

Novel Coronavirus (COVID-19) Laboratory Testing Guidelines

General Information:

- At this time, diagnostic testing for COVID-19 can be conducted only at CDC and select national laboratories.
- Testing for other respiratory pathogens by the provider should be done as part of the initial evaluation and should not delay specimen shipping to CDC.
- In order to increase the likelihood of detecting infection, collect all three specimen types (upper and lower respiratory tract, serum) and hold until public health and CDC make the testing determination
- Infection prevention will work with public health authorities and the CDC for determination of testing a patient under investigation (PUI).
- **Providers should not order viral cultures if the patient is under investigation for COVID-19, but instead rely on molecular based tests for diagnostic purposes.**

Specimen Collection:

Lower Respiratory Tract:

- **bronchoalveolar lavage, tracheal aspirate:** collect 2-3 mL into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container. Refrigerate specimen at 2-8°C and ship overnight to CDC on ice pack.
- **sputum:** have the patient rinse the mouth with water and then expectorate deep cough sputum directly into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container. Refrigerate specimen at 2-8°C and ship overnight to CDC on ice pack.

Upper Respiratory Tract:

- **nasopharyngeal swab AND oropharyngeal swab (NP/OP swab):** use only synthetic fiber swabs with plastic 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. Place swabs immediately into sterile tubes containing 2-3 ml of viral transport media. NP and OP specimens should be kept in separate vials. Refrigerate specimen at 2-8°C and ship overnight to CDC on ice pack.
 - *Nasopharyngeal swab:* Insert a swab into the nostril parallel to the palate. Leave the swab in place for a few seconds to absorb secretions. Swab both nasopharyngeal areas with the same swab.
 - *Oropharyngeal swab (e.g., throat swab):* Swab the posterior pharynx, avoiding the tongue.
- **nasopharyngeal wash/aspirate or nasal aspirate:** collect 2-3 mL into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container. Refrigerate specimen at 2-8°C and ship overnight to CDC on ice pack.

Serum:

- **Minimum volume required:**
 - *Children and adults:* Collect 1 tube (5-10 mL) of whole blood in a serum separator tube.
 - *Infant:* A minimum of 1 mL of whole blood is needed for testing pediatric patients. If possible, collect 1 mL in a serum separator tube.
- Serum separator tubes should be stored upright for at least 30 minutes, and then centrifuged at 1000–1300 relative centrifugal force (RCF) for 10 minutes before removing the serum and placing it in a separate sterile tube for shipping (such as a cryovial). Refrigerate the serum specimen at 2-8°C and ship overnight to CDC on ice-pack.

Shipping

Specimens must be packaged, shipped, and transported according to the current edition of the [International Air Transport Association \(IATA\) Dangerous Goods Regulation](#)^{external icon}. Store specimens at 2-8°C and ship overnight to CDC on ice pack. If a specimen is frozen at -70°C ship overnight to CDC on dry ice.