prior to returning to work is recommended to keep potentially infected workers out of the workplace.

Employers are encouraged to implement flexible sick leave and supportive policies and practices as part of a comprehensive approach to prevent and reduce transmission among employees.

Positive test results using a viral test (NAAT or antigen) in persons with signs or symptoms consistent with COVID-19 indicate that the person has COVID-19. A negative antigen test in persons with signs or symptoms of COVID-19 should be confirmed by a laboratory-based NAAT, a more sensitive test. Results from NAATs are considered the definitive result when there is a discrepancy between the antigen and NAAT test. For more information, see the Antigen Test Algorithm [458 KB, 1 Page]. Positive test results should be interpreted to indicate that a person has COVID-19 and should not come to work and should isolate at home. Decisions to discontinue isolation for workers with COVID-19 and allow them to return to the workplace may follow either a symptom-based, time-based, or a test-based strategy (see Testing to determine resolution of infection below).

### Testing asymptomatic persons with recent known or suspected exposure to SARS-CoV-2

Case investigation is typically initiated when a health department receives a report from a laboratory or testing site of a positive SARS-CoV-2 viral test result, or a report from a healthcare provider of a patient with a confirmed or probable diagnosis of COVID-19 .

In general, fully vaccinated workers with no COVID-like symptoms do not need to quarantine or be tested following an exposure to someone with suspected or confirmed COVID-19. However, those who work in congregate settings or other high-density workplaces (e.g., meat and poultry processing and manufacturing plants) should be tested after an exposure; however, they do not need to quarantine. For more guidance on quarantine and testing of fully vaccinated people, please visit Interim Public Health Recommendations for Fully Vaccinated People.

Viral testing is recommended for all unvaccinated close contacts (people who have been within 6 feet for a combined total of 15 minutes or more during a 24-hour period) of persons with COVID-19. Because of the potential for asymptomatic and pre-symptomatic transmission of SARS-CoV-2, it is important that unvaccinated individuals exposed to people with known or suspected COVID-19 be quickly identified and quarantined. Viral testing with NAATs or antigen tests can detect if these individuals are currently infected. The health department may ask the employer for assistance in identifying close contacts of the worker. Employers are encouraged to work with public health departments investigating cases of COVID-19 and tracing contacts to help reduce the spread of SARS-CoV-2 in their workplaces and communities.

Because there may be a delay between the time a person is exposed to the virus and the time that virus can be detected by testing, early testing after exposure at a single time point may miss many infections. Testing that is repeated at different points in time, also referred to as serial testing, is more likely to detect infection among close contacts of a COVID-19 case than testing done at a single point in time. Viral testing is recommended for close contacts of persons with COVID-19 who should be tested immediately after being identified, and if negative, tested again in 5–7 days after last exposure or

immediately if symptoms develop during quarantine.

While CDC continues to recommend a 14-day quarantine for unvaccinated individuals who are close contacts of a person with COVID-19, viral testing may also be used as part of an option to shorten the quarantine period. Local public health authorities determine and establish the quarantine options for their jurisdictions. Shortening quarantine may increase willingness to adhere to public health recommendations. However, shortened quarantines may be less effective in preventing transmission of COVID-19 than the currently recommended 14-day quarantine. In jurisdictions with shortened quarantine options, workplaces with higher risk of SARS-CoV-2 introduction or transmission, or with potential for greater negative impact if employees become infected SARS-CoV-2 (see Types of workplaces below), can consider restricting workers from entering the workplace until 14 days after their exposure.

Testing may also be considered for unvaccinated persons who might have been in close contact with persons diagnosed with COVID-19 in collaboration with the local health department if resources permit. A risk-based approach to testing possible contacts of a person with confirmed COVID-19 may be applied. Such an approach should take into consideration the likelihood of exposure, which is affected by the characteristics of the workplace and the results of contact investigations. In some settings, expanded screening testing (i.e., testing beyond individually identified close contacts to those who are possible close contacts), such as targeting workers who worked in the same area and during the same shift, may be considered as part of a strategy to control the transmission of SARS-CoV-2 in the workplace. High-risk settings that have demonstrated potential for rapid and widespread dissemination of SARS-CoV-2 include:

- High-density critical infrastructure workplaces, where workers are in the workplace for long periods (e.g., for 8–12 hours per shift) and have prolonged close contact with coworkers
- Workplaces where employees live in congregate settings (e.g., fishing vessels, offshore oil platforms, farmworker housing, or wildland firefighter camps)
- Workplaces with populations at risk for severe illness if they are infected, such as homeless shelters and workplaces with older workers

After a case of COVID-19 has been identified in a high-density critical infrastructure workplace, where workers are in prolonged close contact, NAAT or antigen testing can be used to diagnose infection in workers with known or suspected exposure to SARS-CoV-2. Employers are encouraged to consult with state, local, territorial, and tribal health departments to help inform decision-making about expanded screening testing.

If employees are tested after close contact or suspected close contact with someone who has a confirmed or probable diagnosis of COVID-19, care should be taken to inform these employees of their possible exposure to SARS-CoV-2 in the workplace while maintaining confidentiality of the individual with COVID-19, as required by the ADA and consistent with EEOC guidance regarding What You Should Know About COVID-19 and the ADA, the Rehabilitation Act, and Other EEO Laws .

## Testing to determine resolution of infection

The decision to end isolation and return to the workplace for employees with suspected or confirmed SARS-CoV-2 infection should be made in the context of clinical and local circumstances. NAATs have detected SARS-CoV-2 RNA in some recovered people's respiratory specimens for up to 3 months after illness onset but without direct evidence that virus that can replicate or cause disease. Consequently, evidence supports a time-based and symptom-based strategy to determine when to discontinue isolation or other precautions rather than a test-based strategy. For persons who are severely immunocompromised, a test-based strategy could be considered in consultation with infectious disease experts. For all others, a test-based strategy is no longer recommended except to discontinue isolation or precautions earlier than would occur under the symptom-based strategy.

Under the ADA, employers are permitted to require a healthcare provider's note to verify that employees are healthy and able to return to work. However, as a practical matter, employers should be aware that healthcare provider offices and medical facilities may be extremely busy during periods when community COVID-19 indicators are in the moderate to high categorizations (Table 2) and may not be able to provide such documentation in a timely manner. In such cases, employers should consider not requiring a healthcare provider's note for employees who are sick to validate their illness, qualify for sick leave, or to return to work. Most people with COVID-19 have mild illness, can recover at home without medical care, and can follow CDC recommendations to determine when to discontinue isolation and return to the workplace.

# Screening testing

## Testing asymptomatic persons without known or suspected exposure to SARS-CoV-2 for early identification, isolation, and disease prevention

### When to consider screening testing

Screening testing of asymptomatic workers without known or suspected exposure to SARS-CoV-2 in select non-healthcare settings may be useful to detect COVID-19 early and stop transmission quickly, particularly in areas with community COVID-19 indicators in the moderate to high categorizations (Table 2, Table 3). Screening testing can be used in addition to symptom and temperature checks, which will miss asymptomatic or presymptomatic contagious workers. Persons with asymptomatic or presymptomatic SARS-CoV-2 infection are significant contributors to SARS-CoV-2 transmission.

In general, fully vaccinated workers should continue to follow employer guidance on screening testing. Please see Interim Public Health Recommendations for Fully Vaccinated People for more information.

### Types of workplaces

Workplace settings for which screening testing of workers should be considered include:

- Workplaces at increased risk of introduction of SARS-CoV-2 (e.g., workplaces where workers are in close contact with the public, such as restaurants or salons, or workplaces in communities with moderate to high transmission)
- Workplaces where there is a higher risk of SARS-CoV-2 transmission (e.g., workplaces where physical distancing is difficult and workers might be in close contact, such as manufacturing or food processing plants, or workplaces that provide congregate housing for employees such as fishing vessels, offshore oil platforms, farmworker housing or wildland firefighter camps)
- Workplaces where SARS-CoV-2 infection among employees will lead to greater negative impact, such as
  - Workplaces in remote settings where medical evaluation or treatment may be delayed
  - Workplaces where continuity of operations is a high priority (e.g.,critical infrastructure sectors )
  - Workplaces with a high proportion of employees at increased risk for severe illness

### Frequency of screening testing

Approaches may include initial testing of all workers before entering a workplace, periodic testing of workers at regular intervals, targeted testing of new workers or those returning from a prolonged absence (such as medical leave or furlough), or some combination of approaches. Given the incubation period for COVID-19 (up to 14 days), CDC recommends conducting screening testing at least weekly. Employers may find the following factors helpful to consider when determining the interval for periodic testing:

- The availability of testing, turnaround time, and cost
- The latency time period between exposure and development of a positive SARS-CoV-2 viral test
- Type of workplaces
- Level of community transmission (Table 2, Table 3)
- How many employees tested positive during previous rounds of testing
- Relevant experience with outbreaks at the workplace

Serial testing used in a screening program could identify workers with SARS-CoV-2 infection, and thus help prevent or reduce further transmission, which is an occupational health measure of great importance in the types of workplaces mentioned above. Outbreak prevention and control is increasingly being thought to depend largely on the frequency of testing and the speed of reporting (an advantage of antigen tests) and is only marginally improved by the higher test sensitivity of NAATs. Serial testing, if implemented, should be integrated as a component of the comprehensive workplace program and not a substitute for other measures, such as COVID-19 vaccination, social distancing, mask wearing, hand hygiene, and cleaning and disinfection. Engineering controls and improved ventilation in settings such as office buildings and schools are also important.

## Interpretation of screening SARS-CoV-2 test results

For screening testing, some antigen test results should be considered presumptive (preliminary results). A positive antigen screening test result should be considered presumptive when the pretest probability (likelihood that the person being tested actually has the infection) for COVID-19 is low or moderate for the purpose of making a clinical diagnosis (e.g., a worker who is asymptomatic and has no known exposures to COVID-19). Asymptomatic employees who have a positive antigen screening test result should undergo a confirmatory NAAT. They should not come to work and should quarantine during confirmatory testing.

According to test manufacturers, negative antigen tests results are presumptive for the purpose of making a clinical diagnosis. A negative antigen screening test result does not need to be followed by confirmatory testing if the pretest probability is low or serial antigen testing will be performed.

NAATs do not need to be routinely repeated for confirmation. Employees with a positive NAAT result should not come to work and should isolate at home. A negative NAAT result is interpreted as no evidence of SARS-CoV-2 infection at the time when the testing sample was collected. Employees who test negative should continue to take steps to protect themselves and others.

State, local, territorial, and tribal health departments may be able to provide assistance on any local context or guidance impacting the workplace. Before testing a large proportion of asymptomatic workers without known or suspected exposure, employers are encouraged to have a plan in place for how they will ensure access to clinical evaluation and confirmatory testing when needed, ensure test results are reported to public health departments, modify operations based on test results, collaborate with public health departments in workplace case investigation and contact tracing, and manage a higher risk of false positive results in a low prevalence population.

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### Table 2. Community Indicators at the County Level[@]

| Indicator | Low Transmission | Moderate Transmission | Substantial Transmission | High Transmission |
|---|---|---|---|---|
| Cumulative number of new cases per 100,000 persons within the last 7 days* | <10 | 10-49 | 50-99 | ≥100 |
| Percentage of NAATs that are positive during the last 7 days[†] | <5% | 5%-7.9% | 8%-9.9% | ≥10.0% |

Indicators should be calculated for counties or core based statistical areas, although in rural areas with low population density, multiple jurisdictions might need to be combined to make the indicators more useful for decision-making. The indicators listed can be found by county on CDC's COVID Data Tracker Website under "county view".

[@] If the two indicators suggest different transmission levels, the higher level should be selected.

* Number of new cases in the county (or other administrative level) in the last 7 days divided by the population in the county (or other administrative level) and multiplying by 100,000.

[†] Number of positive tests in the county (or other administrative level) during the last 7 days divided by the total number of tests resulted in the county (or other administrative level) during the last 7 days. Calculating Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Laboratory Test Percent Positivity: CDC Methods and Considerations for Comparisons and Interpretation.

