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Medical Policy Manual Laboratory, Policy No. 74

COVID-19 Testing

Effective: October 1, 2023

Next Review: March 2024
Last Review: September 2023

IMPORTANT REMINDER

Medical Policies are developed to provide guidance for members and providers regarding coverage in accordance with contract terms. Benefit determinations are based in all cases on the applicable contract language. To the extent there may be any conflict between the Medical Policy and contract language, the contract language takes precedence.

PLEASE NOTE: Contracts exclude from coverage, among other things, services or procedures that are considered investigational or cosmetic. Providers may bill members for services or procedures that are considered investigational or cosmetic. Providers are encouraged to inform members before rendering such services that the members are likely to be financially responsible for the cost of these services.

DESCRIPTION

COVID-19 testing includes molecular and antigen testing for active infection with the SARS-CoV-2 virus, as well as antibody testing (also called serology testing), which measures antibodies that the immune system develops in response to the virus. Serology or antibody testing is not intended to diagnose active coronavirus infection.

Neutralizing antibody testing is performed mainly to identify individuals who may be candidates for convalescent plasma donation. It is not intended to be used as a method for determining whether a person has been infected with SARS-CoV-2.

MEDICAL POLICY CRITERIA

Note: Member contracts for covered services vary. Member contract language takes precedence over medical policy.

I. COVID-19 testing, including viral (molecular [PCR-based] and antigen) and antibody (serology) tests, may be considered **medically necessary** when all of the following are met:

   a. Test is ordered by attending provider or pharmacist for patient medical management; and

b. Test has received Emergency Use Authorization (EUA) by the FDA for the COVID-19 Pandemic or test is performed by a CLIA-certified laboratory.

II. COVID-19 testing (viral and antibody) is considered **not medically necessary** for public health surveillance, epidemiologic, school, travel, recreational (e.g., for camp, sports, or social events) or employer purposes, or to determine the need for personal protective equipment.

III. COVID-19 neutralizing antibody testing (including surrogate neutralizing antibody testing) is considered **not medically necessary**.

NOTE: A summary of the supporting rationale for the policy criteria is at the end of the policy.

CROSS REFERENCES

1. Identification of Microorganisms Using Nucleic Acid Probes, Genetic Testing, Policy No. 85
2. Coverage of Treatments Provided in a Clinical Trial, Medicine, Policy No. 150

BACKGROUND

VIRAL TESTS

Viral tests for COVID-19 include both molecular (PCR-based) and antigen tests. These tests are designed to identify viral molecules and are used to diagnose an active SARS-CoV-2 infection. They require testing of samples taken from nasal or throat swabs or from saliva.

The performance of laboratory tests, such as COVID-19 diagnostic tests, may be described by their sensitivity and specificity. Sensitivity describes the proportion of people who have a SARS-CoV-2 infection that have positive test results (true positives), while specificity describes the proportion of people without a SARS-CoV-2 infection who have negative test results (true negatives). The sensitivity and specificity of a test can be estimated by testing a large number of samples that are known to be positive or negative. The sensitivity and specificity of an antibody test, along with the proportion of individuals who are infected in a population, can be used to estimate the positive predictive value (PPV) and negative predictive value (NPV) of the test. These values indicate how many false positives or false negatives a test may generate.

In response to the COVID-19 pandemic, the U.S. Food and Drug Administration (FDA) has used its Emergency Use Authorization (EUA) authority to allow the use of COVID-19 tests that have not received traditional FDA approval. A list of EUA-authorized diagnostic tests is available on the FDA website.[1]

ANTIBODY TESTS

Antibody tests (also known as serology tests) are blood tests that are designed to detect antibodies that a person has generated in response to an infection in the past. Unlike PCR tests, antibody tests do not detect the presence of viral molecules and are not intended to diagnose active infections. A list of EUA-authorized antibody tests and their performance characteristics is available on the FDA website.[2]

