What type of virus is 2019-nCoV?
Coronaviruses are a large family of viruses that are common in many different species of animals, including camels, cattle, cats, and bats. Rarely, animal coronaviruses can infect people and then spread between people such as with MERS and SARS. Many of the patients in the pneumonia outbreak caused by 2019-nCoV in Wuhan, China had some link to a large seafood and live animal market, suggesting animal-to-person spread. However, a growing number of patients reportedly have not had exposure to animal markets, indicating person-to-person spread is occurring. The name for the disease caused by the novel coronavirus is COVID-19.

How is 2019-nCoV virus spread?
It is not confirmed but we think 2019-nCoV spreads like other coronaviruses (like those that cause SARS or MERS), by respiratory droplets. When person-to-person spread has occurred with MERS and SARS, it is thought to have happened via respiratory droplets produced when an infected person coughs or sneezes, similar to how influenza and other respiratory pathogens spread. Spread of SARS and MERS between people has generally occurred between close contacts.

How contagious is 2019-nCoV?
It’s important to note that how easily a virus spreads person-to-person can vary. Some viruses are highly contagious (like measles), while other viruses are less so. It’s not clear yet how easily 2019-nCoV spreads from person-to-person. It’s important to know this in order to better understand the risk associated with this virus. Preliminary information suggests this virus is not as contagious as the SARS virus.

What kind of symptoms do people infected with 2019-nCoV have?
Patients with confirmed 2019-nCoV infection have reportedly had mild to severe respiratory illness with symptoms of:

- fever
- cough
- shortness of breath

CDC believes at this time that symptoms of 2019-nCoV may appear in as few as 2 days or as long as 14 after exposure.

Who is at risk for being infected with 2019-nCoV?
Currently, the CDC notes that persons at risk for 2019-nCoV as the following:

<table>
<thead>
<tr>
<th>Clinical Features</th>
<th>Epidemiologic Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever or signs/symptoms of lower respiratory illness (e.g. cough or shortness of breath)</td>
<td>AND Any person, including health care workers, who has had close contact with a laboratory-confirmed 2019-nCoV patient within 14 days of</td>
</tr>
</tbody>
</table>
Fever and signs/symptoms of a lower respiratory illness (e.g., cough or shortness of breath) **AND** A history of travel from Hubei Province, China within 14 days of symptom onset

Fever and signs/symptoms of a lower respiratory illness (e.g., cough or shortness of breath) **requiring hospitalization** **AND** A history of travel from mainland China within 14 days of symptom onset

As the outbreak evolves, the area of concern may increase (i.e. expand to all of China). VUMC has included any travel to China as part of our initial screen to be safe as we work to identify potential cases.

**What if a person with fever and respiratory symptoms has contact with someone from China but has not been there personally? Could they have 2019-nCoV?**

Those persons would not be considered at risk unless their close contact was under investigation for 2019-nCoV or has confirmed infection.

**What if a person has fever and respiratory symptoms and has been to places that have reported cases (like Singapore or Seattle)? Would they be at risk?**

No, as there is no report of sustained human-to-human transmission in those locations.

**When can an infected person spread 2019-nCoV virus to others?**

While not completely known, it likely mirrors that of other coronaviruses, in that spread occurs with fever and respiratory symptoms. While there have been initial reports of asymptomatic transmission, the CDC states that the data are not clear at this stage that asymptomatic spread occurs.

**2019-nCoV FAQs: PATIENT SCREENING & PLACEMENT**

**Will VUMC see any 2019-nCoV patients?**

Given the degree of air travel, there is a small chance that a patient with suspected or confirmed 2019-nCoV seeks care at VUMC. This will also be impacted by how quickly the outbreak is controlled in China. It will be important to provide care in a safe manner to protect our staff and others but to also ensure that the patient's diagnosis is confirmed or ruled out. A more likely patient that we may see at VUMC will be a person who may have traveled to a country with ongoing virus transmission without a known exposure to 2019-nCoV but who has clinical symptoms of an infection. It’s more likely that person will have a regular respiratory virus infection like influenza, but we may need to rule out 2019-nCoV as well.

**How will VUMC detect patients that may have 2019-nCoV?**

In eStar, we have several contagious infection and travel screening questions that should be performed on all patients when they first arrive at VUMC. These questions ask details on recent travel as well as the presence of any symptoms, like fever and cough. In the event a patient answers yes to recent travel to China and has fever and cough, an alert will arise informing you to place a surgical mask on the patient, place the patient in a private room (negative pressure if available) and to contact Infection Prevention On-Call at 615-835-1205 immediately. They will then guide you through the next steps.
What should I do if I have a patient with suspected 2019-nCoV?
If they are positive on the travel screen, give the patient a surgical mask to wear and place him or her in a single-occupancy room (negative pressure if available). Then call Infection Prevention On-Call. That person will ask several questions about the patient (symptoms history, timing of travel, any history of contact with person who have been diagnosed with or are under testing for 2019-nCoV) and then based on the response, will discuss the patient with the Tennessee Department of Health Epidemiologist. From that discussion, the patient may be designated as a person under investigation (PUI) and undergo testing.