## Table 3. Potential Actions based on Community Indicator Level

| Prevention Strategy | Low Transmission (Blue) | Moderate Transmission (Yellow) | Substantial Transmission (Orange) | High Transmission (Red) |
|---|---|---|---|---|
| Facilitate diagnostic testing for symptomatic persons and all close contacts of cases | | | | |
| Facilitate diagnostic testing for symptomatic persons and all close contacts of cases | | | | |
| Implement screening testing of select groups at least weekly plus facilitate diagnostic testing of symptomatic persons and close contacts | | | | |
| Implement screening testing of select groups at least weekly plus facilitate diagnostic testing of symptomatic persons and close contacts | | | | |

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# Previous Updates

Updates from Previous Content

**Revisions made on October 21, 2020**

- Added links to the updated close contact definition.
- Updated language to align with updated definition.

Last Updated Mar. 17, 2021



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Centers for Disease Control and Prevention

COVID-19

To maximize protection from the Delta variant and prevent possibly spreading it to others, get vaccinated as soon as you can and wear a mask indoors in public if you are in an area of substantial or high transmission.

# Interim Guidance for SARS-CoV-2 Testing in Non-Healthcare Workplaces

Updated Oct. 7, 2021

## Summary of Recent Changes

### Updates as of October 6, 2021

- Updated descriptions of test types.
- Updated to align with new antigen testing algorithms, one for community settings and one for congregate settings .
- Updated testing recommendations for fully vaccinated workers who are close contacts of someone with COVID-19.
- Clarified that screening testing recommendations apply to asymptomatic, unvaccinated workers.

View Previous Updates

## Key Points

- Workplace-based testing for SARS-CoV-2, the virus that causes COVID-19, could identify workers with SARS-CoV-2 infection, and thus help prevent or reduce further transmission. The purpose of this guidance is to provide employers with considerations for incorporating testing for SARS-CoV-2 into a workplace COVID-19 preparedness, response, and control plan in non-healthcare workplaces.
- This guidance includes descriptions of different types of SARS-CoV-2 tests; scenarios where SARS-CoV-2 testing may be used; considerations for screening testing (testing asymptomatic and unvaccinated workers with no known or suspected exposure to SARS-CoV-2); and use of antigen tests for serial screening testing.
- Screening testing could be effective in helping to prevent transmission for workplace settings.
- These interim considerations on SARS-CoV-2 testing strategies for non-healthcare workplaces during the COVID-19 pandemic are based on what is currently known about the transmission and severity of COVID-19 and is subject to change as additional information becomes available.

**Note: This document provides guidance on the appropriate use of testing and does not dictate the determination of payment decisions or insurance coverage of such testing, except as may be otherwise referenced (or prescribed) by another entity or federal or state agency.**

# Introduction

The purpose of this document is to provide employers with strategies to consider for incorporating testing for SARS-CoV-2, the virus that causes COVID-19, into workplace preparedness, response, and control plans in non-healthcare workplaces. For workplaces with healthcare personnel, including those that work in nursing homes, please refer to Interim Infection Prevention and Control Recommendations for Healthcare Personnel During the Coronavirus Disease 2019 (COVID-19) Pandemic and Interim Infection Prevention and Control Recommendations to Prevent SARS-CoV-2 Spread in Nursing Homes.

Employers are encouraged to collaborate with state, territorial, tribal, and local health officials to determine whether and how to implement the following testing strategies and which one(s) would be most appropriate for their circumstances. These considerations are meant to supplement, not replace, any federal, state, local, territorial, or tribal health and safety laws, rules, and regulations with which workplaces must comply. These strategies should be carried out in a manner consistent with existing laws and regulations, including laws protecting employee privacy and confidentiality. They should also be carried out consistent with Equal Employment Opportunity Commission (EEOC) guidance regarding permissible testing policies and procedures. Employers providing testing of employees should put procedures in place for rapid notification of results and establish appropriate measures based on testing results, including instructions regarding self-isolation and restrictions on workplace access.

# Considerations when testing

SARS-CoV-2 testing may be incorporated as part of a comprehensive approach to reducing transmission in non-healthcare workplaces. Testing identifies workers infected with SARS-CoV-2, the virus that causes COVID-19, so that actions can be taken to slow and stop the spread of the virus. For guidance on quarantine and testing of fully vaccinated people for COVID-19, please visit Interim Public Health Recommendations for Fully Vaccinated People.

Employees undergoing testing should receive clear information on:

- the manufacturer and name of the test, the type of test, the purpose of the test, the performance specifications of the test, any limitations associated with the test, who will pay for the test, how the test will be performed, how and when they will receive test results, and;
- how to understand what the results mean, actions associated with negative or positive results, the difference between testing for workplace screening versus for medical diagnosis, who will receive the results, how the results may be used, and any consequences for declining to be tested.

Individuals tested are required to receive patient fact sheets as part of the test's emergency use authorization (EUA).

According to the Americans with Disabilities Act (ADA), when employers implement any mandatory testing of employees, it must be "job related and consistent with business necessity." In the context of the COVID-19 pandemic, the U.S. EEOC notes that testing to determine if an employee has SARS-CoV-2 infection with an "accurate and reliable test" is permissible as a condition to enter the workplace because an employee with the virus will "pose a direct threat to the health of others." EEOC notes that testing administered by employers that is consistent with current CDC guidance will meet the ADA's business necessity standard. Employers who mandate workplace testing for SARS-CoV-2 infection should discuss further with employees who decline testing and consider providing alternatives as feasible and appropriate, such as reassignment to tasks that can be performed via telework.

Under OSHA's recordkeeping requirements in 29 CFR Part 1904, COVID-19 can be a recordable illness. Thus, employers are responsible for recording cases of COVID-19, if the case meets certain requirements. Employers are encouraged to frequently check OSHA's webpage for updates.

# Test types

## Viral tests

**Viral tests**, including nucleic acid amplification tests (NAATs) and antigen tests, are used as diagnostic tests to **detect infection** with SARS-CoV-2 and to inform an individual's medical care. Viral tests can also be used as screening tests to reduce the transmission of SARS-CoV-2 by identifying infected persons who need to isolate from others. See FDA's list of In Vitro

Diagnostics Emergency Use Authorizations for more information about the performance of specific authorized tests.

NAATs, such as real-time reverse transcription-polymerase chain reaction (RT-PCR), are high-sensitivity, high-specificity tests for diagnosing SARS-CoV-2 infection. NAATs detect genetic material (nucleic acids). NAATs for SARS-CoV-2 specifically identify the ribonucleic acid (RNA) sequences that comprise the genetic material of the virus. Most NAATs need to be processed in a laboratory and time to results can vary (~1–3 days), but some NAATs are point-of-care (POC) tests with results available in about 15–45 minutes. Because laboratory-based NAATs are considered the most sensitive tests for detecting SARS-CoV-2, they can also be used to confirm the results of lower sensitivity tests, such as POC NAATs or antigen tests.

Antigen tests are immunoassays that detect the presence of a specific viral antigen. Antigen tests generally have similar specificity but are less sensitive than most NAATs. Most can be processed at the point of care with results available in minutes and thus can be used in screening programs to quickly identify those who are likely to be contagious. Because of the performance characteristics of antigen tests, it may be necessary to confirm some antigen test results (e.g., a negative test in persons with symptoms or a positive test in persons without symptoms) with a laboratory-based NAAT. Furthermore, based on the authorization from FDA , some point-of-care NAATs cannot be used for confirmatory testing. Use of the appropriate antigen testing algorithm is recommended to determine when confirmatory testing is needed.

## Antibody tests

Antibody (or serology) tests are used to detect previous infection with SARS-CoV-2 and can aid in the diagnosis of multisystem inflammatory syndrome in children (MIS-C) and in adults (MIS-A). CDC does not recommend using antibody testing to diagnose current infection. Depending on the time when someone was infected and the timing of the test, the test might not detect antibodies in someone with a current infection. In addition, it is not currently known whether a positive antibody test result indicates protective immunity against SARS-CoV-2; therefore, at this time, antibody tests should not be used to determine if an individual is immune against reinfection. Antibody testing is being used for public health surveillance and epidemiologic purposes. Because antibody tests can have different targets on the virus, specific tests might be needed to assess for antibodies originating from past infection versus those from vaccination. For more information about COVID-19 vaccines and antibody test results, refer to Interim Clinical Considerations for Use of COVID-19 Vaccines Currently Approved or Authorized in the United States.

For more information, please refer to Overview of Testing for SARS-CoV-2 (COVID-19).

# Overview of testing scenarios

**Diagnostic testing** is intended to identify current infection in individuals and is performed when a person has signs or symptoms consistent with COVID-19 or when a person is asymptomatic but has a recent known or suspected exposure to SARS-CoV-2.

Examples of diagnostic testing include:

- Testing people who have symptoms consistent with COVID-19 and who present to their healthcare provider
- Testing people as a result of contact tracing efforts
- Testing people who indicate that they were exposed to someone with a confirmed or suspected case of COVID-19.
- Testing people who attended an event where another attendee was later confirmed to have COVID-19

**Screening tests** are intended to identify infected people who are asymptomatic and do not have known, suspected, or reported exposure to SARS-CoV-2. Screening helps to identify unknown cases so that measures can be taken to prevent further transmission.

Examples of screening testing include:

- Testing unvaccinated employees in a workplace setting
- Testing unvaccinated students, faculty, and staff in a K-12 school or institute of higher education setting
- Testing an unvaccinated person before or after travel

Testing at home for someone who does not have symptoms associated with COVID-19 and no known exposures to someone with COVID-19

# Choosing a test

When choosing which test to use, it is important to understand the purpose of the testing (e.g., diagnostic vs. screening), analytic performance of the test within the context of the level of community transmission, need for rapid results, and other considerations (See Table 1). The COVID-19 Viral Testing Tool helps healthcare providers and individuals understand their COVID-19 testing options. After test results are in, the tool can help interpret results and guide next steps.

Table 1 summarizes some characteristics of NAATs and antigen tests to consider. Most antigen tests that have received EUA from FDA are authorized for testing symptomatic persons within the first 5, 6, 7, 12, or 14 days of symptom onset. Accumulation of data on the performance of antigen tests in different situations has helped guide the use of these tests as screening tests in asymptomatic people to detect or exclude SARS-CoV-2 infection. See FDA's recommendations for healthcare providers using SARS-CoV-2 diagnostic tests for screening asymptomatic individuals for COVID-19 . Also see information from the Centers for Medicare & Medicaid Services (CMS) on Updated CLIA SARS-CoV-2 Molecular and Antigen Point of Care Test Enforcement Discretion . Laboratories that perform screening or diagnostic testing for SARS-CoV-2 must have a Clinical Laboratory Improvement Amendments (CLIA) certificate and meet regulatory requirements. Tests that have received an EUA from FDA for point of care (POC) use can be performed with a CLIA certificate of waiver.

## Table 1. NAAT and Antigen Test Differences to Consider When Planning for Diagnostic or Screening Use

| | NAATs | Antigen Tests |
|---|---|---|
| Intended Use | Detect *current* infection | Detect *current* infection |
| Analyte Detected | Viral Ribonucleic Acid (RNA) | Viral Antigens |
| Specimen Type(s) | Nasal, Nasopharyngeal, Oropharyngeal, Sputum, Saliva | Nasal, Nasopharyngeal |
| Sensitivity | | |



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| | |
|---|---|
| Varies by test, but generally high for laboratory-based tests and moderate-to-high for POC tests | Varies depending on the course of infection, but generally moderate-to-high at times of peak viral load* |
| **Specificity** | |
| High | High |
| **Test Complexity** | |
| Varies by test | Relatively easy to use |
| **Authorized for Use at the Point-of-Care** | |
| Most are not, some are | Most are, some are not |
| **Turnaround Time** | |
| Most 1-3 days. Some could be rapid in 15 minutes | Ranges from 15 minutes to 30 minutes |
| **Cost/Test^** | |
| Moderate (~$75-$100/test) | Low (~$5-$50/test) |
| **Advantages** | |
| Most sensitive test method available<br>Short turnaround time for NAAT POC tests, but few available<br>Usually does not need to be repeated to confirm results | Short turnaround time (approximately 15 minutes)+<br>When performed at or near POC, allows for rapid identification of infected people, thus preventing further virus transmission in the community, workplace, etc.<br>Comparable performance to NAATs in symptomatic persons and/or if culturable virus present, when the person is presumed to be infectious |

**Disadvantages**

Longer turnaround time for lab-based tests (1–3 days)

Higher cost per test

A positive NAAT diagnostic test should not be repeated within 90 days, because people may continue to have detectable RNA after risk of transmission has passed

May need confirmatory testing

Less sensitive (more false negative results) compared to NAATs, especially among asymptomatic people

*The decreased sensitivity of antigen tests might be offset if the POC antigen tests are repeated more frequently (i.e., serial testing at least weekly).
^ Costs for: NAATs
+Refers to point-of-care antigen tests only.