In addition to test performance limitations discussed above, there are a number of clinical limitations to the use of COVID-19 antibody tests. It is not currently known how long a person

may generate antibodies following an infection, or to what extent the presence of antibodies to SARS-CoV-2 indicates that a person may be protected from future infection. Also, due to the lag between infection and antibody generation, a person may have a negative antibody test while they are infected. For this reason, as well as possible cross-reactivity of the tests to antibodies to coronaviruses other than COVID-19, the FDA states that:

> "Antibody tests should not be used to diagnose a current SARS-CoV-2 infection or COVID-19 and, at this time, should also not be used to check for immunity. More research is needed to determine what, if anything, antibody tests can tell us about a person's immunity."[3]

These limitations are highlighted in the COVID-19 Antibody Testing Primer released by the Infectious Diseases Society of America, which states:[4]

> As serological testing for SARS-CoV-2 advances, there are multiple issues that need to be addressed, from test quality to interpretation. Unlike molecular tests for COVID-19 (e.g., PCR), antibody tests may be better suited for public health surveillance and vaccine development than for diagnosis. The current antibody testing landscape is varied and clinically unverified, and these tests should not be used as the sole test for diagnostic decisions. Further, until more evidence about protective immunity is available, serology results should not be used to make staffing decisions or decisions regarding the need for personal protective equipment.
>
> Some FDA-authorized COVID-19 antibody tests are estimated to have 96-98% specificity, which would mean that a positive test result is more likely a false-positive result than a true positive result if the prevalence or pretest probability is 5% or less.

NEUTRALIZING ANTIBODY TESTS

COVID-19 neutralizing antibody testing (NAT) is designed to detect the presence of antibodies that may be able to neutralize the SARS-CoV-2 virus. NAT involves incubating a plasma sample with live virus to determine whether antibodies in the plasma can prevent cellular infection. Because of the presence of live virus, these tests must be performed in laboratories that take special biosafety precautions. Surrogate NAT reduces the need for these precautions by using purified viral molecules, typically the binding portion of the viral spike glycoprotein, in place of the live virus.

Unlike the general antibody testing described previously, NAT is not intended to be used as a method for determining whether a person has been infected with SARS-CoV-2. NAT is performed to identify individuals who may be candidates for convalescent plasma donation. Convalescent plasma donation is an experimental treatment for COVID-19. While the use of convalescent plasma for COVID-19 has been increasing, there is currently limited evidence regarding its efficacy, and randomized controlled trials are needed to determine whether the treatment improves health outcomes for patients with the infection.

CLINICAL PRACTICE GUIDELINES

AMERICAN MEDICAL ASSOCIATION

The American Medical Association (AMA) published a list of recommendations regarding antibody testing for COVID-19 (updated May 14, 2020):[5]

- Use of serology tests should currently be limited to population-level seroprevalence study, evaluation of recovered individuals for convalescent plasma donations, and in other situations where they are used as part of a well-defined testing plan and in concert with other clinical information by physicians well-versed in interpretation of serology test results.

- Serology tests should not be offered to individuals as a method of determining immune status. Individuals receiving positive test results may falsely assume it is safe to discontinue physical distancing. The AMA recommends all Americans continue to abide by physical distancing recommendations and shelter in place requirements for so long as necessary to reduce the threat of COVID-19. Serology tests should not currently be used as the basis for any "immunity certificates," to inform decisions to return to work, or to otherwise inform physical distancing decisions. Doing so may put individuals, their household and their community at risk.

- Serology tests should not be used as the sole basis of diagnosis of COVID-19 infection.

- Physicians should pay close attention to the regulatory status of any test offered. FDA maintains a listing of all serological tests authorized for use for COVID-19. Physicians should be aware of the performance characteristics of any test used and how those align with the FDA recommended performance standards. Physicians should note that there has been reported fraudulent marketing of some tests and should verify the regulatory status of these claims before incorporating them in to practice.

- Messaging on serological testing to medically underserved communities should explicitly take into consideration cultural and social features which may bear on their ability to make long-term choices on physical distancing and other COVID-19 precautions.

