



NC DEPARTMENT OF  
**HEALTH AND  
HUMAN SERVICES**

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January 21, 2020

To: All North Carolina Health Care Providers  
From: Erica Wilson, MD, MPH, Medical Epidemiologist  
Scott Shone, PhD, HCLD(ABB), Laboratory Director  
Re: 2019 Novel Coronavirus in Wuhan, China (3 pages)

This memo is intended to provide the latest information to all North Carolina clinicians regarding the 2019 Novel Coronavirus (2019-nCoV) in Wuhan, China, including specimen testing requirements.

### Summary

An outbreak of pneumonia of unknown etiology in Wuhan City was initially reported to WHO on December 31, 2019. On January 12, 2020 Chinese health officials publicly posted the genetic sequence of a novel coronavirus, related to Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS), identified as the cause of illness. Numbers of reported cases have continued to increase and exported cases in travelers in multiple countries have been reported.

Initial cases reported a link to a large seafood and animal market, suggesting a zoonotic origin; however, increasing numbers of patients have not reported exposure to animal markets suggesting limited person-to-person spread.

The U.S. is currently actively screening incoming travelers from Wuhan, China and the Centers for Disease Control and Prevention (CDC) released Health Alert Notice (HAN) Advisories on January 8 and January 17. As the situation continues to evolve the most up to date information can be found at <https://www.cdc.gov/coronavirus/2019-ncov/index.html>.

### Case Investigation and Testing

- Patients who meet the following criteria should be evaluated as a Patient Under Investigation (PUI) in association with the outbreak of 2019-nCoV in Wuhan City, China.
  - 1) Fever<sup>1</sup> AND symptoms of lower respiratory illness (e.g., cough, shortness of breath)
    - and in the last 14 days before symptom onset,
      - History of travel from Wuhan City, China
      - or-
      - Close contact<sup>2</sup> with a person who is under investigation for 2019-nCoV while that person was ill.
  - 2) Fever<sup>1</sup> OR symptoms of lower respiratory illness (e.g., cough, shortness of breath)
    - and in the last 14 days before symptom onset,
      - Close contact<sup>2</sup> with an ill laboratory-confirmed 2019-nCoV patient.

**NC DEPARTMENT OF HEALTH AND HUMAN SERVICES • DIVISION OF PUBLIC HEALTH**

LOCATION: 225 North McDowell St., Raleigh, NC 27603  
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- **Clinicians caring for patients meeting these criteria should immediately contact their local health department or the state Communicable Disease Branch (919-733-3419; available 24/7) to discuss laboratory testing and control measures.**
- Persons who meet criteria should also be evaluated for common causes of community-acquired pneumonia, if not already done. (Note: Viral culture should not be attempted in cases with a high index of suspicion.) The state or local health department should still be consulted if the patient tests positive for another respiratory pathogen as information on possible 2019-nCoV infections is still unknown.
- Any cluster of severe acute respiratory illness in healthcare workers in the United States should be thoroughly investigated. Occurrence of a severe acute respiratory illness cluster of unknown etiology should prompt immediate notification of local public health for further investigation and testing.

### Infection Control

- Although the transmission dynamics have yet to be determined, CDC currently recommends a cautious approach to patients under investigation for 2019-nCoV.
  - Standard, contact, and airborne precautions are recommended for management of patients in healthcare settings with known or suspected 2019-nCoV infection. These include:
    - Use of fit-tested NIOSH-approved N95 or higher level respirators
    - Use of gowns, gloves and eye protection (e.g., goggles or face shield)
    - Use of negative-pressure airborne infection isolation rooms if available
  - Patients should be asked to wear a surgical mask as soon as they are identified. The patient should continue to wear the mask if an airborne isolation room is not available or if they must be moved from their room.
- As the situation continues to evolve, please find updated guidance at <https://www.cdc.gov/coronavirus/2019-nCoV/infection-control.html>.

### Treatment

- Limited information is available to characterize the spectrum of clinical illness associated with 2019-nCoV. No vaccine or specific treatment for 2019-nCoV infection is available; care is supportive

### Testing

- Testing is available at the CDC through the N.C. State Laboratory of Public Health Bioterrorism and Emerging Pathogens (BTEP) unit. **CONTACT THE BTEP UNIT (919-807-8600) PRIOR TO ANY SHIPMENT OR IF YOU HAVE QUESTIONS.**
- Specimens should be collected as soon as possible once a PUI is identified regardless of time of symptom onset. Additional guidance for collection, handling, and testing of clinical specimens is available at <https://www.cdc.gov/coronavirus/2019-nCoV/guidance-laboratories.html>.
- To increase the likelihood of detecting an infection, CDC recommends collecting and testing multiple clinical specimens from different sites, including lower respiratory, upper respiratory, and serum specimens. Additional specimen types (e.g., stool, urine) may be collected and stored.
  - 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.
- All specimen submissions **must** have a completed [BTEP Specimen Submission Form](#).
- This is a novel emerging coronavirus and data is not currently available on the performance of current assays which target human coronavirus, SARS, or MERS. Therefore, it is important that local or state public health officials be notified so that arrangements can be made for testing at CDC where a specific assay is currently available.

**This is an evolving situation and recommendations are likely to change as new information becomes available. Updated information and guidance are available from the CDC at <https://www.cdc.gov/coronavirus/2019-nCoV/>.**

Notes:

<sup>1</sup>Fever may not be present in some patients, such as those who are very young, elderly, immunosuppressed, or taking certain fever-lowering medications. Clinical judgment should be used to guide testing of patients in such situations.

<sup>2</sup>Close contact is defined as:

- a) being within approximately 6 feet (2 meters), or within the room or care area, of a novel coronavirus case for a prolonged period of time while not wearing recommended personal protective equipment or PPE (e.g., gowns, gloves, NIOSH-certified disposable N95 respirator, eye protection); close contact can include caring for, living with, visiting, or sharing a healthcare waiting area or room with a novel coronavirus case.  
– or –
- b) having direct contact with infectious secretions of a novel coronavirus case (e.g., being coughed on) while not wearing recommended personal protective equipment.