

**SUBJECT: Collection of Respiratory Specimens with Special Attention to COVID-19**

**1.0 Scope:**

- 1.1 In March 2020, the World Health Organization on Wednesday declared the rapidly spreading coronavirus outbreak a pandemic, acknowledging what has seemed clear for some time — the virus will likely spread to all countries on the globe.

**2.0 Purpose:**

- 2.1 . To Provide guidelines for Collecting, Handling, and Testing Clinical Specimens for COVID-19

**3.0 Procedure:**

- 3.1 For initial diagnostic testing for SARS-CoV-2, CDC recommends collecting and testing an upper respiratory specimen. The following are acceptable specimens:
- 3.1.1 A nasopharyngeal (NP) specimen collected by a healthcare provider; or
  - 3.1.2 An oropharyngeal (OP) specimen collected by a healthcare provider; or
  - 3.1.3 A nasal mid-turbinate swab collected by a healthcare provider or by a supervised onsite self-collection (using a flocked tapered swab); or
  - 3.1.4 An anterior nares (nasal swab) specimen collected by a healthcare provider or by home or supervised onsite self-collection (using a flocked or spun polyester swab); or
  - 3.1.5 Nasopharyngeal wash/aspirate or nasal wash/aspirate (NW) specimen collected by a healthcare provider.
- 3.2 **Source Types and Collection Procedures**
- 3.2.1 **Nasopharyngeal swab (NP)/Oropharyngeal (Throat) swab (OP)**
    - 3.2.1.1 Use only synthetic fiber swabs with plastic or wire shafts. Do not use calcium alginate swabs or swabs with wooden shafts, as they may contain substances that inactivate some viruses and inhibit PCR testing.
      - 3.2.1.1.1 **NP swab:** Insert minitip swab with a flexible shaft (wire or plastic) through the nostril parallel to the palate (not upwards) until resistance is encountered or the distance is equivalent to that from the ear to the nostril of the patient, indicating contact with the nasopharynx. Swab should reach depth equal to distance from nostrils to outer opening of the ear. Gently rub and roll the swab. Leave swab in place for several seconds to absorb secretions. Slowly remove swab while rotating it. Specimens can be collected from both sides using the same swab, but it is not necessary to collect specimens from both sides if the minitip is saturated with fluid from the first collection. If a deviated septum or blockage create difficulty in obtaining the specimen from one nostril, use the same swab to obtain the specimen from the other nostril.
      - 3.2.1.1.2 **OP swab:** Insert swab into the posterior pharynx and tonsillar areas. Rub swab over both tonsillar pillars and posterior oropharynx and avoid touching the tongue, teeth, and gums.

**3.2.2 Nasal mid-turbinate (NMT) swab, also called Deep Nasal Swab**

3.2.2.1 Use a flocked tapered swab. Tilt patient's head back 70 degrees. While gently rotating the swab, insert swab less than one inch (about 2 cm) into nostril (until resistance is met at turbinates). Rotate the swab several times against nasal wall and repeat in other nostril using the same swab.

**3.2.3 Anterior nares specimen**

3.2.3.1 Using a flocked or spun polyester swab, insert the swab at least 1 cm (0.5 inch) inside the nostril (naris) and firmly sample the nasal membrane by rotating the swab and leaving in place for 10 to 15 seconds. Sample both nostrils with same swab.

**3.2.4 Nasopharyngeal wash/aspirate or nasal wash/aspirate**

3.2.4.1 Attach catheter to suction apparatus. Have the patient sit with head tilted slightly backward. Instill 1 mL-1.5 mL of non-bacteriostatic saline (pH 7.0) into one nostril. Insert the tubing into the nostril parallel to the palate (not upwards). Catheter should reach depth equal to distance from nostrils to outer opening of ear. Begin gentle suction/aspiration and remove catheter while rotating it gently. Place specimen in a sterile viral transport media tube.

**3.2.5 Bronchial/Lower respiratory tract**

3.2.5.1 Bronchoalveolar lavage, tracheal aspirate, pleural fluid, lung biopsy

3.2.5.1.1 Collect 2-3 mL into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container.

3.2.5.2 Due to the increased technical skill and equipment needs, collection of specimens other than sputum from the lower respiratory tract may be limited to patients presenting with more severe disease, including people admitted to the hospital and/or fatal cases.

