

# About 2019 Novel Coronavirus (2019-nCoV)

The Centers for Disease Control and Prevention (CDC) is closely monitoring an outbreak of respiratory illness caused by a novel (new) coronavirus first identified in Wuhan, Hubei Province, China. Chinese authorities identified the new coronavirus, which has resulted in thousands of confirmed cases in China, including cases outside Wuhan City. Additional cases have been identified in a growing number of other international locations, including the United States.

2019 Novel Coronavirus (2019-nCoV) is a virus (more specifically, a coronavirus) identified as the cause of an outbreak of respiratory illness first detected in Wuhan, China. Early on, many of the patients in the outbreak in Wuhan, China reportedly had some link to a large seafood and 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. At this time, it's unclear how easily or sustainably this virus is spreading between people.

## How 2019-nCoV Spreads

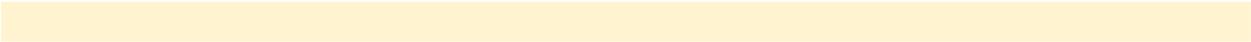
Coronaviruses are a large family of viruses that are common in many different species of animals, including camels, cattle, cats, and bats. Rarely, animal coronaviruses can infect people and then spread between people such as with MERS and SARS.

When person-to-person spread has occurred with MERS and SARS, it is thought to have happened mainly 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.

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 important to know this in order to better understand the risk associated with this virus. While CDC considers this is a very serious public health threat, based on current information, the immediate health risk from 2019-nCoV to the general American public is considered low at this time.

## Criteria to Guide Evaluation of Patients Under Investigation (PUI) for 2019-nCoV

Patients in the United States who meet the following criteria should be evaluated as a PUI in association with the outbreak of 2019-nCoV in Wuhan City, China.



The criteria are intended to serve as guidance for evaluation. Patients should be evaluated and discussed with public health departments on a case-by-case basis if their clinical presentation or exposure history is equivocal (e.g., uncertain travel or exposure).

## Recommendations for Reporting, Testing, and

Clinical features and epidemiologic risk		
Clinical Features	&	Epidemiologic Risk
Fever <b>and</b> symptoms of lower respiratory illness (e.g., cough, difficulty breathing)	and	In the last 14 days before symptom onset, a history of travel from Wuhan City, China.  – or –  In the last 14 days before symptom onset, close contact with a person who is under investigation for 2019-nCoV while that person was ill.
Fever <b>or</b> symptoms of lower respiratory illness (e.g., cough, difficulty breathing)	and	In the last 14 days, close contact with an ill laboratory-confirmed 2019-nCoV patient.

## Specimen Collection

Updated January 17, 2020

Healthcare providers should **immediately** notify both infection control personnel at their healthcare facility and their local or state health department in the event of a PUI for 2019-nCoV. State health departments that have identified a PUI should immediately contact CDC’s Emergency Operations Center (EOC) at 770-488-7100 and complete a 2019-nCoV PUI case investigation form available below.

- [Download fillable PDF form pdf icon](#)[PDF – 211 KB]

- [Download Microsoft Word form word icon\[DOC – 90 KB\]](#)

CDC's EOC will assist local/state health departments to collect, store, and ship specimens appropriately to CDC, including during afterhours or on weekends/holidays. At this time, diagnostic testing for 2019-nCoV can be conducted only at CDC.

Testing for other respiratory pathogens should not delay specimen shipping to CDC. If a PUI tests positive for another respiratory pathogen, after clinical evaluation and consultation with public health authorities, they may no longer be considered a PUI. This may evolve as more information becomes available on possible 2019-nCoV co-infections.

**For biosafety reasons, it is not recommended to perform virus isolation in cell culture or initial characterization of viral agents recovered in cultures of specimens from a PUI for 2019-nCoV.**

To increase the likelihood of detecting 2019-nCoV infection, CDC recommends collecting and testing multiple clinical specimens from different sites, including all three specimen types—lower respiratory, upper respiratory, and serum specimens. Additional specimen types (e.g., stool, urine) may be collected and stored. Specimens should be collected as soon as possible once a PUI is identified regardless of time of symptom onset.

## Healthcare Professional Preparedness Checklist For Transport and

### Arrival of Patients Potentially Infected with 2019-nCoV

[Healthcare Personnel Preparedness Checklist for 2019-nCoV pdf \[PDF\]](#)

*Front-line healthcare personnel in the United States should be prepared to evaluate patients for novel coronavirus (2019-nCoV). The following checklist highlights key steps for healthcare personnel in preparation for transport and arrival of patients potentially infected with 2019-nCoV.*

- Stay up to date on the latest information about signs and symptoms, diagnostic testing, and case definitions for [2019-nCoV disease](#).
- Review your infection prevention and control policies and CDC [infection control recommendations for 2019-nCoV](#) for:
  - Assessment and triage of patients with acute respiratory symptoms
  - Patient placement
  - Implementation of Standard, Contact, and Airborne Precautions, including the use of eye protection

- Visitor management and exclusion
- Source control measures for patients (e.g., put facemask on suspect patients)
- Requirements for performing aerosol generating procedures
- Be alert for patients who meet the [persons under investigation \(PUI\)](#) definition
- Know how to report a potential 2019-nCoV case or exposure to facility infection control leads and public health officials
- Know who, when, and how to seek evaluation by occupational health following an unprotected exposure (i.e., not wearing recommended PPE) to a suspected or confirmed nCoV patient
- Remain at home, and notify occupational health services, if you are ill
- Know how to contact and receive information from your state or local public health agency

