Infectious Diseases Society of America Guidelines on the Diagnosis of COVID-19

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Recommendation 1

- **The IDSA panel recommends a SARS-CoV-2 nucleic acid amplification test (NAAT) 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)

  - Clinical assessment alone is not accurate in predicting COVID-19 diagnosis
  - The panel considered timeliness of SARS-CoV-2 NAAT results essential to impact individual care, healthcare institution, and public health decisions. In the outpatient setting, results within 48 hours of collection is preferable

Symptoms Compatible with COVID-19

Symptoms may appear 2-14 days after exposure to the virus. People with these symptoms or combinations of symptoms may have COVID-19.	**Respiratory symptoms alone** **• Cough** **• Shortness of breath or difficulty breathing**
	Or at least two of these symptoms **• Fever** **• Chills** **• Repeated shaking with chills** **• Muscle pain** **• Headache** **• Sore throat** **• New loss of taste or smell**

Recommendation 2

- **The IDSA panel suggests collecting nasopharyngeal, or mid-turbinate, or nasal swabs rather than oropharyngeal swabs or saliva alone for SARS-CoV-2 RNA testing in symptomatic individuals with upper respiratory tract infection (URTI) or influenza like illness (ILI) suspected of having COVID-19**

(conditional recommendation, very low certainty of evidence)

  - This recommendation does not address testing a combination of specimen types due to lack of evidence

Recommendation 3

- **The IDSA panel suggests that nasal and mid-turbinate (MT) 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)

  - Appropriate specimen collection and transport to the laboratory is critical
  - A clear, step-by-step protocol needs to be presented to patients attempting self-collection. This could be in the form of a short video or printed pamphlet with illustrations
  - The majority of self-collection studies were performed in the presence of a healthcare worker
  - The available evidence for nasal and MT swabs as alternatives to healthcare personnel collection is based on assessment of symptomatic patients
    - Data on self-collection in asymptomatic individuals is currently unavailable
  - The panel considered symptomatic patients to have at least one of the most common symptoms compatible with COVID-19

General Instructions for Swab-Based SARS-CoV-2 Testing

	Nasopharyngeal	Oropharyngeal	Mid-Turbinate	Nasal/Anterior Nares
Who Collects	Healthcare professional	Healthcare professional Medical-supervised on-site self-collection	Healthcare professional Medical-supervised on-site self-collection	Healthcare professional Medical-supervised on-site self-collection
Tools/ Equipment	Flocked, synthetic fiber mini-tip swabs with plastic or wire shafts	Synthetic fiber swabs with plastic shafts only	Flocked tapered swab	Flocked, synthetic fiber or foam swab with plastic shaft
How to Collect	1. Tilt patient's head back 70° 2. Insert flexible shaft mini-tip swab through nares parallel to palate (not upwards) until: a. Resistance is met, OR b. Distance is equivalent to the distance from the patient's ear to their nostril 3. Gently rub and roll swab 4. Leave swab in place for several seconds to absorb secretions 5. Slowly remove swab while rotating it 6. Immediately place swab in sterile tubes containing transport media If collected with OP, combine in single tube → limit use of testing resources	1. Insert swab in posterior pharynx and tonsillar areas 2. Rub swab over posterior pharynx and bilateral tonsillar pillars; avoid tongue, teeth, and gums 3. Immediately place swab in sterile tubes containing transport media If collected with NP, combine in single tube → limit use of testing resources	1. Tilt patient's head back 70° 2. While gently rotating swab, insert swab about 2.5 cm (≥1 in.)# straight back (not up) into nostril until the collar/safety stopping point touches the outside of the nose 3. Rotate swab several times against wall 4. Leave swab in place for several seconds to absorb secretions 5. Repeat for both nostrils using same swab 6. Immediately place in sterile tube containing transport media	1. Insert swab about 1 cm (0.5 in) inside nares 2. Rotate swab and leave in place for 10- 15 seconds 3. Using same swab, repeat for other nostril 4. Immediately place in sterile tube containing transport media

Recommendation 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)

  - The panel considered timeliness of SARS-CoV-2 NAAT results essential to impact individual care and isolation decisions
    - In the hospital setting, results within 24 hours of collection are preferred

Recommendation 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)

  - A low clinical suspicion should be informed by epidemiological information available for the region coupled with clinical judgment

Recommendation 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)

  - Intermediate/high clinical suspicion typically applies to the hospital setting and is based on the severity, numbers and timing of compatible clinical signs/symptoms.
  - Repeat testing should generally occur 24-48 hours after initial testing and once the initial NAAT result has returned as negative
  - Another specimen type, preferably a lower respiratory tract specimen if the patient has signs/symptoms of LRTI, should be considered for repeat testing