# Considerations for testing in different scenarios

## Diagnostic testing

### Testing persons with signs or symptoms consistent with COVID-19

Employers may consider conducting daily in-person or virtual health checks (e.g., symptom and temperature screening) to identify employees with signs or symptoms consistent with COVID-19 before they enter a facility. Employers should follow guidance from the EEOCexternal icon regarding confidentiality of medical records from health checks.

Vaccinated and unvaccinated workers with COVID-19 symptoms should be immediately separated from other employees, customers, and visitors, and sent home or to a healthcare facility, depending on how severe their symptoms are, and follow CDC guidance for caring for oneself. To prevent stigma and discrimination in the workplace, make employee health screenings as private as possible. CDC recommends that anyone with signs or symptoms of COVID-19 be tested and follow the advice of their healthcare provider. Waiting for test results prior to returning to work is recommended to keep potentially infected workers out of the workplace.

Employers are encouraged to implement flexible sick leave and supportive policies and practices as part of a comprehensive approach to prevent and reduce transmission among employees.

Positive test results using a viral test (NAAT or antigen) in persons with signs or symptoms consistent with COVID-19 indicate that the person has COVID-19 and should not come to work and should isolate at home. Decisions to discontinue isolation for workers with COVID-19 and allow them to return to the workplace may follow either a symptom-based, time-based, or a test-based strategy (see Testing to determine resolution of infection below).

A negative antigen test in persons with signs or symptoms of COVID-19 should be confirmed by a laboratory-based NAAT, a more sensitive test. Results from NAATs are considered the definitive result when there is a discrepancy between the antigen and NAAT test. For more information, see the antigen test algorithms for community settings and congregate settings .

### Testing asymptomatic persons with recent known or suspected exposure to SARS-CoV-2

Case investigation is typically initiated when a health department receives a report from a laboratory or testing site of a positive SARS-CoV-2 viral test result, or a report from a healthcare provider of a patient with a confirmed or probable diagnosis of COVID-19 .

Fully vaccinated people who have come into close contact with someone with COVID-19 should be tested 3–5 days following the date of their exposure and wear a mask in public indoor settings for 14 days or until they receive a negative test result. They should isolate if they test positive. For more guidance on quarantine and testing of fully vaccinated people, please visit Interim Public Health Recommendations for Fully Vaccinated People.

Viral testing is recommended for all unvaccinated close contacts. Because of the potential for asymptomatic (not having symptoms) or pre-symptomatic (not yet showing symptoms) transmission of SARS-CoV-2, it is important that unvaccinated individuals exposed to people with known or suspected COVID-19 be quickly identified and quarantined. Viral testing with NAATs or antigen tests can detect if these individuals are currently infected.

The health department may ask the employer for assistance in identifying close contacts of the worker with SARS-CoV-2 infection. Employers are encouraged to work with public health departments investigating cases of COVID-19 and tracing contacts to help reduce the spread of SARS-CoV-2 in their workplaces and communities.

Because there may be a delay between the time a person is exposed to the virus and the time that virus can be detected by testing, early testing after exposure at a single time point may miss many infections. Testing that is repeated at different points in time, also referred to as serial testing, is more likely to detect infection among close contacts of a COVID-19 case than testing done at a single point in time. Viral testing is recommended for unvaccinated close contacts of persons with COVID-19 immediately after being identified, and if negative, again in 5–7 days after last exposure or immediately if symptoms develop during quarantine.

While CDC continues to recommend a 14-day quarantine for unvaccinated individuals who are close contacts of a person with COVID-19, viral testing may also be used as part of an option to shorten the quarantine period. Local public health authorities determine and establish the quarantine options for their jurisdictions. Shortening quarantine may increase willingness to adhere to public health recommendations. However, shortened quarantines with continued symptom monitoring and masking until Day 14 may be less effective in preventing transmission of COVID-19 than the currently recommended 14-day quarantine. In jurisdictions with shortened quarantine options, workplaces with higher risk of SARS-CoV-2 introduction or transmission, or with potential for greater negative impact if employees become infected SARS-CoV-2 (see Types of workplaces below), can consider restricting unvaccinated workers from entering the workplace until 14 days after their exposure.

Viral testing may also be considered for unvaccinated persons who might have been in close contact with persons diagnosed with COVID-19 in collaboration with the local health department if resources permit. A risk-based approach to testing possible contacts of a person with confirmed COVID-19 may be applied. Such an approach should take into consideration the likelihood of exposure, which is affected by the characteristics of the workplace and the results of contact investigations. In some settings, expanded screening testing (i.e., testing beyond individually identified close contacts to those who are possible close contacts), such as targeting workers who worked in the same area and during the same shift, may be considered as part of a strategy to control the transmission of SARS-CoV-2 in the workplace. Employers are encouraged to consult with state, local, territorial, and tribal health departments to help inform decision-making about expanded screening testing.

High-risk settings that have demonstrated potential for rapid and widespread dissemination of SARS-CoV-2 include:

- Workplaces where workers are in the workplace for long periods (e.g., for 8–12 hours per shift) and have prolonged close contact with coworkers
- Workplaces where employees live in congregate settings (e.g., fishing vessels, offshore oil platforms, farmworker housing, or wildland firefighter camps)
- Workplaces with populations at increased risk for severe illness if they are infected, such as homeless shelters and workplaces with older workers

If employees are tested after close contact or suspected close contact with someone who has a confirmed or probable diagnosis of COVID-19, care should be taken to inform these employees of their possible exposure to SARS-CoV-2 in the workplace while maintaining confidentiality of the individual with COVID-19, as required by the ADA and consistent with EEOC guidance regarding What You Should Know About COVID-19 and the ADA, the Rehabilitation Act, and Other EEO Laws .

## Testing to determine resolution of infection

The decision to end isolation and return to the workplace for employees with suspected or confirmed SARS-CoV-2 infection should be made in the context of clinical and local circumstances. NAATs have detected SARS-CoV-2 RNA in some recovered people's respiratory specimens for up to 3 months after illness onset but without direct evidence that virus that can replicate or cause disease. Consequently, evidence supports a time-based and symptom-based strategy to determine when to discontinue isolation or other precautions rather than a test-based strategy. For persons who are severely immunocompromised, a test-based strategy could be considered in consultation with infectious disease experts. For all others, a test-based strategy is no longer recommended.

Under the ADA, employers are permitted to require a healthcare provider's note to verify that employees are healthy and able to return to work. However, as a practical matter, employers should be aware that healthcare provider offices and medical facilities may be extremely busy during periods when community COVID-19 indicators are in the moderate to high categories (Table 2) and may not be able to provide such documentation in a timely manner. In such cases, employers should consider not requiring a healthcare provider's note for employees who are sick to validate their illness, qualify for sick leave, or to return to work. Most people with COVID-19 have mild illness, can recover at home without medical care, and can follow CDC recommendations to determine when to discontinue isolation and return to the workplace.

# Screening testing

## Testing asymptomatic persons without known or suspected exposure to SARS-CoV-2 for early identification, isolation, and disease prevention

### When to consider screening testing

Screening testing in non-healthcare settings of unvaccinated workers without known or suspected exposure to SARS-CoV-2 may be useful to detect COVID-19 early and stop transmission quickly, particularly in areas with community COVID-19 indicators in the moderate to high categories (Table 2, Table 3). Screening testing can be used in addition to symptom and temperature checks, which will miss asymptomatic or pre-symptomatic contagious workers. Persons with asymptomatic or pre-symptomatic SARS-CoV-2 infection are significant contributors to SARS-CoV-2 transmission.

In general, fully vaccinated workers should continue to follow employer guidance on screening testing. Please see Interim Public Health Recommendations for Fully Vaccinated People for more information.

### Types of workplaces

Workplace settings for which screening testing of unvaccinated, asymptomatic workers should be considered include:

- Large workplaces
- Workplaces at increased risk of introduction of SARS-CoV-2 (e.g., workplaces where workers are in close contact with the public, such as restaurants or salons, or workplaces in communities with moderate to high transmission)
- Workplaces where there is a higher risk of SARS-CoV-2 transmission (e.g., workplaces where physical distancing is difficult and workers might be in close contact, such as manufacturing or food processing plants, or workplaces that provide congregate housing for employees such as fishing vessels, offshore oil platforms, farmworker housing or wildland firefighter camps)
- Workplaces where SARS-CoV-2 infection among employees will lead to greater negative impact, such as
  - Workplaces in remote settings where medical evaluation or treatment may be delayed
  - Workplaces where continuity of operations is a high priority (e.g., critical infrastructure sectors )
  - Workplaces with a high proportion of employees at increased risk for severe illness

### Frequency of screening testing

Approaches may include initial testing of all workers before entering a workplace, periodic testing of workers at regular intervals, targeted testing of new workers or those returning from a prolonged absence (such as medical leave or furlough), or some combination of approaches. Given the incubation period for COVID-19 (up to 14 days), CDC recommends conducting screening testing of unvaccinated, asymptomatic workers without known or suspected exposures at least weekly. Employers

may find the following factors helpful to consider when determining the interval for periodic testing:

- The availability of testing, turnaround time, and cost
- The latency time period between exposure and development of a positive SARS-CoV-2 viral test
- Type of workplace
- Level of community transmission (Table 2, Table 3)
- Number of employees who tested positive during previous rounds of testing
- Relevant experience with outbreaks at the workplace

Serial testing used in a screening program could identify workers with SARS-CoV-2 infection, and thus help prevent or reduce further transmission, which is an occupational health measure of great importance in the types of workplaces mentioned above. Outbreak prevention and control is increasingly being thought to depend largely on the frequency of testing and the speed of reporting (an advantage of antigen tests) and is only marginally improved by the higher test sensitivity of NAATs. Serial testing, if implemented, should be integrated as a component of the comprehensive workplace program and not a substitute for other measures, such as COVID-19 vaccination, physical distancing, mask wearing, hand hygiene, and cleaning and disinfection. Engineering controls and improved ventilation in settings such as office buildings and schools are also important.

## Interpretation of screening SARS-CoV-2 test results

For screening testing, some antigen test results should be considered presumptive (preliminary results). A positive antigen screening test result should be considered presumptive when the pretest probability (likelihood that the person being tested actually has the infection) for COVID-19 is low for the purpose of making a clinical diagnosis (e.g., a worker who is asymptomatic and has no known exposures to COVID-19 within the last 14 days, is fully vaccinated, or has had a SARS-CoV-2 infection in the last 3 months). Please see Evaluating the Results of Antigen Testing for SARS-CoV-2.

Asymptomatic employees who have a positive antigen screening test and need a confirmatory NAAT should not come to work and should quarantine during confirmatory testing. For confirmatory testing, CDC recommends using a laboratory-based NAAT that has been evaluated against the FDA reference panel for analytical sensitivity. See FDA's SARS-CoV-2 Reference Panel Comparative Data .

NAATs that generate presumptive results are not appropriate for use in confirmatory testing.

Employees with a positive confirmatory NAAT result should isolate at home. A negative confirmatory NAAT result is interpreted as no evidence of SARS-CoV-2 infection at the time when the testing sample was collected. Employees who test negative should continue to take steps to protect themselves and others.

