

## Collecting and Handling COVID-19 Specimens Safely

For [healthcare providers](#) collecting specimens or working 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 (or face mask if a respirator is not available), eye protection, gloves, and a gown.

For healthcare providers who are handling specimens, but are not directly involved in collection (e.g. handling self-collected specimens) and not working within 6 feet of the patient, follow [Standard Precautions](#). Healthcare providers should wear a form of [source control](#) (face mask) at all times while in the healthcare facility.

Healthcare providers can minimize PPE use if patients collect their own specimens while maintaining at least 6 feet of separation. For example, the provider should wear a face mask, gloves, and a gown.

### Respiratory Specimen Collection

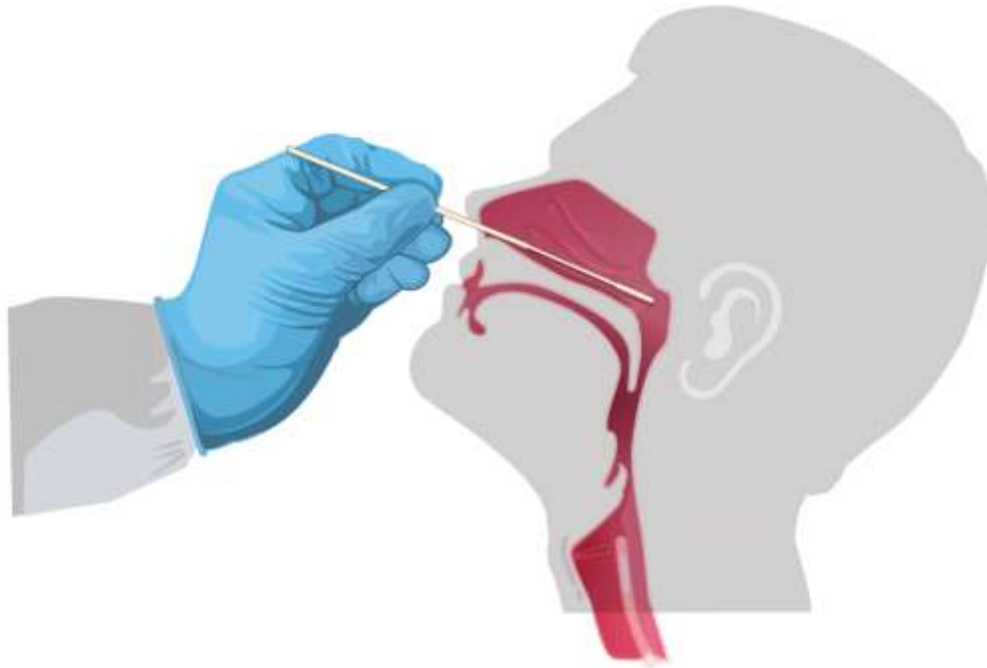
Respiratory specimens should be collected as soon as a decision has been made to test someone, regardless of the time of symptom onset. The guidance below addresses options for collecting specimens.

**Proper specimen collection is the most important step in the laboratory diagnosis of infectious diseases. A specimen that is not collected correctly may lead to false or inconclusive test results. The following specimen collection guidelines follow standard recommended procedures.**

For initial diagnostic testing for current SARS-CoV-2 infections, CDC recommends collecting and testing an upper respiratory specimen. Contact the testing laboratory to confirm accepted specimen types and follow the manufacturer instructions for specimen collection. Sterile swabs should be used for the collection of upper respiratory specimens. This is important both to ensure patient safety and preserve specimen integrity. Note that nasopharyngeal and oropharyngeal specimens are not appropriate for self-collection.

A. Upper respiratory tract

**Nasopharyngeal specimen (NP) collection /Oropharyngeal (OP) (throat) specimen collection (performed by a trained healthcare provider, only)**



Use only synthetic fiber swabs with thin plastic or wire shafts that have been designed for sampling the nasopharyngeal mucosa. Do not use calcium alginate swabs or swabs with wooden shafts, as they may contain substances that inactivate some viruses and may inhibit molecular tests. CDC recommends collecting only the NP specimen, although an OP specimen is an acceptable specimen type. If both NP and OP specimens are collected, combine them in a single tube to maximize test sensitivity and limit use of testing resources.

***Instructions for collecting an NP specimen (performed by a trained healthcare provider):***

- Tilt patient's head back 70 degrees.
- Gently and slowly insert a 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.
- 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.
- Place swab, tip first, into the transport tube provided.

***Instructions for collecting an OP specimen (performed by a trained healthcare provider):***

- 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.
- Place swab, tip first, into the transport tube provided.

**Nasal mid-turbinate (NMT) specimen (performed by a healthcare provider or the patient after reviewing and following collection instructions):**

- Use a 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 parallel to the palate (not upwards) until resistance is met at turbinates.
- Rotate the swab several times against nasal wall and repeat in other nostril using the same swab.
- Place swab, tip first, into the transport tube provided.

Visual guides

- For healthcare providers, see the [Nasal Mid-Turbinate \(NMT\) Specimen Collection Steps pdf icon](#)[16 MB, 2 pages]
- For patients and consumers, see the [How to Collect a Nasal Mid-Turbinate Specimen for COVID-19 Testing infographic pdf icon](#)[4 MB, 2 pages].

**Anterior nasal specimen (performed by a healthcare provider or the patient after reviewing and following the collection instructions):**

- Insert the entire collection tip of the swab provided (usually 1/2 to 3/4 of an inch, or 1 to 1.5 cm) inside the nostril.
- Firmly sample the nasal wall by rotating the swab in a circular path against the nasal wall at least 4 times.
- Take approximately 15 seconds to collect the specimen. Be sure to collect any nasal drainage that may be present on the swab.
- Repeat in the other nostril using the same swab.
- Place swab, tip first, into the transport tube provided.

For a visual guide, see the [How To Collect An Anterior Nasal Swab Specimen For COVID-19 Testing infographic pdf icon](#)[371 KB, 2 pages].

## Assessing Validity of Specimens Obtained Through Self-Collection

Self-collection of specimens, both unsupervised and supervised by a medical professional, is currently available for [specific tests authorizedexternal icon](#) by the FDA. Additional authorized diagnostic tests for the detection of SARS-CoV-2 will likely have this capability as well.

Laboratories should confirm the specimen has been obtained correctly and from the individual that is being tested. Generally, Clinical Laboratory Improvement Amendments (CLIA) requires laboratories to ensure positive specimen identification and optimum integrity of a patient's specimen using at least two separate (distinct) or unique identifiers, such as patient's name or another unique identifier. Other information that must be provided to the laboratory when requesting a test includes the sex and age or date of birth of the patient; the test(s) to be performed; the specimen source; the date and, if appropriate, the time of specimen collection.

## Storing and Shipping Respiratory Specimens

Pack and ship suspected and confirmed SARS-CoV-2 patient specimens, cultures, or isolates as UN 3373 Biological Substance, Category B, in accordance with the current edition of the [International Air Transport Association \(IATA\) Dangerous Goods Regulations external icon](#) and [U.S. Department of Transportation's \(DOT\) Transporting Infectious Substances Safelypdf iconexternal icon](#). Personnel must be trained to pack and ship according to the regulations and in a manner that corresponds to their function-specific responsibilities.

Additional information on packing, shipping, and transporting specimens can be found at [Interim Laboratory Biosafety Guidelines for Handling and Processing Specimens Associated with Coronavirus Disease 2019 \(COVID-19\)](#).