**3.2.6 Sputum**

3.2.6.1 Educate the patient about the difference between sputum and oral secretions (saliva). Have the patient rinse the mouth with water and then expectorate deep cough sputum directly into a sterile, leak-proof, screw-cap collection cup or sterile dry container.

**3.2.7 Saliva**

3.2.7.1 Use reference lab provided saliva collection kit and follow provided collection procedures

**3.3 Personal Protective Equipment (PPE) Requirements**

3.3.1 When collecting specimens or within 6 feet of patients suspected to be infected with SARS-CoV-2, maintain proper infection control and use recommended personal protective equipment (PPE), which includes an N95 or higher-level respirator, eye protection, gloves, and a gown, when collecting specimens.

3.3.2 For healthcare workers who are handling specimens, but are not directly involved in collection (e.g. self-collection) and not working within 6 feet of the patient, follow Standard Precautions. Healthcare personnel are recommended to wear a form of source control (facemask or cloth face covering) at all times while in the healthcare facility.

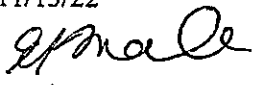
3.3.3 PPE use can be minimized through patient self-collection while the healthcare provider maintains at least 6 feet of separation

**3.4 Handling Sterile Swabs Properly for Upper Respiratory Sample Collection**

- 3.4.1 Before engaging with patients and while wearing a clean set of protective gloves, distribute individual swabs from the bulk container into individual disposable plastic
- 3.4.2 When patients are self-collecting their swabs under clinical supervision:
- 3.4.2.1 Hand a swab to the patient only while wearing a clean set of protective gloves.
- 3.4.2.2 The patient can then self-swab and place the swab in transport media or sterile transport device and seal.
- 3.4.2.3 If the patient needs assistance, you can help the patient place the swab into transport media or a transport device and seal it.

**4.0 Sources**

- 4.1 *FDA FAQs on Diagnostic Testing for SARS-CoV-2 - <https://www.fda.gov/medical-devices/emergencysituations-medical-devices/faqs-diagnostic-testing-sars-cov-2>*
- 4.2 *CDC Laboratory Biosafety and COVID-19: Questions and Answers - <https://www.cdc.gov/coronavirus/2019-ncov/lab/biosafety-faqs.html>*
- 4.3 *CDC Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens from Persons for Coronavirus Disease 2019 (COVID-19), updated as of April 29, 2020 - <https://www.cdc.gov/coronavirus/2019-ncov/lab/guidelines-clinical-specimens.html>*

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# COVID & Droplet Precaution Isolation Room Lab Collection Process

*Do NOT bring phlebotomy cart or tray into the room*

- 1) Place turned on printer and purple tool box into the "SUPPLIES" pass-through door
- 2) Put supplies for a single draw into a clean plastic bag
- 3) "Gown up" (gown, N-95 or PAPR, shield or goggles, and gloves – in this order)
- 4) Enter room: Bring clean plastic bag with drawing supplies and handheld
- 5) Prep inside the room:
  - a. Place paper towels on both sides of the sink counter to create clean work area
  - b. Right side - empty supplies out of bag
  - c. Left side – lay clean plastic bag
- 6) Prior to draw:
  - a. Scan the patients' arm band – Print the labels
  - b. Use a paper towel to open the pass-through door to retrieve the labels
- 7) Draw patient – label tubes
  - a. If redraw is needed use toolbox in pass-through:
    - i. Discard supplies used and dirty gloves
    - ii. Put on new gloves
    - iii. Use paper towel to open pass-through
    - iv. Retrieve necessary supplies for the draw
    - v. Close door with paper towel
- 8) After successful collection (at the sink)
  - a. Right side – place tubes
  - b. Discard all trash
  - c. Remove dirty gloves
  - d. Wash hands with soap and water or hand sanitizer
  - e. Put on clean gloves
  - f. Open the clean plastic bag
  - g. Place tubes into the bag using your right hand – do NOT touch bag
  - h. Using dirty hand – discard any paper towels and additional trash
  - i. Put on new gloves and close plastic bag
  - j. Leave room – use paper towel for door handle

9) Outside room:

- a. Place bagged specimens in to the isolation specimen tub on cart
- b. Wipe down handheld
- c. Retrieve and wipe down label printer and toolbox from pass-through
- d. RESTOCK toolbox if necessary

**Note**

Use elbow to turn lights on and off

Do NOT touch or lean against nurses' station in dirty gown