State, local, territorial, and tribal health departments may be able to provide assistance on any local context or guidance impacting the workplace. Before testing a large proportion of asymptomatic workers without known or suspected exposure, employers are encouraged to have a plan in place for how they will ensure access to clinical evaluation and confirmatory testing when needed, ensure test results are reported to public health departments, modify operations based on test results, collaborate with public health departments in workplace case investigation and contact tracing, and manage a higher risk of false positive results in a low prevalence population.

# Table 2. Level of Community Transmission

| Indicator | Low Transmission | Moderate Transmission | Substantial Transmission | High Transmission |
|---|---|---|---|---|
| Cumulative number of new cases per 100,000 persons within the last 7 days* | <10 | 10-49 | 50-99 | ≥100 |
| Percentage of NAATs that are positive during the last 7 days† | <5% | 5%-7.9% | 8%-9.9% | ≥10.0% |

Indicators should be calculated for counties or core based statistical areas, although in rural areas with low population density, multiple jurisdictions might need to be combined to make the indicators more useful for decision-making. The indicators listed can be found by county on CDC's COVID-19 Integrated County View.

* Number of new cases in the county (or other administrative level) in the last 7 days divided by the population in the county (or other administrative level) and multiplying by 100,000.

† Number of positive tests in the county (or other administrative level) during the last 7 days divided by the total number of tests resulted in the county (or other administrative level) during the last 7 days. Calculating Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Laboratory Test Percent Positivity: CDC Methods and Considerations for Comparisons and Interpretation.

## Table 3. Potential Actions Based on Community Transmission Level

| Prevention Strategy | Low Transmission (Blue) | Moderate Transmission (Yellow) | Substantial Transmission (Orange) | High Transmission (Red) |
|---|---|---|---|---|
| Facilitate diagnostic testing for symptomatic persons and all close contacts of cases | | | | |
| Facilitate diagnostic testing for symptomatic persons and all close contacts of cases | | | | |
| Implement screening testing of select groups at least weekly plus facilitate diagnostic testing of symptomatic persons and close contacts | | | | |
| Implement screening testing of select groups at least weekly plus facilitate diagnostic testing of symptomatic persons and close contacts | | | | |

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# Previous Updates



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## Updates from Previous Content

**Updates as of March 17, 2021**

- Added description of nucleic acid amplification tests (NAATs) and antigen tests as types of viral tests to align with the Overview of Testing for SARS-CoV-2.
- Added considerations on incorporating testing of asymptomatic individuals without known or suspected exposure to SARS-CoV-2 (screening testing) in select workplace settings as part of a workplace COVID-19 prevention and control plan.
- Updated considerations on frequency of testing.

**Updates as of October 21, 2020**

- Added links to the updated close contact definition.
- Updated language to align with updated definition.

Last Updated Oct. 7, 2021

The Wayback Machine - https://web.archive.org/web/20220825205751/https://www.cdc.gov/coronavirus/2019-ncov/community...

CDC Centers for Disease Control and Prevention

# Interim Guidance for SARS-CoV-2 Testing in Non-Healthcare Workplaces

Updated Oct. 5, 2021

CDC is reviewing this page to align with updated guidance.

## Summary of Recent Changes

Updates as of October 6, 2021

- Updated descriptions of test types.
- Updated to align with new antigen testing algorithms, one for community settings and one for congregate settings .
- Updated testing recommendations for fully vaccinated workers who are close contacts of someone with COVID-19.
- Clarified that screening testing recommendations apply to asymptomatic, unvaccinated workers.

View Previous Updates

## Key Points

- Workplace-based testing for SARS-CoV-2, the virus that causes COVID-19, could identify workers with SARS-CoV-2 infection, and thus help prevent or reduce further transmission. The purpose of this guidance is to provide employers with considerations for incorporating testing for SARS-CoV-2 into a workplace COVID-19 preparedness, response, and control plan in non-healthcare workplaces.
- This guidance includes descriptions of different types of SARS-CoV-2 tests; scenarios where SARS-CoV-2 testing may be used; considerations for screening testing (testing asymptomatic and unvaccinated workers with no known or suspected exposure to SARS-CoV-2); and use of antigen tests for serial screening testing.
- Screening testing could be effective in helping to prevent transmission for workplace settings.
- These interim considerations on SARS-CoV-2 testing strategies for non-healthcare workplaces during the COVID-19 pandemic are based on what is currently known about the transmission and severity of COVID-19 and is subject to change as additional information becomes available.

**Note: This document provides guidance on the appropriate use of testing and does not dictate the determination of payment decisions or insurance coverage of such testing, except as may be otherwise referenced (or prescribed) by another entity or federal or state agency.**

## Introduction

The purpose of this document is to provide employers with strategies to consider for incorporating testing for SARS-CoV-2, the virus that causes COVID-19, into workplace preparedness, response, and control plans in non-healthcare workplaces. For workplaces with healthcare personnel, including those that work in nursing homes, please refer to Interim Infection Prevention and Control Recommendations for Healthcare Personnel During the Coronavirus Disease 2019 (COVID-19) Pandemic and Interim Infection Prevention and Control Recommendations to Prevent SARS-CoV-2 Spread in Nursing Homes.

Employers are encouraged to collaborate with state, territorial, tribal, and local health officials to determine whether and how to implement the following testing strategies and which one(s) would be most appropriate for their circumstances. These considerations are meant to supplement, not replace, any federal, state, local, territorial, or tribal health and safety laws, rules, and regulations with which workplaces must comply. These strategies should be carried out in a manner consistent with existing laws and regulations, including laws protecting employee privacy and confidentiality. They should also be carried out consistent with Equal Employment Opportunity Commission (EEOC) guidance regarding permissible testing policies and procedures. Employers providing testing of employees should put procedures in place for rapid notification of results and establish appropriate measures based on testing results, including instructions regarding self-isolation and restrictions on workplace access.

# Considerations when testing

SARS-CoV-2 testing may be incorporated as part of a comprehensive approach to reducing transmission in non-healthcare workplaces. Testing identifies workers infected with SARS-CoV-2, the virus that causes COVID-19, so that actions can be taken to slow and stop the spread of the virus.

Employees undergoing testing should receive clear information on:

- the manufacturer and name of the test, the type of test, the purpose of the test, the performance specifications of the test, any limitations associated with the test, who will pay for the test, how the test will be performed, how and when they will receive test results, and;
- how to understand what the results mean, actions associated with negative or positive results, the difference between testing for workplace screening versus for medical diagnosis, who will receive the results, how the results may be used, and any consequences for declining to be tested.

Individuals tested are required to receive patient fact sheets as part of the test's emergency use authorization (EUA).

According to the Americans with Disabilities Act (ADA), when employers implement any mandatory testing of employees, it must be "job related and consistent with business necessity." In the context of the COVID-19 pandemic, the U.S. EEOC notes that testing to determine if an employee has SARS-CoV-2 infection with an "accurate and reliable test" is permissible as a condition to enter the workplace because an employee with the virus will "pose a direct threat to the health of others." EEOC notes that testing administered by employers that is consistent with current CDC guidance will meet the ADA's business necessity standard. Employers who mandate workplace testing for SARS-CoV-2 infection should discuss further with employees who decline testing and consider providing alternatives as feasible and appropriate, such as reassignment to tasks that can be performed via telework.

Under OSHA's recordkeeping requirements in 29 CFR Part 1904, COVID-19 can be a recordable illness. Thus, employers are responsible for recording cases of COVID-19, if the case meets certain requirements. Employers are encouraged to frequently check OSHA's webpage for updates.

# Test types

## Viral tests

**Viral tests**, including nucleic acid amplification tests (NAATs) and antigen tests, are used as diagnostic tests to **detect infection** with SARS-CoV-2 and to inform an individual's medical care. Viral tests can also be used as screening tests to reduce the transmission of SARS-CoV-2 by identifying infected persons who need to isolate from others. See FDA's list of In Vitro Diagnostics Emergency Use Authorizations for more information about the performance of specific authorized tests.

- NAATs, such as real-time reverse transcription-polymerase chain reaction (RT-PCR), are high-sensitivity, high-specificity

tests for diagnosing SARS-CoV-2 infection. NAATs detect genetic material (nucleic acids). NAATs for SARS-CoV-2 specifically identify the ribonucleic acid (RNA) sequences that comprise the genetic material of the virus. Most NAATs need to be processed in a laboratory and time to results can vary (~1–3 days), but some NAATs are point-of-care (POC) tests with results available in about 15–45 minutes. Because laboratory-based NAATs are considered the most sensitive tests for detecting SARS-CoV-2, they can also be used to confirm the results of lower sensitivity tests, such as POC NAATs or antigen tests.

Antigen tests are immunoassays that detect the presence of a specific viral antigen. Antigen tests generally have similar specificity but are less sensitive than most NAATs. Most can be processed at the point of care with results available in minutes and thus can be used in screening programs to quickly identify those who are likely to be contagious. Because of the performance characteristics of antigen tests, it may be necessary to confirm some antigen test results (e.g., a negative test in persons with symptoms or a positive test in persons without symptoms) with a laboratory-based NAAT. Furthermore, based on the authorization from FDA , some point-of-care NAATs cannot be used for confirmatory testing. Use of the appropriate antigen testing algorithm is recommended to determine when confirmatory testing is needed.

## Antibody tests

Antibody (or serology) tests are used to detect previous infection with SARS-CoV-2 and can aid in the diagnosis of multisystem inflammatory syndrome in children (MIS-C) and in adults (MIS-A). CDC does not recommend using antibody testing to diagnose current infection. Depending on the time when someone was infected and the timing of the test, the test might not detect antibodies in someone with a current infection. In addition, it is not currently known whether a positive antibody test result indicates protective immunity against SARS-CoV-2; therefore, at this time, antibody tests should not be used to determine if an individual is immune against reinfection. Antibody testing is being used for public health surveillance and epidemiologic purposes. Because antibody tests can have different targets on the virus, specific tests might be needed to assess for antibodies originating from past infection versus those from vaccination. For more information about COVID-19 vaccines and antibody test results, refer to Interim Clinical Considerations for Use of COVID-19 Vaccines Currently Approved or Authorized in the United States.

For more information, please refer to Overview of Testing for SARS-CoV-2 (COVID-19).

# Overview of testing scenarios

**Diagnostic testing** is intended to identify current infection in individuals and is performed when a person has signs or symptoms consistent with COVID-19 or when a person is asymptomatic but has a recent known or suspected exposure to SARS-CoV-2.

Examples of diagnostic testing include:

- Testing people who have symptoms consistent with COVID-19 and who present to their healthcare provider
- Testing people as a result of contact tracing efforts
- Testing people who indicate that they were exposed to someone with a confirmed or suspected case of COVID-19.
- Testing people who attended an event where another attendee was later confirmed to have COVID-19

**Screening tests** are intended to identify infected people who are asymptomatic and do not have known, suspected, or reported exposure to SARS-CoV-2. Screening helps to identify unknown cases so that measures can be taken to prevent further transmission.

Examples of screening testing include:

- Testing unvaccinated employees in a workplace setting
- Testing unvaccinated students, faculty, and staff in a K-12 school or institute of higher education setting
- Testing an unvaccinated person before or after travel
- Testing at home for someone who does not have symptoms associated with COVID-19 and no known exposures to someone with COVID-19

# Choosing a test

When choosing which test to use, it is important to understand the purpose of the testing (e.g., diagnostic vs. screening), analytic performance of the test within the context of the level of community transmission, need for rapid results, and other considerations (See Table 1). The COVID-19 Viral Testing Tool helps healthcare providers and individuals understand their COVID-19 testing options. After test results are in, the tool can help interpret results and guide next steps.