If you have an outpatient in your clinic area suspected of having 2019-nCoV (e.g. the patient screens positive on the initial intake or check-in screening), your first steps should be as follows:

- Ask the patient to put on a surgical mask
- Isolate the patient in a private/isolation room
- Tell the patient: "Please wait here while we call our infection experts to discuss your symptoms and travel history. If you have any urgent needs, please let us know, but please do not leave the room."
- Contact Infection Prevention On-Call at 615-835-1205
- Ensure the patient is clinically stable but minimize entry into the room to only essential personnel. Limit room entry by utilizing telephone to converse with the patient
- If the patient is suspected or a confirmed 2019-nCoV patient, the patient will be moved to the VUMC ED or an inpatient unit for testing.

What if one of my patients calls the clinic and states they have fever and/or respiratory symptoms and have travelled to China? Should I tell them to stay home?
First, assess the patient’s clinical picture. If they meet your usual criteria that would warrant an evaluation in clinic, have them come in with a few added steps. Make sure they alert you once they have arrived (call front desk and wait in car until further instructions), have a surgical mask ready to be placed on the patient, take them directly back to a private room (with a closed door) and follow the process outlined above. If, as you would for any patient with a possible respiratory infection, they meet your usual criteria to stay home, ask them the following questions:

1) What were the exact dates of travel?
2) Where specifically in China (cities, provinces) did they travel?
3) When did the symptoms start? Do they have fever, cough or shortness of breath?
4) Have they had any known contacts with confirmed 2019-nCoV or who are currently being tested for 2019-nCoV?

Instruct the patient to stay at home and get a contact number. Then call Infection Prevention On-Call with that information and to receive guidance on next steps.

If we have a suspected or confirmed 2019-nCoV patient, where at VUMC will that patient be treated?
These patients can be safety treated using some of our usual isolation precautions. Specifically, the patient is placed in a negative pressure room and Contact (gowns, gloves), Airborne (N-95 Respirator or PAPR) and Standard (eye protection with goggles or face shield) Precautions are used. At VUMC, we call combination of these precautions “Enhanced Precautions.”
Does the patient suspected of 2019-nCoV infection need to go to the CDRU?
No. We can safely care for these patients using the infection prevention precautions noted above. The TN Department of Health has also emphasized that any hospital with an airborne infection isolation room should be able to safely evaluate/treat a patient under investigation/confirmed case.

2019-nCoV FAQs: ISOLATION PRECAUTIONS

What precautions are in place to protect the healthcare personnel treating the patient from becoming infected?
We have an extensive plan in place to ensure our healthcare workers are protected. We will follow the CDC recommended practices that include wearing personal protective equipment (a.k.a. PPE). We will place these patients in a private, negative pressure room.

What constitutes appropriate personal protective equipment (PPE)?
We are following CDC guidance regarding PPE. All PPE is one time use only; discard PPE when leaving the room and get new PPE when entering room.

1) Contact Precautions – wear gloves and gown
2) Airborne Precautions – wear N-95 respirator or PAPR
3) Standard Precautions – eye protection with goggles or face shield

At VUMC, we call combination of these precautions “Enhanced Precautions.” It is also important that we continue our outstanding adherence to basic infection practices such as hand hygiene with soap and water or alcohol, especially with the removal of the PPE.

How will the person with 2019-nCoV be transported within VUMC?
If they have to leave their room for a necessary procedure, the patient should be masked. In addition, we will not share elevator space with other patients, and healthcare workers transporting patients will wear the personal protective equipment noted earlier.

How will we monitor our employees and staff who are exposed to a 2019-nCoV patient?
Everyone who takes care of a confirmed 2019-nCoV will be actively monitored by Occupational Health for signs of fever and respiratory illnesses.

Is it safe for healthcare workers who have cared for a 2019-nCoV patient to go to their home and be around their loved ones?
Yes. As long as the worker has no symptoms or fever, it is safe to go about normal activities and to be around friends and family. Should symptoms develop, notify Occupational Health, as we may need to evaluate for possible infection.

How will we make sure that our other patients, clinicians and staff are protected while a 2019-nCoV patient is at VUMC?
The patient will be physically separated from other patients and individuals and placed in a negative pressure room. In the event they have to leave the room, they will wear a surgical mask that will prevent spread of virus. Use of the infection prevention tools noted earlier will prevent the spread of this virus to others.