CENTERS FOR DISEASE CONTROL AND PREVENTION

The Centers for Disease Control and Prevention (CDC) has issued guidance regarding COVID-19 testing, including the following:[6]

- **Viral tests**, including Nucleic Acid Amplification Tests (NAATs, such as Reverse Transcription – Polymerase Chain Reaction) and antigen tests, are used as diagnostic tests to **detect current 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.
- **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). Antibody testing does not diagnose current infection. Antibody testing is being used for public health surveillance and epidemiologic purposes. Antibody tests detect specific antibodies that target different parts (nucleocapsid or spike protein) of the virus. This should be considered when choosing whether to test for antibodies originating from past infection versus those from vaccination.

INFECTIOUS DISEASES SOCIETY OF AMERICA

The Infectious Diseases Society of America (IDSA) published the following recommendations for the diagnosis of COVID-19 on December 23, 2020 for the diagnosis of COVID-19:[7]

1. The IDSA panel recommends a SARS-CoV-2 NAAT [nucleic acid amplification test] in symptomatic individuals in the community suspected of having COVID-19, even when the clinical suspicion for COVID-19 is low (strong recommendation, very low certainty of evidence).

2. The IDSA panel suggests collecting nasopharyngeal swab, mid-turbinate swab, anterior nasal swab, saliva or a combined anterior nasal/oropharyngeal swab rather than oropharyngeal swab alone for SARS-CoV-2 RNA testing in symptomatic individuals suspected of having COVID-19 (conditional recommendation, very low certainty of evidence).

3. The IDSA panel suggests that anterior nasal and mid-turbinate swab specimens may be collected for SARS-CoV-2 RNA testing by either patients or healthcare providers, in symptomatic individuals with upper respiratory tract infection (URTI) or influenza-like illness (ILI) suspected of having COVID-19 (conditional recommendation, low certainty of evidence).

4. The IDSA panel suggests a strategy of initially obtaining an upper respiratory tract sample (e.g., nasopharyngeal swab) rather than a lower respiratory sample for SARS-CoV-2 RNA testing in hospitalized patients with suspected COVID-19 lower respiratory tract infection. If the initial upper respiratory sample result is negative, and the suspicion for disease remains high, the IDSA panel suggests collecting a lower respiratory tract sample (e.g., sputum, bronchoalveolar lavage fluid, tracheal aspirate) rather than collecting another upper respiratory sample (conditional recommendations, very low certainty of evidence).

5. The IDSA panel suggests performing a single viral RNA test and not repeating testing in symptomatic individuals with a low clinical suspicion of COVID-19 (conditional recommendation, low certainty of evidence).

6. The IDSA panel suggests repeating viral RNA testing when the initial test is negative (*versus* performing a single test) in symptomatic individuals with an intermediate or high clinical suspicion of COVID-19 (conditional recommendation, low certainty of evidence).

7. The IDSA panel suggests using either rapid RT-PCR or standard laboratory-based NAATs over rapid isothermal NAAT in symptomatic individuals suspected of having COVID-19 (conditional recommendation, low certainty of evidence).

8. The IDSA panel suggests SARS-CoV-2 RNA testing in asymptomatic individuals who are either known or suspected to have been exposed to COVID-19 (conditional recommendation, very low certainty of evidence).

9. The IDSA panel suggests against SARS-CoV-2 RNA testing in asymptomatic individuals with no known contact with COVID-19 who are being hospitalized in areas with a low prevalence of COVID-19 in the community (conditional recommendation, very low certainty of evidence).

10. The IDSA panel suggests direct SARS-CoV-2 RNA testing in asymptomatic individuals with no known contact with COVID-19 who are being hospitalized in areas with a high prevalence of COVID-19 in the community (i.e., hotspots) (conditional recommendation, very low certainty of evidence).

11. The IDSA panel recommends SARS-CoV-2 RNA testing in immunocompromised asymptomatic individuals who are being admitted to the hospital regardless of exposure to COVID-19 (strong recommendation, very low certainty of evidence).