Table 1 summarizes some characteristics of NAATs and antigen tests to consider. Most antigen tests that have received EUA from FDA are authorized for testing symptomatic persons within the first 5, 6, 7, 12, or 14 days of symptom onset. Accumulation of data on the performance of antigen tests in different situations has helped guide the use of these tests as screening tests in asymptomatic people to detect or exclude SARS-CoV-2 infection. See FDA's recommendations for healthcare providers using SARS-CoV-2 diagnostic tests for screening asymptomatic individuals for COVID-19. Also see information from the Centers for Medicare & Medicaid Services (CMS) on Updated CLIA SARS-CoV-2 Molecular and Antigen Point of Care Test Enforcement Discretion. Laboratories that perform screening or diagnostic testing for SARS-CoV-2 must have a Clinical Laboratory Improvement Amendments (CLIA) certificate and meet regulatory requirements. Tests that have received an EUA from FDA for point of care (POC) use can be performed with a CLIA certificate of waiver.

## Table 1. NAAT and Antigen Test Differences to Consider When Planning for Diagnostic or Screening Use

| | NAATs | Antigen Tests |
|---|---|---|
| Intended Use | Diagnose *current* infection | Diagnose *current* infection |
| Analyte Detected | Viral Ribonucleic Acid (RNA) | Viral Antigens |
| Specimen Type(s) | Nasal, Nasopharyngeal, Oropharyngeal, Sputum, Saliva | Nasal, Nasopharyngeal, Breath |

| | |
|---|---|
| **Sensitivity** | |
| Varies by test, but generally high for laboratory-based tests and moderate-to-high for POC tests | |
| Varies depending on the course of infection, but generally moderate-to-high at times of peak viral load* | |
| **Specificity** | |
| High | |
| High | |
| **Test Complexity** | |
| Varies by test | |
| Relatively easy to use | |
| **Authorized for Use at the Point-of-Care** | |
| Most are not, some are | |
| Most are, some are not | |
| **Turnaround Time** | |
| Most 1-3 days. Some could be rapid in 15 minutes | |
| Ranges from 15 minutes to 30 minutes | |
| **Cost/Test^** | |
| Moderate (~$75-$100/test) | |
| Low (~$5-$50/test) | |
| **Advantages** | |
| Most sensitive test method available | |

Short turnaround time for NAAT POC tests, but few available

Usually does not need to be repeated to confirm results

Short turnaround time (approximately 15 minutes)+

When performed at or near POC, allows for rapid identification of infected people, thus preventing further virus transmission in the community, workplace, etc.

Comparable performance to NAATs for diagnosis in symptomatic persons and/or if culturable virus present

**Disadvantages**

Longer turnaround time for lab-based tests (1–3 days)

Higher cost per test

A positive NAAT diagnostic test should not be repeated within 90 days, because people may continue to have detectable RNA after risk of transmission has passed

May need confirmatory testing

Less sensitive (more false negative results) compared to NAATs, especially among asymptomatic people and with some variants

*The decreased sensitivity of antigen tests might be offset if the POC antigen tests are repeated more frequently (i.e., serial testing at least weekly).
^ Costs for: NAATs
+Refers to point-of-care antigen tests only.

# Considerations for testing in different scenarios

## Diagnostic testing

### Testing persons with signs or symptoms consistent with COVID-19

Employers may consider conducting daily in-person or virtual health checks (e.g., symptom and temperature screening) to identify employees with signs or symptoms consistent with COVID-19 before they enter a facility. Employers should follow guidance from the EEOC regarding confidentiality of medical records from health checks.

Vaccinated and unvaccinated workers with COVID-19 symptoms should be immediately separated from other employees, customers, and visitors, and sent home or to a healthcare facility, depending on how severe their symptoms are, and follow CDC guidance for caring for oneself. To prevent stigma and discrimination in the workplace, make employee health screenings as private as possible. CDC recommends that anyone with signs or symptoms of COVID-19 be tested and follow the advice of their healthcare provider. Waiting for test results prior to returning to work is recommended to keep potentially infected workers out of the workplace.

Employers are encouraged to implement flexible sick leave and supportive policies and practices as part of a comprehensive approach to prevent and reduce transmission among employees.

Positive test results using a viral test (NAAT or antigen) in persons with signs or symptoms consistent with COVID-19 indicate

that the person has COVID-19 and should not come to work and should isolate at home. Decisions to discontinue isolation for workers with COVID-19 and allow them to return to the workplace may follow either a symptom-based, time-based, or a test-based strategy (see Testing to determine resolution of infection below).

A negative antigen test in persons with signs or symptoms of COVID-19 should be confirmed by a laboratory-based NAAT, a more sensitive test. Results from NAATs are considered the definitive result when there is a discrepancy between the antigen and NAAT test. For more information, see the antigen test algorithms for community settings and congregate settings .

## Testing asymptomatic persons with recent known or suspected exposure to SARS-CoV-2

Case investigation is typically initiated when a health department receives a report from a laboratory or testing site of a positive SARS-CoV-2 viral test result, or a report from a healthcare provider of a patient with a confirmed or probable diagnosis of COVID-19 .

Fully vaccinated people who have come into close contact with someone with COVID-19 should be tested 5-7 days following the date of their exposure and wear a mask in public indoor settings for 14 days or until they receive a negative test result. They should isolate if they test positive.

Viral testing is recommended for all unvaccinated close contacts. Because of the potential for asymptomatic (not having symptoms) or pre-symptomatic (not yet showing symptoms) transmission of SARS-CoV-2, it is important that unvaccinated individuals exposed to people with known or suspected COVID-19 be quickly identified and quarantined. Viral testing with NAATs or antigen tests can detect if these individuals are currently infected.

The health department may ask the employer for assistance in identifying close contacts of the worker with SARS-CoV-2 infection. Employers are encouraged to work with public health departments investigating cases of COVID-19 and tracing contacts to help reduce the spread of SARS-CoV-2 in their workplaces and communities.

Because there may be a delay between the time a person is exposed to the virus and the time that virus can be detected by testing, early testing after exposure at a single time point may miss many infections. Testing that is repeated at different points in time, also referred to as serial testing, is more likely to detect infection among close contacts of a COVID-19 case than testing done at a single point in time. Viral testing is recommended for unvaccinated close contacts of persons with COVID-19 immediately after being identified, and if negative, again in 5–7 days after last exposure or immediately if symptoms develop during quarantine.

While CDC continues to recommend a 14-day quarantine for unvaccinated individuals who are close contacts of a person with COVID-19, viral testing may also be used as part of an option to shorten the quarantine period. Local public health authorities determine and establish the quarantine options for their jurisdictions. Shortening quarantine may increase willingness to adhere to public health recommendations. However, shortened quarantines with continued symptom monitoring and masking until Day 14 may be less effective in preventing transmission of COVID-19 than the currently recommended 14-day quarantine. In jurisdictions with shortened quarantine options, workplaces with higher risk of SARS-CoV-2 introduction or transmission, or with potential for greater negative impact if employees become infected SARS-CoV-2 (see Types of workplaces below), can consider restricting unvaccinated workers from entering the workplace until 14 days after their exposure.

Viral testing may also be considered for unvaccinated persons who might have been in close contact with persons diagnosed with COVID-19 in collaboration with the local health department if resources permit. A risk-based approach to testing possible contacts of a person with confirmed COVID-19 may be applied. Such an approach should take into consideration the likelihood of exposure, which is affected by the characteristics of the workplace and the results of contact investigations. In some settings, expanded screening testing (i.e., testing beyond individually identified close contacts to those who are possible close contacts), such as targeting workers who worked in the same area and during the same shift, may be considered as part of a strategy to control the transmission of SARS-CoV-2 in the workplace. Employers are encouraged to consult with state, local, territorial, and tribal health departments to help inform decision-making about expanded screening testing.

High-risk settings that have demonstrated potential for rapid and widespread dissemination of SARS-CoV-2 include:

- Workplaces where workers are in the workplace for long periods (e.g., for 8–12 hours per shift) and have prolonged close contact with coworkers



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- Workplaces where employees live in congregate settings (e.g., fishing vessels, offshore oil platforms, farmworker housing, or wildland firefighter camps)
- Workplaces with populations at increased risk for severe illness if they are infected, such as homeless shelters and workplaces with older workers

If employees are tested after close contact or suspected close contact with someone who has a confirmed or probable diagnosis of COVID-19, care should be taken to inform these employees of their possible exposure to SARS-CoV-2 in the workplace while maintaining confidentiality of the individual with COVID-19, as required by the ADA and consistent with EEOC guidance regarding What You Should Know About COVID-19 and the ADA, the Rehabilitation Act, and Other EEO Laws .

### Testing to determine resolution of infection

The decision to end isolation and return to the workplace for employees with suspected or confirmed SARS-CoV-2 infection should be made in the context of clinical and local circumstances. NAATs have detected SARS-CoV-2 RNA in some recovered people's respiratory specimens for up to 3 months after illness onset but without direct evidence that virus that can replicate or cause disease. Consequently, evidence supports a time-based and symptom-based strategy to determine when to discontinue isolation or other precautions rather than a test-based strategy. For persons who are severely immunocompromised, a test-based strategy could be considered in consultation with infectious disease experts. For all others, a test-based strategy is no longer recommended.

Under the ADA, employers are permitted to require a healthcare provider's note to verify that employees are healthy and able to return to work. However, as a practical matter, employers should be aware that healthcare provider offices and medical facilities may be extremely busy during periods when community COVID-19 indicators are in the moderate to high categories (Table 2) and may not be able to provide such documentation in a timely manner. In such cases, employers should consider not requiring a healthcare provider's note for employees who are sick to validate their illness, qualify for sick leave, or to return to work. Most people with COVID-19 have mild illness, can recover at home without medical care, and can follow CDC recommendations to determine when to discontinue isolation and return to the workplace.

# Screening testing

## Testing asymptomatic persons without known or suspected exposure to SARS-CoV-2 for early identification, isolation, and disease prevention

### When to consider screening testing

Screening testing in non-healthcare settings of unvaccinated workers without known or suspected exposure to SARS-CoV-2 may be useful to detect COVID-19 early and stop transmission quickly, particularly in areas with community COVID-19 indicators in the moderate to high categories (Table 2, Table 3). Screening testing can be used in addition to symptom and temperature checks, which will miss asymptomatic or pre-symptomatic contagious workers. Persons with asymptomatic or pre-symptomatic SARS-CoV-2 infection are significant contributors to SARS-CoV-2 transmission.

In general, fully vaccinated workers should continue to follow employer guidance on screening testing.

### Types of workplaces

Workplace settings for which screening testing of unvaccinated, asymptomatic workers should be considered include:

- Large workplaces
- Workplaces at increased risk of introduction of SARS-CoV-2 (e.g., workplaces where workers are in close contact with the public, such as restaurants or salons, or workplaces in communities with moderate to high transmission)
- Workplaces where there is a higher risk of SARS-CoV-2 transmission (e.g., workplaces where physical distancing is difficult and workers might be in close contact, such as manufacturing or food processing plants, or workplaces that provide congregate housing for employees such as fishing vessels, offshore oil platforms, farmworker housing or wildland firefighter camps)

- Workplaces where SARS-CoV-2 infection among employees will lead to greater negative impact, such as
  - Workplaces in remote settings where medical evaluation or treatment may be delayed
  - Workplaces where continuity of operations is a high priority (e.g., critical infrastructure sectors )
  - Workplaces with a high proportion of employees at increased risk for severe illness

## Frequency of screening testing

Approaches may include initial testing of all workers before entering a workplace, periodic testing of workers at regular intervals, targeted testing of new workers or those returning from a prolonged absence (such as medical leave or furlough), or some combination of approaches. Given the incubation period for COVID-19 (up to 14 days), CDC recommends conducting screening testing of unvaccinated, asymptomatic workers without known or suspected exposures at least weekly. Employers may find the following factors helpful to consider when determining the interval for periodic testing:

- The availability of testing, turnaround time, and cost
- The latency time period between exposure and development of a positive SARS-CoV-2 viral test
- Type of workplace
- Level of community transmission (Table 2, Table 3)
- Number of employees who tested positive during previous rounds of testing
- Relevant experience with outbreaks at the workplace

Serial testing used in a screening program could identify workers with SARS-CoV-2 infection, and thus help prevent or reduce further transmission, which is an occupational health measure of great importance in the types of workplaces mentioned above. Outbreak prevention and control is increasingly being thought to depend largely on the frequency of testing and the speed of reporting (an advantage of antigen tests) and is only marginally improved by the higher test sensitivity of NAATs. Serial testing, if implemented, should be integrated as a component of the comprehensive workplace program and not a substitute for other measures, such as COVID-19 vaccination, physical distancing, mask wearing, hand hygiene, and cleaning and disinfection. Engineering controls and improved ventilation in settings such as office buildings and schools are also important.

