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. For more information on clinical management of COVID-19 patients, see [https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html](https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html)

Who is at risk for severe disease from COVID-19?
The available data are currently insufficient to identify risk factors for severe clinical outcomes. From the limited data that are available for COVID-19 infected patients, and for data from related coronaviruses such as SARS-CoV and MERS-CoV, it is possible that older adults, and persons who have underlying chronic medical conditions, such as immunocompromising conditions, may be at risk for more severe outcomes.

Updated February 27, 2020
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>&amp;</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</td>
<td>Any person, including health care workers, who has had close contact with a laboratory-confirmed COVID-19 patient within 14 days of symptom onset</td>
</tr>
<tr>
<td>Fever and signs/symptoms of a lower respiratory illness (e.g., cough or shortness of breath) requiring hospitalization</td>
<td>AND</td>
<td>A history of travel from affected geographic areas within 14 days of symptom onset</td>
</tr>
<tr>
<td>Fever with severe acute lower respiratory illness (e.g., pneumonia, ARDS) requiring hospitalization and without alternative explanatory diagnosis (e.g., influenza)</td>
<td>AND</td>
<td>No source of exposure has been identified</td>
</tr>
</tbody>
</table>

Affected Geographic Areas with Widespread or Sustained Community Transmission
(Last updated February 26, 2020)

- China
- Iran
- Italy
- Japan
- South Korea

We have expanded our travel screening to include more countries: Japan, S. Korea, Hong Kong, Iran, and Italy. As this outbreak continues to spread, the area of concern will increase.

What if a person with fever and respiratory symptoms has contact with someone from an area of novel coronavirus spread 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 California)? Would they be at risk? Not at this time, 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.

Which body fluids can spread infection? Very limited data are available about detection of SARS-CoV-2 and infectious virus in clinical specimens. SARS-CoV-2 RNA has been detected from upper and lower respiratory tract specimens, and SARS-CoV-2
has been isolated from upper respiratory tract specimens and bronchoalveolar lavage fluid. SARS-CoV-2 RNA has been detected in blood and stool specimens, but whether infectious virus is present in extrapulmonary specimens is currently unknown. The duration of SARS-CoV-2 RNA detection in upper and lower respiratory tract specimens and in extrapulmonary specimens is not yet known but may be several weeks or longer, which has been observed in cases of MERS-CoV or SARS-CoV infection. While viable, infectious SARS-CoV has been isolated from respiratory, blood, urine, and stool specimens, in contrast – viable, infectious MERS-CoV has only been isolated from respiratory tract specimens. It is not yet known whether other non-respiratory body fluids from an infected person including vomit, urine, breast milk, or semen can contain viable, infectious SARS-CoV-2.

Can people who recover from COVID-19 be infected again?
The immune response to COVID-19 is not yet understood. Patients with MERS-CoV infection are unlikely to be re-infected shortly after they recover, but it is not yet known whether similar immune protection will be observed for patients with COVID-19.

2019-nCoV FAQs: PATIENT SCREENING & PLACEMENT

Will VUMC see any 2019-nCoV patients?
As this outbreak has continued to spread, it is becoming more likely that VUMC will see cases, especially once there is sustained transmission in the U.S. not related to travel. As of today, 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 but per CDC a closed door room with the patient wearing a surgical mask is acceptable protection) 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. It is also essential that a clinical assessment be performed as you would for most patients, as this will dictate where this patient should be sent. If they do not need to be admitted, we do not want to send all possible patients into the ED, for example.

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 – per the CDC, placement of a suspect COVID-19 patient into a regular room with a closed door and the patient instructed to keep wearing the mask in the room is an acceptable method to use to conduct the initial evaluation.
• 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.

What if one of my patients calls the clinic and states they have fever and/or respiratory symptoms and have travelled to a COVID area? 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 the country of concern (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.

Should any diagnostic or therapeutic interventions be withheld due to concerns about transmission of COVID-19?
Patients should receive any interventions they would normally receive as standard of care. Patients with suspected or confirmed COVID-19 should be asked to wear a surgical mask as soon as they are identified and be evaluated in a private room with the door closed, ideally an airborne infection isolation room, if available. Healthcare personnel entering the room should use Standard Precautions, Contact Precautions, Airborne Precautions, and use eye protection (e.g., goggles or a face shield).
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. Per the CDC, placement of a suspect COVID-19 patient into a regular room with a closed door and the patient instructed to keep wearing the mask in the room is an acceptable method to use to conduct the initial evaluation.

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 or in a room with the door closed and patient masked. In the event they have to leave the room, they will wear a surgical mask that will prevent spread of virus if not already wearing one.
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 and Tennessee State 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

Should medical waste or general waste from healthcare facilities treating PUIs and patients with confirmed COVID-19 be handled any differently or need any additional disinfection?
Medical waste (trash) coming from healthcare facilities treating COVID-2019 patients is no different than waste coming from facilities without COVID-19 patients. CDC’s guidance states that management of laundry, food service utensils, and medical waste should be performed in accordance with routine procedures. There is no evidence to suggest that facility waste needs any additional disinfection.

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.
2019-nCoV FAQs: TRAVEL ISSUES

As travel guidance is regularly changing, please refer the CDC’s excellent webpage at https://www.cdc.gov/coronavirus/2019-ncov/travelers/index.html

Should travelers wear face masks during travel to protect themselves?
CDC does not recommend travelers wear facemasks to protect themselves from COVID-19. You may choose to wear a mask, but it is more important that you take these steps:

- Avoid close contact with people who are sick.
- Avoid touching your eyes, nose, and mouth with unwashed hands.
- Stay home when you are sick.
- Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
- Clean and disinfect frequently touched objects and surfaces using a regular household cleaning product.
- Wash your hands often with soap and water for at least 20 seconds, especially after going to the bathroom; before eating; and after blowing your nose, coughing, or sneezing.
- If soap and water are not readily available, use an alcohol-based hand sanitizer that contains 60%–95% alcohol.

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