12. The IDSA panel recommends SARS-CoV-2 RNA testing (*versus* no testing) in asymptomatic individuals before hematopoietic stem cell (HSCT) or solid organ transplantation (SOT) regardless of a known exposure to COVID-19 (strong recommendation, very low certainty of evidence).

13. The IDSA panel makes no recommendations for or against SARS-CoV-2 RNA testing before initiating immunosuppressive therapy in asymptomatic individuals with cancer (evidence gap).

14. The IDSA panel makes no recommendations for or against SARS-CoV-2 RNA testing before the initiation of immunosuppressive therapy in asymptomatic individuals with autoimmune disease (evidence gap).

15. The IDSA panel suggests SARS-CoV-2 RNA testing in asymptomatic individuals (without known exposure to COVID-19) who are undergoing major time-sensitive surgeries (conditional recommendation, very low certainty of evidence).

16. The IDSA panel suggests against SARS-CoV-2 RNA testing in asymptomatic individuals without a known exposure to COVID-19 who are undergoing a time-sensitive aerosol generating procedure (e.g., bronchoscopy) when PPE is available (conditional recommendation, very low certainty of evidence).

17. The IDSA panel suggests SARS-CoV-2 RNA testing in asymptomatic individuals without a known exposure to COVID-19 who are undergoing a time-sensitive aerosol generating procedure (e.g., bronchoscopy) when PPE is limited, and testing is available (conditional recommendation, very low certainty of evidence).

SUMMARY

The results of testing for COVID-19, including viral (molecular [PCR-based] and antigen) testing and antibody (serology) testing, may be used to guide patient medical management. In addition, clinical practice guidelines recommend this testing for certain individuals. Therefore, COVID-19 testing may be considered medically necessary for patient medical management.

COVID-19 testing for public health surveillance, epidemiologic, school, travel, recreational or employment purposes is not intended to improve patient health outcomes. Therefore, this testing is considered not medically necessary.

Unlike the general antibody (serology) testing, neutralizing antibody testing (NAT) is not intended to be used as a method for determining whether a person has been infected with

SARS-CoV-2. NAT is performed to identify individuals who may be candidates for convalescent plasma donation. Therefore, this testing, including surrogate NAT, is considered not medically necessary.

REFERENCES

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CODES

Codes	Number	Description
CPT	0202U	Infectious disease (bacterial or viral respiratory tract infection), pathogen-specific nucleic acid (DNA or RNA), 22 targets including severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), qualitative RT-PCR, nasopharyngeal swab, each pathogen reported as detected or not detected
	0223U	Infectious disease (bacterial or viral respiratory tract infection), pathogen-specific nucleic acid (DNA or RNA), 22 targets including severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), qualitative RT-PCR, nasopharyngeal swab, each pathogen reported as detected or not detected
	0224U	Antibody, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Coronavirus disease [COVID-19]), includes titer(s), when performed
	0225U	Infectious disease (bacterial or viral respiratory tract infection) pathogen-specific DNA and RNA, 21 targets, including severe acute respiratory syndrome coronavirus 2 (SARSCoV-2), amplified probe technique, including multiplex reverse transcription for RNA targets, each analyte reported as detected or not detected