## Interpretation of screening SARS-CoV-2 test results

For screening testing, some antigen test results should be considered presumptive (preliminary results). A positive antigen screening test result should be considered presumptive when the pretest probability (likelihood that the person being tested actually has the infection) for COVID-19 is low for the purpose of making a clinical diagnosis (e.g., a worker who is asymptomatic and has no known exposures to COVID-19 within the last 14 days, is fully vaccinated, or has had a SARS-CoV-2 infection in the last 3 months). Please see Evaluating the Results of Antigen Testing for SARS-CoV-2.

Asymptomatic employees who have a positive antigen screening test and need a confirmatory NAAT should not come to work and should quarantine during confirmatory testing. For confirmatory testing, CDC recommends using a laboratory-based NAAT that has been evaluated against the FDA reference panel for analytical sensitivity. See FDA's SARS-CoV-2 Reference Panel Comparative Data .

NAATs that generate presumptive results are not appropriate for use in confirmatory testing.

Employees with a positive confirmatory NAAT result should isolate at home. A negative confirmatory NAAT result is interpreted as no evidence of SARS-CoV-2 infection at the time when the testing sample was collected. Employees who test negative should continue to take steps to protect themselves and others.

State, local, territorial, and tribal health departments may be able to provide assistance on any local context or guidance impacting the workplace. Before testing a large proportion of asymptomatic workers without known or suspected exposure, employers are encouraged to have a plan in place for how they will ensure access to clinical evaluation and confirmatory testing when needed, ensure test results are reported to public health departments, modify operations based on test results, collaborate with public health departments in workplace case investigation and contact tracing, and manage a higher risk of false positive results in a low prevalence population.

## Table 2. Level of Community Transmission

| Indicator | Low Transmission | Moderate Transmission | Substantial Transmission | High Transmission |
|---|---|---|---|---|
| Cumulative number of new cases per 100,000 persons within the last 7 days* | <10 | 10-49 | 50-99 | ≥100 |
| Percentage of NAATs that are positive during the last 7 days† | <5% | 5%-7.9% | 8%-9.9% | ≥10.0% |

Indicators should be calculated for counties or core based statistical areas, although in rural areas with low population density, multiple jurisdictions might need to be combined to make the indicators more useful for decision-making. The indicators listed can be found by county on CDC's COVID-19 Integrated County View.

* Number of new cases in the county (or other administrative level) in the last 7 days divided by the population in the county (or other administrative level) and multiplying by 100,000.

† Number of positive tests in the county (or other administrative level) during the last 7 days divided by the total number of tests resulted in the county (or other administrative level) during the last 7 days. Calculating Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Laboratory Test Percent Positivity: CDC Methods and Considerations for Comparisons and Interpretation.

## Table 3. Potential Actions Based on Community Transmission Level

| Prevention Strategy | Low Transmission (Blue) | Moderate Transmission (Yellow) | Substantial Transmission (Orange) | High Transmission (Red) |
|---|---|---|---|---|
| Facilitate diagnostic testing for symptomatic persons and all close contacts of cases | | | | |
| Facilitate diagnostic testing for symptomatic persons and all close contacts of cases | | | | |
| Implement screening testing of select groups at least weekly plus facilitate diagnostic testing of symptomatic persons and close contacts | | | | |
| Implement screening testing of select groups at least weekly plus facilitate diagnostic testing of symptomatic persons and close contacts | | | | |

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# Previous Updates

## Updates from Previous Content

**Updates as of March 17, 2021**

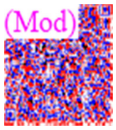
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- Updated considerations on frequency of testing.

**Updates as of October 21, 2020**

- Added links to the updated close contact definition.
- Updated language to align with updated definition.

Last Updated Oct. 5, 2021

Ib Centers for Disease Control and Prevention




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To maximize protection from the Delta variant and prevent possibly spreading it to others, get vaccinated as soon as you can and wear a mask indoors in public if you are in an area of substantial or high transmission.

# Interim Guidance for SARS-CoV-2 Testing in Non-Healthcare Workplaces

Updated ~~Mar~~Oct. ~~17~~7, 2021

## Summary of Recent Changes

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- Updated to align with new antigen testing algorithms, one for community settings El and one for congregate settings p .
- ~~Added description of nucleic acid amplification tests (NAATs) and antigen tests as types of viral tests to align with the Overview of Testing for SARS-CoV-2~~
- ~~Added considerations on incorporating testing of asymptomatic individuals without known or suspected exposure to SARS-CoV-2 (screening testing) in select workplace settings as part of a workplace COVID-19 prevention and control plan~~
- Updated ~~considerations on frequency of~~ testing recommendations for fully vaccinated workers who are close contacts of someone with COVID-19.
- Clarified that screening testing recommendations apply to asymptomatic, unvaccinated workers.

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## Key Points

- Workplace-based testing for SARS-CoV-2, the virus that causes COVID-19, could identify workers with SARS-CoV-2 infection, and thus help prevent or reduce further transmission. The purpose of this guidance is to provide employers with considerations for incorporating testing for SARS-CoV-2 into a workplace COVID-19 preparedness, response, and control plan in ~~select~~ non-healthcare workplaces.
- This guidance includes descriptions of different types of SARS-CoV-2 tests; scenarios where SARS-CoV-2 testing may be used; considerations for screening testing (testing asymptomatic and unvaccinated workers with no known or suspected exposure to SARS-CoV-2); and use of antigen tests for serial screening testing~~, including in high-density critical infrastructure workplaces~~.
- Screening testing could be effective in helping to prevent transmission for ~~select~~ workplace settings.
- These interim considerations on SARS-CoV-2 testing strategies for ~~select~~ non-healthcare workplaces during the COVID-19 pandemic are based on what is currently known about the transmission and severity of COVID-19 and is subject to change as additional information becomes available.

Note: This document provides guidance on the appropriate use of testing and does not dictate the determination of payment decisions or insurance coverage of such testing, except as may be otherwise referenced (or prescribed) by another entity or federal or state agency.

# Introduction

The purpose of this document is to provide employers with strategies for consideration ofto consider for incorporating testing for SARS-CoV-2, the virus that causes COVID-19, into workplace preparedness, response, and control plans in select non-healthcare workplaces. For workplaces with healthcare personnel, including those that work in nursing homes, please refer to Interim Guidance on TestingInfection Prevention and Control Recommendations for Healthcare Personnel for SARS-CoV-2 and Interim SARS-CoV-2 Testing Guidelines for Nursing Home Residents and Healthcare Personnel.During the Coronavirus Disease 2019 (COVID-19) Pandemic and Interim Infection Prevention and Control Recommendations to Prevent SARS-CoV-2 Spread in Nursing Homes.

Employers are encouraged to collaborate with state, territorial, tribal, and local health officials to determine whether and how to implement the following testing strategies and which one(s) would be most appropriate for their circumstances. These considerations are meant to supplement, not replace, any federal, state, local, territorial, or tribal health and safety laws, rules, and regulations with which workplaces must comply. These strategies should be carried out in a manner consistent with existing laws and regulations, including laws protecting employee privacy and confidentiality. They should also be carried out consistent with Equal Employment Opportunity Commission (EEOC) guidance EI regarding permissible testing policies and procedures. Employers paying forproviding testing of employees should put procedures in place for rapid notification of results and establish appropriate measures based on testing results, including instructions regarding self-isolation and restrictions on workplace access.

# Considerations when testing

SARS-CoV-2 testing may be incorporated as part of a comprehensive approach to reducing transmission in non-healthcare workplaces. Symptom screening, testing, and contact tracing are strategies to identifyTesting identifies workers infected with SARS-CoV-2, the virus that causes COVID-19, so that actions can be taken to slow and stop the spread of the virus.
COVID-19 vaccine is currently available in limited doses; therefore, CDC's Advisory Committee on Immunization Practices (ACIP) described recommendations for prioritization during the early phases of the vaccination program. As vaccine supply increases and additional priority groups receive vaccine, CDC's priorities for SARS-CoV-2 testing will change and the guidance will be updated. For guidance on quarantine and testing of fully vaccinated people for COVID-19, please visit Interim Public Health Recommendations for Fully Vaccinated People.

Employees undergoing testing should receive clear information on:

- the manufacturer and name of the test, the type of test, the purpose of the test, the performance specifications of the test, any limitations associated with the test, who will pay for the test, how the test will be performed, how and when they will receive test results, and;
- how to understand what the results mean, actions associated with negative or positive results, the difference between testing for workplace screening versus for medical diagnosis, who will receive the results, how the results may be used, and any consequences for declining to be tested.

Individuals tested are required to receive patient fact sheets as part of the test's emergency use authorization EI (EUA).

According to the Americans with Disabilities Act (ADA), when employers implement any mandatory testing of employees, it must be 'job related and consistent with business necessity." In the context of the COVID-19 pandemic, the U.S. EEOC EI notes that testing to determine if an employee has SARS-CoV-2 infection with an "accurate and reliable test" is permissible as a condition to enter the workplace because an employee with the virus will "pose a direct threat to the health of others." EEOC notes that testing administered by employers that is consistent with current CDC guidance will meet the ADA's business necessity standard. However, workplace-based testing should not be conducted without the employee's consent. Employers who mandate workplace testing for SARS-CoV-2 infection should discuss further with employees who do not consent todecline testing and consider providing alternatives as feasible and appropriate, such as reassignment to tasks that can be performed via telework.

The Occupational Safety and Health Administration has issued interim guidance EI for enforcing the requirements of 29 CFR Part 1904 EI with respect to the recording of occupational illnesses, specifically cases of COVID-19. Under OSHA's

Under OSHA's recordkeeping requirements in 29 CFR Part 1904 EI , COVID-19 iscan be a recordable illness EI , and thus. Thus, employers are responsible for recording cases of COVID-19, if the case meets certain requirements. Employers are encouraged to frequently check OSHA's webpage at www.osha.gov/coronavirus EI for updates.

# Test types

## Viral tests

Viral tests ~~authorized EI by the Food and Drug Administration (FDA) are used to diagnose~~, including nucleic acid amplification tests (NAATs) and antigen tests, are used as diagnostic tests to detect infection with SARS-CoV-2~~, the virus that causes COVID-19. Viral tests evaluate whether the virus is present in respiratory or other specimens. Results from these tests help public health officials identify and isolate people who are infected to minimize SARS-CoV-2 transmission~~ and to inform an individual's medical care. Viral tests can also be used as screening tests to reduce the transmission of SARS-CoV-2 by identifying infected persons who need to isolate from others. See FDA's list of In Vitro

Diagnostics Emergency Use Authorizations EI for more information about the performance of specific authorized tests.

- Nucleic acid amplification tests (NAATs), such as real-time reverse transcription-polymerase chain reaction (RT-PCR), detect viral ribonucleic acid (RNA) and indicate a current infection or a recent infection with prolonged viral RNA detection but without direct evidence for virus capable of replicating or of being transmitted to others. NAATs are high-sensitivity, high-specificity tests for diagnosing SARS-CoV-2 infection. NAATs detect genetic material (nucleic acids). NAATs for SARS-CoV-2 specifically identify the ribonucleic acid (RNA) sequences that comprise the genetic material of the virus. Most NAATs need to be processed in a laboratory with variableand time to results can vary (-1 21-3 days), but some NAATs are point-of-care (POC) tests with results available in about 15-45 minutes. Because laboratory-based NAATs are considered the most sensitive tests for detecting SARS-CoV-2, they can also be used to confirm the results of lower sensitivity tests, such as POC NAATs or antigen tests.
- Antigen tests are immunoassays that detect the presence of a specific viral antigen. Antigen tests generally have similar specificity but are less sensitive than most NAATs. Most can be processed at the point of care with results available in about 15-30 minutes. Antigen tests generally have similar specificity but are less sensitive than NAATs. Depending on the pre-test probability,minutes and thus can be used in screening programs to quickly identify those who are likely to be contagious. Because of the performance characteristics of antigen tests, it may be necessary to confirm some antigen test results may need confirmation with a NAAT (e.g., a negative test in persons with symptoms or a positive test in persons without symptoms). Use of the Antigen Testing Algorithm 0 [147 KB, 1 page] with a laboratory-based NAAT. Furthermore, based on the authorization from FDA EI , some point-of-care NAATs cannot be used for confirmatory testing. Use of the appropriate antigen testing algorithm is recommended to determine when confirmatory testing is needed.