**2019-nCoV FAQs: TESTING & TREATMENT**

**How do we test for 2019-nCoV?**
Testing at present can only be performed by the CDC labs. Testing must be approved by the CDC through our TN Department of Health colleagues. As such, any suspected case must go through the evaluation process before testing can be performed. Infection Prevention will facilitate these conversations with our health department colleagues. Details on type of specimens and how to collect them are found here.

**Can we send tests for other respiratory viruses, like the respiratory pathogen panel?**
Yes, but we will need to perform some steps on the specimen first that we will work with the frontline teams on if this situation arises.

**The respiratory pathogen panel tests for 4 types of coronavirus (HKU1, NL63, 229E and OC43). Are those the same as the 2019-nCoV?**
No, those are different coronaviruses that commonly circulate and cause respiratory illness. A positive RPP for coronavirus does not mean the patients has been infected with the 2019-nCoV strain. The 2019-nCoV has not been shown to cross-react with these tests.

**Are there any treatments against 2019-nCoV?**
There is no specific antiviral treatment recommended for 2019-nCoV infection. People infected with 2019-nCoV should receive supportive care to help relieve symptoms. For severe cases, treatment should include care to support vital organ functions.

**Is there a vaccine against the 2019-nCoV?**
Not at present.

**2019-nCoV FAQs: WASTE MANAGEMENT AND DISINFECTION**

**I remember with Ebola, there was a lot of concern with management of patient waste. Is that an issue with 2019-nCoV?**
Unlike Ebola, there is not the same concerns with waste management with 2019-nCoV. Waste can be handled as we would regular isolation room waste. There is no extra precautions that are necessary.

**What special disinfection practices are necessary for the rooms of patients with 2019-nCoV?**
The usual disinfectants we use in our isolation rooms will be effective in removing any virus in the environment.
Q: What are the current recommendations for persons who have traveled from China?

A: The CDC and TN DOH have broadened the recommendations for people who travel from China to align with the recently announced Presidential Proclamation on Novel Coronavirus. In summary:

- Foreign nationals who have visited China in the past 14 days may not enter the United States.
- American citizens, lawful permanent residents, and their families who have been in China in the past 14 days will be allowed to enter the United States, but will be redirected to one of 11 airports to undergo health screening. Depending on their health and travel history, they will have some level of restrictions on their movements for 14 days from the time they left China.

If you are in the second group above and are traveling to the United States:

- Your travel will be redirected to one of 11 U.S. airports where CDC has quarantine stations.
- You will be asked about your health and travel.
- Your health will be screened for fever, cough, or trouble breathing.

Depending on your health and travel history:

- You will have some restrictions on your movement for a period of 14 days from the time you left China.

**Travelers who have been in Hubei Province in the past 14 days:**

- If you have fever, cough, or trouble breathing: CDC staff at the airport will evaluate you for illness. You will be taken to a medical facility for further evaluation and care. You will not be able to complete your travel itinerary.
- If you do not have symptoms (fever, cough, trouble breathing): You will be placed under a federal, state or local quarantine order for a 14-day period from the time you left China. You may not be able to complete your travel itinerary until the 14-day period has elapsed.

**Travelers from other parts of China (outside Hubei Province) in the last 14 days:**

- If you have fever, cough, or trouble breathing: CDC staff at the airport will evaluate you for illness. You will be taken to a medical facility for further evaluation and care. You may not be able to complete your travel itinerary.
- If you do not have symptoms: You will be allowed to reach your final destination. After arrival at your final destination, you will be asked to monitor your health for a period of 14 days from the time you left China. You will receive a health information card that
tells you what symptoms to look for and what to do if you develop symptoms. During that time, you should stay home and limit interactions with others as much as possible. Your state or local health department will contact you for further follow up.

Q: After returning from China, when can individuals return to work?

A: Anyone who enters the United States after being in China during the past 14 days will have some level of restrictions on their movements. Travelers from Hubei will be quarantined and not able to leave the quarantine facility. Travelers from other parts of China who do not have any symptoms are being asked to monitor their health and practice social distancing for 14 days. Social distancing means remaining out of public places where close contact with others may occur (e.g., shopping centers, movie theaters, stadiums), workplaces (unless the person works in an office space that allows distancing from others), schools and other classroom settings, and local public conveyances (e.g., bus, subway, taxi, ride share) for the duration of the potential incubation period unless presence in such locations is approved by the state or local health department. These restrictions are to be in effect for 14 days from the time the person was possibly exposed.

2019-nCoV RESOURCES:

- Infection Prevention Website: https://www.vumc.org/infectioncontrol/
- Hospital Epidemiologist on-call pager: 615-835-8826.
- Infection Prevention on-call pager 615-835-1205
- Emergency Preparedness: 615-936-8224