Codes	Number	Description
	0226U	Surrogate viral neutralization test (sVNT), severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Coronavirus disease [COVID-19]), ELISA, plasma, serum
	0240U	Infectious disease (viral respiratory tract infection), pathogen-specific RNA, 3 targets (severe acute respiratory syndrome coronavirus 2 [SARS-CoV-2], influenza A, influenza B), upper respiratory specimen, each pathogen reported as detected or not detected
	0241U	Infectious disease (viral respiratory tract infection), pathogen-specific RNA, 4 targets (severe acute respiratory syndrome coronavirus 2 [SARS-CoV-2], influenza A, influenza B, respiratory syncytial virus [RSV]), upper respiratory specimen, each pathogen reported as detected or not detected
	0408U	Infectious agent antigen detection by bulk acoustic wave biosensor immunoassay, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (coronavirus disease [COVID-19])
	86328	Immunoassay for infectious agent antibody(ies), qualitative or semiquantitative, single step method (eg, reagent strip); severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Coronavirus disease [COVID-19])
	86408	Neutralizing antibody, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Coronavirus disease [COVID19]); screen
	86409	Neutralizing antibody, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Coronavirus disease [COVID19]); titer
	86413	Severe acute respiratory syndrome coronavirus 2 (SARSCoV-2) (Coronavirus disease [COVID-19]) antibody, quantitative
	86769	Antibody; severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Coronavirus disease [COVID-19]) Multi-step method
	87426	Infectious agent antigen detection by immunoassay technique, (eg, enzyme immunoassay [EIA], enzyme-linked immunosorbent assay [ELISA], fluorescence immunoassay [FIA], immunochemiluminometric assay [IMCA]) qualitative or semiquantitative; severe acute respiratory syndrome coronavirus (e.g., SARS-CoV, SARS-CoV-2 [COVID-19])
	87428	Infectious agent antigen detection by immunoassay technique, (eg, enzyme immunoassay [EIA], enzyme-linked immunosorbent assay [ELISA], fluorescence immunoassay [FIA], immunochemiluminometric assay [IMCA]) qualitative or semiquantitative; severe acute respiratory syndrome coronavirus (eg, SARS-CoV, SARS-CoV-2 [COVID-19]) and influenza virus types A and B
	87449	Infectious agent antigen detection by immunoassay technique, (eg, enzyme immunoassay [EIA], enzyme-linked immunosorbent assay [ELISA], fluorescence immunoassay [FIA], immunochemiluminometric assay [IMCA]), qualitative or semiquantitative; not otherwise specified, each organism
	87635	Infectious agent detection by nucleic acid (DNA or RNA); severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Coronavirus disease [COVID-19]), amplified probe technique
	87636	Infectious agent detection by nucleic acid (DNA or RNA); severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Coronavirus disease [COVID-19]) and influenza virus types A and B, multiplex amplified probe technique
	87637	Infectious agent detection by nucleic acid (DNA or RNA); severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Coronavirus disease [COVID-19]), influenza virus types A and B, and respiratory syncytial virus, multiplex amplified probe technique

Codes	Number	Description
	87811	Infectious agent antigen detection by immunoassay with direct optical (ie, visual) observation; severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Coronavirus disease [COVID-19])
HCPCS	K1034	Provision of COVID-19 test, nonprescription self-administered and self-collected use, FDA approved, authorized or cleared, one test count
	U0001	CDC 2019 Novel Coronavirus (2019-nCoV) Real-Time RT-PCR Diagnostic Panel
	U0002	2019-nCoV Coronavirus, SARS-CoV-2/2019-nCoV (COVID-19), any technique, multiple types or subtypes (includes all targets), non-CDC
	~~U0003~~	~~Infectious agent detection by nucleic acid (DNA or RNA); Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) (Coronavirus disease [COVID-19]), amplified probe technique, making use of high throughput technologies as described by CMS-2020-01-R~~ (Deleted 05/12/2023)
	~~U0004~~	~~2019-nCoV Coronavirus, SARS-CoV-2/2019-nCoV (COVID-19), any technique, multiple types or subtypes (includes all targets), non-CDC, making use of high throughput technologies as described by CMS-2020-01-R~~ (Deleted 05/12/2023)
	~~U0005~~	~~Infectious agent detection by nucleic acid (dna or rna); severe acute respiratory syndrome coronavirus 2 (sars-cov-2) (coronavirus disease [covid-19]), amplified probe technique, CDC or non-CDC, making use of high throughput technologies, completed within 2 calendar days from date of specimen collection (list separately in addition to either HCPCS code u0003 or u0004) as described by CMS-2020-01-r2~~ (Deleted 05/12/2023)

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