## Antibody tests

Antibody (or serology) tests are used to detect previous infection with SARS-CoV-2 and can aid in the diagnosis of Multisystem Inflammatory Syndrome in Childrenmultisystem inflammatory syndrome in children (MIS-C) and in adults (MIS-A). CDC does not recommend using antibody testing to diagnose current infection. Depending on the time when someone was infected and the timing of the test, the test might not detect antibodies in someone with a current infection. In addition, it is not currently known whether a positive antibody test result indicates protective immunity against SARS-CoV-2; therefore, at this time, antibody tests should not be used to determine if an individual is immune against reinfection. Antibody testing is being used for public health surveillance and epidemiologic purposes. Because antibody tests can have different targets on the virus, specific tests might be needed to assess for antibodies originating from past infection versus those from vaccination. For more information about COVID-19 vaccines and antibody test results, refer to Interim Clinical Considerations for Use of mRNA COVID-19 Vaccines Currently Approved or Authorized in the United States.

For more information, please refer to Overview of Testing for SARS-CoV-2 (COVID-19).

# Overview of testing scenarios

Diagnostic testing is intended to identify current infection in individuals and is performed when a person has signs or symptoms consistent with COVID-19, or when a person is asymptomatic but has a recent known or suspected exposure to SARS-CoV-2.

Examples of diagnostic testing include:

- Testing people who have symptoms consistent with COVID-19 and who present to their healthcare provider
- Testing people as a result of contact tracing efforts
- Testing people who indicate that they were exposed to someone with a confirmed or suspected case of COVID-19.
- Testing people who attended an event where another attendee was later confirmed to have COVID-19

Screening tests are intended to identify infected people who are asymptomatic and do not have known, suspected, or reported exposure to SARS-CoV-2. Screening helps to identify unknown cases so that measures can be taken to prevent

further transmission.

Examples of screening testing include:

- Testing unvaccinated employees in a workplace setting
- Testing unvaccinated students, faculty, and staff in a K-12 school or ~~university~~institute of higher education setting
- Testing ~~a~~an unvaccinated person before or after travel

Testing at home for someone who does not have symptoms associated with COVID-19 and no known exposures to someone with COVID-19

# Choosing a test

When choosing which test to use, it is important to understand the purpose of the testing (e.g., diagnostic~~,~~ vs. screening), analytic performance of the test within the context of the level of community transmission, need for rapid results, and other considerations~~.~~ (See Table 1). The COVID-19 Viral Testing Tool helps healthcare providers and individuals understand their COVID-19 testing options. After test results are in, the tool can help interpret results and guide next steps.

Table 1 summarizes some characteristics of NAATs and antigen tests to consider. Most antigen tests that have received ~~EUA~~cut, from FDA CI are authorized for testing symptomatic persons within the first 5, 6, 7, 12, or 14 days of symptom onset. ~~Given the risk of transmission of SARS-CoV-2 from asymptomatic and presymptomatic persons with SARS-CoV-2 infection, use~~Accumulation of data on the performance of antigen tests in ~~asymptomatic and presymptomatic persons can be considered. FDA has provided a list of FAQ~~different situations has helped guide the use of these tests as screening tests in asymptomatic people to detect or exclude SARS-CoV-2 infection. See FDA's recommendations for healthcare providers ~~who are~~ using SARS-CoV-2 diagnostic tests ~~in~~for screening asymptomatic individuals ~~CI , and~~for COVID-19 CI . Also see information from the Centers for Medicare & Medicaid Services ~~will temporarily exercise enforcement discretion ■ [40 KB, 1 Page] EI to enable the use of antigen tests in asymptomatic individuals for the duration of the COVID-19 public health emergency under the Clinical Laboratory Improvement Amendments of 1988 (CLIA)~~(CMS) on Updated CLIA SARS-CoV-2 Molecular and Antigen Point of Care Test Enforcement Discretion ■ CI . Laboratories that perform screening or diagnostic testing for SARS-CoV-2 must have a ~~CLIA~~Clinical Laboratory Improvement Amendments (CLIA) certificate and meet regulatory requirements. Tests that have received an EUA from FDA for ~~point of care (POC)~~ use can be performed with a CLIA certificate of waiver.

## Table 1. NAAT and Antigen Test Differences to Consider When Planning for Diagnostic or Screening Use

### NAATs

### Antigen Tests

**Intended Use**

Detect *current* infection

Detect *current* infection

**Analyte Detected**

Viral Ribonucleic Acid (RNA)

Viral Antigens

Specimen Type(s)

Nasal, Nasopharyngeal, Oropharyngeal, Sputum, Saliva

Nasal, Nasopharyngeal

Sensitivity

Varies by test, but generally high for laboratory-based tests and ~~moderate-high~~moderate-to-high for ~~point-of-care (~~POC~~)~~ tests

Varies depending on the course of infection, but generally moderate-to-high at times of peak viral load*

Specificity

High

High

Test Complexity

Varies by ~~Test~~test

Relatively ~~Easy~~easy to ~~Use~~use

Authorized for Use at the Point-of-Care

Most are not, some are

Most are, some are not

Turnaround Time

Most 1-3 days. Some could be rapid in 15 minutes

Ranges from 15 minutes to 30 minutes

Cost/Test^

Moderate (--$75-$100/test)

Low (-$5-$50/test)

Advantages

Most sensitive test method available

Short turnaround time for NAAT POC tests, but few available

Usually does not need to be repeated to confirm results

Short turnaround time (approximately 15 minutes)~~.~~+

When performed at or near POC, allows for rapid identification of infected people, thus preventing further virus transmission in the community, workplace, etc.

Comparable performance to NAATs in symptomatic persons and/or if culturable virus present, when the person is presumed to be infectious

Disadvantages

Longer turnaround time for lab-based tests (1-3 days)

Higher cost per test

A positive NAAT diagnostic test should not be repeated within 90 days, because people may continue to have detectable RNA after risk of transmission has passed

May need confirmatory testing

Less sensitive (more false negative results) compared to NAATs, especially among asymptomatic people

**The decreased sensitivity of antigen tests might be offset if the POC antigen tests are repeated more frequently (i.e., serial testing at least weekly).
Costs for: NAATs ~~CI, Antibody tests CI~~EI
+Refers to point-of-care antigen tests only.

# Considerations for testing in different scenarios

# Diagnostic testing

## Testing persons with signs or symptoms consistent with COVID-19

Employers may consider conducting daily in-person or virtual health checks (e.g., symptom and temperature screening) to identify employees with signs or symptoms consistent with COVID-19 before they enter a facility~~, in accordance with CDC's Guidance for Businesses and Employers Responding to Coronavirus Disease 2019 (COVID-19)~~. Employers should follow guidance from the ~~EEOC~~EEOCexternal icon CI regarding confidentiality of medical records from health checks.

Vaccinated and unvaccinated workers with COVID-19 symptoms should be immediately separated from other employees, customers, and visitors, and sent home or to a healthcare facility, depending on how severe their symptoms are, and follow CDC guidance for caring for oneself. To prevent stigma and discrimination in the workplace, make employee health screenings as private as possible. CDC recommends that anyone with signs or symptoms of COVID-19 be tested and follow the advice of their healthcare provider. Waiting for test results prior to returning to work is recommended to keep potentially infected workers out of the workplace.

Employers are encouraged to implement flexible sick leave and supportive policies and practices as part of a comprehensive approach to prevent and reduce transmission among employees.

Positive test results using a viral test (NAAT or antigen) in persons with signs or symptoms consistent with COVID-19 indicate that the ~~person has COVID-19. A negative antigen test in persons with signs or symptoms of COVID-19 should be confirmed by a laboratory-based NAAT, a more sensitive test. Results from NAATs are considered the definitive result when there is a discrepancy between the antigen and NAAT test. For more information, see the Antigen Test Algorithm ■ [458 KB, 1 Page]. Positive test results should be interpreted to indicate that a~~ person has COVID-19 and should not come to work and should isolate at home. Decisions to discontinue isolation for workers with COVID-19 and allow them to return to the workplace may follow either a symptom-based, time-based, or a test-based strategy (see Testing to determine resolution of infection below).

A negative antigen test in persons with signs or symptoms of COVID-19 should be confirmed by a laboratory-based NAAT, a more sensitive test. Results from NAATs are considered the definitive result when there is a discrepancy between the antigen and NAAT test. For more information, see the antigen test algorithms for community settings ■ and congregate settings I .

## Testing asymptomatic persons with recent known or suspected exposure to SARS-CoV-2

~~Case investigation~~ is typically initiated when a health department receives a report from a laboratory or testing site of a positive SARS-CoV-2 viral test result, or a report from a healthcare provider of a patient with a confirmed or probable diagnosis of COVID-19 .

~~In general, fully vaccinated workers with no COVID-like symptoms do not need to quarantine or be tested following an exposure to someone with suspected or confirmed COVID-19. However, those who work in congregate settings or other high-density workplaces (e.g., meat and poultry processing and manufacturing plants) should be tested after an exposure;~~

Fully vaccinated people who have come into close contact with someone with COVID-19 should be tested 3-5 days following the date of their exposure and wear a mask in public indoor settings for 14 days or until ~~however,~~ they ~~do not need to quarantine~~receive a negative test result. They should isolate if they test positive. For more guidance on quarantine and testing of fully vaccinated people, please visit Interim Public Health Recommendations for Fully Vaccinated People.

Viral testing is recommended for all unvaccinated close contacts ~~(people who have been within 6 feet for a combined total of 15 minutes or more during a 24-hour period) of persons with COVID-19~~. Because of the potential for asymptomatic ~~and~~(not having symptoms) or pre-symptomatic (not yet showing symptoms) transmission of SARS-CoV-2, it is important that unvaccinated individuals exposed to people with known or suspected COVID-19 be quickly identified and quarantined. Viral testing with NAATs or antigen tests can detect if these individuals are currently infected.

The health department may ask the employer for assistance in identifying close contacts of the worker with SARS-CoV-2 infection. Employers are encouraged to work with public health departments investigating cases of COVID-19 and tracing contacts to help reduce the spread of SARS-CoV-2 in their workplaces and communities.

Because there may be a delay between the time a person is exposed to the virus and the time that virus can be detected by testing, early testing after exposure at a single time point may miss many infections. Testing that is repeated at different points in time, also referred to as serial testing, is more likely to detect infection among close contacts of a COVID-19 case than testing done at a single point in time. Viral testing is recommended for unvaccinated close contacts of persons with COVID-19 ~~who should be tested~~ immediately after being identified, and if negative, ~~tested~~ again in 5-7 days after last exposure or

immediately if symptoms develop during quarantine.

While CDC continues to recommend a 14-day quarantine for unvaccinated individuals who are close contacts of a person with COVID-19, viral testing may also be used as part of an option to shorten the quarantine period. Local public health authorities determine and establish the quarantine options for their jurisdictions. Shortening quarantine may increase willingness to adhere to public health recommendations. However, shortened quarantines with continued symptom monitoring and masking until Day 14 may be less effective in preventing transmission of COVID-19 than the currently recommended ~~14-day~~ quarantine. In jurisdictions with shortened quarantine options, workplaces with higher risk of SARS-CoV-2 introduction or transmission, or with potential for greater negative impact if employees become infected SARS-CoV-2 (see ~~Types of~~ workplaces below), can consider restricting unvaccinated workers from entering the workplace until 14 days after their exposure.