Recommendations 7 and 8

- **The IDSA panel makes no recommendations for or against using rapid (i.e., test time ≤1hour) *versus* standard RNA testing in symptomatic individuals suspected of having COVID-19**

(knowledge gap)

- **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)

  - Known exposure was defined as direct contact with a laboratory confirmed case of COVID-19
  - Suspected exposure was defined as working or residing in a congregate setting (e.g., long-term care, correctional facility, cruise ship, factory, among others) experiencing a COVID-19 outbreak
  - The risk of contracting SARS-CoV-2 may vary under different exposure conditions
  - This recommendation assumes the exposed individual was not wearing appropriate PPE
  - The decision to test asymptomatic patients will be dependent on the availability of testing resources

Recommendation 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)

  - Asymptomatic individuals are defined as those with no symptoms or signs of COVID-19
  - A low prevalence of COVID-19 in the community was considered communities with a prevalence of <2%
  - This recommendation does not apply to immunocompromised individuals
  - This recommendation does not apply to individuals undergoing time-sensitive major surgery or aerosol generating procedures

Recommendation 10

- **The IDSA panel recommends 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)

  - Asymptomatic individuals are defined as those with no symptoms or signs of COVID-19
  - A high prevalence of COVID-19 in the community was considered communities with a prevalence of ≥10%
  - The decision to test asymptomatic patients (including when the prevalence is between 2 and 9%) will be dependent on the availability of testing resources

Recommendation 11

- **The IDSA panel recommends for 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)

  - This recommendation defines immunosuppressive procedures as cytotoxic chemotherapy, solid organ or stem cell transplantation, long acting biologic therapy, cellular immunotherapy, or high-dose corticosteroids

Recommendation 12

- **The IDSA panel recommends SARS-CoV-2 RNA testing (*versus* no testing) in asymptomatic individuals before immunosuppressive procedures regardless of a known exposure to COVID-19**

(strong recommendation, very low certainty of evidence)

  - This recommendation defines immunosuppressive procedures as cytotoxic chemotherapy, solid organ or stem cell transplantation, long acting biologic therapy, cellular immunotherapy, or high-dose corticosteroids
  - Testing should ideally be performed as close to the planned treatment/procedure as possible (e.g. within 48-72 hours)
  - Many of these patients require frequent, repeated or prolonged visits to receive treatment
  - This recommendation does not address risks or strategies to deal with SARS-CoV-2 transmission in outpatient settings such as infusion centers

Recommendation 13

- **The IDSA panel suggests for 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)

  - The panel defined time-sensitive surgery as medically necessary surgeries that need to be done within three months
  - Testing should ideally be performed as close to the planned surgery as possible (e.g. within 48-72 hours)
  - To limit potential poor outcomes, deferring non-emergent surgeries should be considered for patients testing positive for SARS-CoV-2
  - Decisions about PPE use for the aerosol generating portions of these procedures may be dependent on test results when there is limited availability of PPE. However, there is a risk for false negative test results, so caution should be exercised by those who will be in close contact with/exposed to the upper respiratory tract (e.g., anesthesia personnel, ENT procedures)
  - The decision to test asymptomatic patients will be dependent on the availability of testing resources
  - This recommendation does not address the need for repeat testing if patients are required to undergo multiple surgeries over time

Recommendation 14

- **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)**
  - The panel defined time-sensitive procedures as medically necessary procedures that need to be done within three months

Aerosol-Generating Procedures

Organization	CDC (COVID-19 guidance)	CDC (Seasonal influenza guidance)	WHO (COVID-19 guidance)	WHO (Epidemic and pandemic - prone acute respiratory diseases)
Procedures	Open suctioning of airways, sputum induction, cardiopulmonary resuscitation, endotracheal intubation and extubation, noninvasive ventilation (e.g., BiPAP, CPAP), bronchoscopy, manual ventilation	Bronchoscopy, sputum induction, elective intubation and extubation, autopsies, cardiopulmonary resuscitation, emergent intubation and open suctioning of airways	Tracheal intubation, noninvasive ventilation, tracheotomy, cardiopulmonary resuscitation, manual ventilation before intubation, and bronchoscopy	Aspiration of respiratory tract, intubation, resuscitation, bronchoscopy, autopsy

Recommendation 15

- **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)

  - The panel defined time-sensitive procedures as medically necessary procedures that need to be done within three months
  - Testing should be performed as close to the planned procedure as possible (e.g. within 48-72 hours)
  - Decisions about PPE will be dependent on test results because of limited availability of PPE. However, there is a risk for false negative test results, so caution should be exercised for those who will be in close contact with/exposed to the patient's airways
  - The decision to test asymptomatic patients will be dependent on the availability of testing resources
  - This recommendation does not address the need for repeat testing if patients are required to undergo multiple procedures over time