~~Testing~~Viral testing may also be considered for unvaccinated persons who might have been in close contact with persons diagnosed with COVID-19 in collaboration with the local health department if resources permit. A risk-based approach to testing possible contacts of a person with confirmed COVID-19 may be applied. Such an approach should take into consideration the likelihood of exposure, which is affected by the characteristics of the workplace and the results of contact investigations. In some settings, expanded screening testing (i.e., testing beyond individually identified close contacts to those who are possible close contacts), such as targeting workers who worked in the same area and during the same shift, may be considered as part of a strategy to control the transmission of SARS-CoV-2 in the workplace. Employers are encouraged to consult with local, territorial, and tribal health departments to help inform decision-making about expanded screening testing.

High-risk settings that have demonstrated potential for rapid and widespread dissemination of SARS-CoV-2 include:

- ~~High-density critical infrastructure workplaces,~~Workplaces where workers are in the workplace for long periods (e.g., for 8-12 hours per shift) and have prolonged close contact with coworkers
- Workplaces where employees live in congregate settings CI (e.g., fishing vessels, offshore oil platforms, farmworker housing, or wildland firefighter camps)
- Workplaces with populations at increased risk for severe illness if they are infected, such as ~~homeless shelters~~ and workplaces with older workers

~~After a case of COVID-19 has been identified in a high-density critical infrastructure workplace, where workers are in prolonged close contact, NAAT or antigen testing can be used to diagnose infection in workers with known or suspected exposure to SARS-CoV-2. Employers are encouraged to consult with state, local, territorial, and tribal health departments to help inform decision-making about expanded screening testing.~~

If employees are tested after close contact or suspected close contact with someone who has a confirmed or probable diagnosis of COVID-19, care should be taken to inform these employees of their possible exposure to SARS-CoV-2 in the workplace while maintaining confidentiality of the individual with COVID-19, as required by the ADA ~~CI~~CJ and consistent with EEOC guidance regarding What You Should Know About COVID-19 and the ADA, the Rehabilitation Act, and Other EEO Laws

## Testing to determine resolution of infection

The decision to end isolation and return to the workplace for employees with suspected or confirmed SARS-CoV-2 infection should be made in the context of clinical and local circumstances. NAATs have detected SARS-CoV-2 RNA in some recovered people's respiratory specimens for up to 3 months after illness onset but without direct evidence that virus that can replicate or cause disease. Consequently, evidence supports a time-based and symptom-based strategy to determine when to discontinue isolation or other precautions rather than a test-based strategy. For persons who are severely immunocompromised, a test-based strategy could be considered in consultation with infectious disease experts. For all others, a test-based strategy is no longer recommended ~~except to discontinue isolation or precautions earlier than would occur under the symptom-based strategy~~.

Under the ADA, employers are permitted to require a healthcare provider's note ~~CI~~EI to verify that employees are healthy and able to return to work. However, as a practical matter, employers should be aware that healthcare provider offices and medical facilities may be extremely busy during periods when community COVID-19 indicators are in the moderate to high ~~categorizations~~categories (Table 2) and may not be able to provide such documentation in a timely manner. In such cases, employers should consider not requiring a healthcare provider's note for employees who are sick to validate their illness, qualify for sick leave, or to return to work. Most people with COVID-19 have mild illness, can recover at home without medical care, and can follow CDC recommendations to determine when to discontinue isolation and return to the workplace.

# Screening testing

## Testing asymptomatic persons without known or suspected exposure to SARS-CoV-2 for early identification, isolation, and disease prevention

### When to consider screening testing

Screening testing of asymptomaticin non-healthcare settings of unvaccinated workers without known or suspected exposure to SARS-CoV-2 in select non-healthcare settings may be useful to detect COVID-19 early and stop transmission quickly, particularly in areas with community COVID-19 indicators in the moderate to high categorizationscategories (Table 2, Table 3). Screening testing can be used in addition to symptom and temperature checks, which will miss asymptomatic or presymptomaticpre-symptomatic contagious workers. Persons with asymptomatic or presymptomaticpre-symptomatic SARS-CoV-2 infection are significant contributors to SARS-CoV-2 transmission.

In general, fully vaccinated workers should continue to follow employer guidance on screening testing. Please see Interim Public Health Recommendations for Fully Vaccinated People for more information.

### Types of workplaces

Workplace settings for which screening testing of unvaccinated, asymptomatic workers should be considered include:

- Large workplaces
- Workplaces at increased risk of introduction of SARS-CoV-2 (e.g., workplaces where workers are in close contact with the public, such as restaurants or salons, or workplaces in communities with moderate to high transmission)
- Workplaces where there is a higher risk of SARS-CoV-2 transmission (e.g., workplaces where physical distancing is difficult and workers might be in close contact, such as manufacturing or food processing plants, or workplaces that provide congregate housing for employees such as fishing vessels, offshore oil platforms, farmworker housing or wildland firefighter camps)
- Workplaces where SARS-CoV-2 infection among employees will lead to greater negative impact, such as
  - Workplaces in remote settings where medical evaluation or treatment may be delayed
  - Workplaces where continuity of operations is a high priority (e.g., critical infrastructure sectors EI )
  - Workplaces with a high proportion of employees at increased risk for severe illness

### Frequency of screening testing

Approaches may include initial testing of all workers before entering a workplace, periodic testing of workers at regular intervals, targeted testing of new workers or those returning from a prolonged absence (such as medical leave or furlough), or some combination of approaches. Given the incubation period for COVID-19 (up to 14 days), CDC recommends conducting screening testing of unvaccinated, asymptomatic workers without known or suspected exposures at least weekly. Employers

may find the following factors helpful to consider when determining the interval for periodic testing:

- The availability of testing, turnaround time, and cost
- The latency time period between exposure and development of a positive SARS-CoV-2 viral test
- Type of ~~workplaces~~workplace
- Level of community transmission (Table 2, Table 3)
- ~~How many~~Number of employees who tested positive during previous rounds of testing
- Relevant experience with outbreaks at the workplace

Serial testing used in a screening program could identify workers with SARS-CoV-2 infection, and thus help prevent or reduce further transmission, which is an occupational health measure of great importance in the types of workplaces mentioned above. Outbreak prevention and control is increasingly being thought to depend largely on the frequency of testing and the speed of reporting (an advantage of antigen tests) and is only marginally improved by the higher test sensitivity of NAATs. Serial testing, if implemented, should be integrated as a component of the comprehensive workplace program and not a substitute for other measures, such as COVID-19 vaccination, ~~social~~physical distancing, mask wearing, hand hygiene, and cleaning and disinfection. Engineering controls and improved ventilation in settings such as office buildings and schools are also important.

## Interpretation of screening SARS-CoV-2 test results

For screening testing, some antigen test results should be considered presumptive (preliminary results). A positive antigen screening test result should be considered presumptive when the pretest probability (likelihood that the person being tested actually has the infection) for COVID-19 is low or moderate for the purpose of making a clinical diagnosis (e.g., a worker who is asymptomatic and has no known exposures to COVID-19). within the last 14 days, is fully vaccinated, or has had a SARS-CoV-2 infection in the last 3 months). Please see Evaluating the Results of Antigen Testing for SARS-CoV-2.

Asymptomatic employees who have a positive antigen screening test result should undergoand need a confirmatory NAAT. They should not come to work and should quarantine during confirmatory testing. For confirmatory testing, CDC recommends using a laboratory-based NAAT that has been evaluated against the FDA reference panel for analytical sensitivity. See FDA's SARS-CoV-2 Reference Panel Comparative Data CI

According to test manufacturers, negative antigen tests results are presumptive for the purpose of making a clinical diagnosis. A negative antigen screening test result does not need to be followed by confirmatory testing if the pretest probability is low or serial antigen testing will be performed.

NAATs that generate presumptive results are not appropriate for use in confirmatory testing.

NAATs do not need to be routinely repeated for confirmation. Employees with a positive confirmatory NAAT result should not come to work and should isolate at home. A negative confirmatory NAAT result is interpreted as no evidence of SARS-CoV-2 infection at the time when the testing sample was collected. Employees who test negative should continue to take steps to protect themselves and others.

State, local, territorial, and tribal health departments may be able to provide assistance on any local context or guidance impacting the workplace. Before testing a large proportion of asymptomatic workers without known or suspected exposure, employers are encouraged to have a plan in place for how they will ensure access to clinical evaluation and confirmatory testing when needed, ensure test results are reported to public health departments, modify operations based on test results, collaborate with public health departments in workplace case investigation and contact tracing, and manage a higher risk of false positive results in a low prevalence population.

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## Table 2. Level of Community Indicators at the County Level@Transmission

| Indicator | Low Transmission | Moderate Transmission | Substantial Transmission | High Transmission |
|---|---|---|---|---|
| Cumulative number of new cases per 100,000 persons within the last 7 days* | <10 | 10-49 | 50-99 | ≥ |
| Percentage of NAATs that are positive during the last 7 † | <5% | 5%-7.9% | 8%-9.9% | ≥ |

Indicators should be calculated for counties or core based statistical areas, although in rural areas with low population density, multiple jurisdictions might need to be combined to make the indicators more useful for decision-making. The indicators listed can be found by county on CDC's COVID ~~Data Tracker Website under "county view"~~-19 Integrated County View.

~~@ If the two indicators suggest different transmission levels, the higher level should be selected.~~

* Number of new cases in the county (or other administrative level) in the last 7 days divided by the population in the county (or other administrative level) and multiplying by 100,000.

† Number of positive tests in the county (or other administrative level) during the last 7 days divided by the total number of ~~+~~ tests resulted in the county (or other administrative level) during the last 7 days. Calculating Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Laboratory Test Percent Positivity: CDC Methods and Considerations for Comparisons and Interpretation.

## Table 3. Potential Actions ~~based~~Based on Community ~~Indicator~~Transmission Level

| Prevention Strategy | Low Transmission (Blue) | Moderate Transmission (Yellow) | Substantial Transmission (Orange) | High Transmission (Red) |
|---|---|---|---|---|
| Facilitate diagnostic testing for symptomatic persons and all close contacts of cases | | | | |
| Facilitate diagnostic testing for symptomatic persons and all close contacts of cases | | | | |
| Implement screening testing of select groups at least weekly plus facilitate diagnostic testing of symptomatic persons and close contacts | | | | |
| Implement screening testing of select groups at least weekly plus facilitate diagnostic testing of symptomatic persons and close contacts | | | | |

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# Previous Updates

Updates from Previous Content

**Updates as of March 17, 2021**

- Added description of nucleic acid amplification tests (NAATs) and antigen tests as types of viral tests to align with the Overview of Testing for SARS-CoV-2.
- Added considerations on incorporating testing of asymptomatic individuals without known or suspected exposure to SARS-CoV-2 (screening testing) in select workplace settings as part of a workplace COVID-19 prevention and control plan.
- Updated considerations on frequency of testing.

~~Revisions made on~~**Updates as of October 21, 2020**

- Added links to the updated close contact definition.
- Updated language to align with updated definition.

Last Updated ~~Mar~~Oct. ~~17~~7, 2021

| Summary report:<br>Litera Compare for Word 11.8.0.56 Document comparison done on 7/12/2025 4:00:33 AM | |
|---|---|
| **Style name:** Default Style | |
| **Intelligent Table Comparison:** Active | |
| **Original filename:** 2021-10-07.pdf | |
| **Modified filename:** 2021-10-09.pdf | |
| **Changes:** | |
| Add | 143 |
| ~~Delete~~ | 133 |
| ~~Move From~~ | 0 |
| Move To | 0 |
| Table Insert | 0 |
| ~~Table Delete~~ | 0 |
| Table moves to | 0 |
| ~~Table moves from~~ | 0 |
| Embedded Graphics (Visio, ChemDraw, Images etc.) | 1 |
| Embedded Excel | 0 |
| Format changes | 0 |
| **Total Changes:** | 277 |