## Interim Infection Prevention and Control Recommendations for Patients with Known or Patients Under Investigation for 2019 Novel Coronavirus (2019-nCoV) in a Healthcare Setting

### Recommendations

#### 1. Minimize Chance for Exposures

Ensure facility policies and practices are in place to minimize exposures to respiratory pathogens including 2019-nCoV. Measures should be implemented before patient arrival, upon arrival, and throughout the duration of the affected patient's presence in the healthcare setting

#### 2. Adherence to Standard, Contact and Airborne Precautions, Including the Use of Eye Protection

Standard Precautions assume that every person is potentially infected or colonized with a pathogen that could be transmitted in the healthcare setting. Elements of Standard Precautions that apply to patients with respiratory infections, including those caused by 2019-nCoV, are summarized below. Attention should be paid to training and proper donning (putting on), doffing (taking off), and disposal of any PPE. This document does not emphasize all aspects of Standard Precautions (e.g., injection safety) that are required for all patient care; the full description is provided in the [Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings](#). All HCP (see section 3 for measures for non-HCP visitors) who

enter the room of a patient with suspected or confirmed 2019-nCoV should adhere to Standard, Contact, and Airborne Precautions.

### 3. Manage Visitor Access and Movement Within the Facility

- Establish procedures for monitoring, managing and training visitors.
- Restrict visitors from entering the room of known or suspected 2019-nCoV patients (i.e., PUI). Alternative mechanisms for patient and visitor interactions, such as video-call applications on cell phones or tablets should be explored. Facilities can consider exceptions based on end-of-life situations or when a visitor is essential for the patient's emotional well-being and care.
- Visitors to known or suspected 2019-nCoV (i.e., PUI) patients should be scheduled and controlled to allow for:
  - Screening visitors for symptoms of acute respiratory illness before entering the healthcare facility.
  - Facilities should evaluate risk to the health of the visitor (e.g., visitor might have underlying illness putting them at higher risk for 2019-nCoV) and ability to comply with precautions.
  - Facilities should provide instruction, before visitors enter patients' rooms, on hand hygiene, limiting surfaces touched, and use of PPE according to current facility policy while in the patient's room.
  - Facilities should maintain a record (e.g., log book) of all visitors who enter patient rooms.
  - Visitors should not be present during aerosol-generating procedures.
  - Visitors should be instructed to limit their movement within the facility.
  - Exposed visitors (e.g., contact with symptomatic 2019-nCoV patient prior to admission) should be advised to report any signs and symptoms of acute illness to their health care provider for a period of at least 14 days after the last known exposure to the sick patient.
- All visitors should follow respiratory hygiene and cough etiquette precautions while in the common areas of the facility.

### 4. Implement Engineering Controls

- Consider designing and installing engineering controls to reduce or eliminate exposures by shielding HCP and other patients from infected individuals. Examples of engineering controls include physical barriers or partitions to guide patients through triage areas, curtains between patients in shared areas, closed suctioning systems for airway suctioning for intubated patients, as well as appropriate air-handling systems (with appropriate directionality, filtration, exchange rate, etc.) that are installed and properly maintained.

## 5. Monitor and Manage Ill and Exposed Healthcare Personnel

- Movement and monitoring decisions for HCP with exposure to 2019-nCoV should be made in consultation with public health authorities.
- Facilities and organizations providing healthcare should implement [sick leave policies](#) for HCP that are non-punitive, flexible, and consistent with public health guidance.

## 6. Train and Educate Healthcare Personnel

- Provide HCP with job- or task-specific education and training on preventing transmission of infectious agents, including refresher training.
- HCP must be medically cleared, trained, and fit tested for respiratory protection device use (e.g., N95 filtering facepiece respirators), or medically cleared and trained in the use of an alternative respiratory protection device (e.g., Powered Air-Purifying Respirator, PAPR) whenever respirators are required. OSHA has a number of [respiratory training videos](#)[external icon](#).
- Ensure that HCP are educated, trained, and have practiced the appropriate use of PPE prior to caring for a patient, including attention to correct use of PPE and prevention of contamination of clothing, skin, and environment during the process of removing such equipment.

## 7. Implement Environmental Infection Control

- Dedicated medical equipment should be used for patient care.
- All non-dedicated, non-disposable medical equipment used for patient care should be cleaned and disinfected according to manufacturer's instructions and facility policies.
- Ensure that environmental cleaning and disinfection procedures are followed consistently and correctly.
- Routine cleaning and disinfection procedures (e.g., using cleaners and water to pre-clean surfaces prior to applying an EPA-registered, hospital-grade disinfectant to frequently touched surfaces or objects for appropriate contact times as indicated on the product's label) are appropriate for 2019-nCoV in healthcare settings, including those patient-care areas in which aerosol-generating procedures are performed. Products with EPA-approved emerging viral pathogens claims are recommended for use against 2019-nCoV. These products can be identified by the following claim:
  - “[Product name] has demonstrated effectiveness against viruses similar to 2019-nCoV on hard non-porous surfaces. Therefore, this product can be used against 2019-nCoV when used in accordance with the directions for use against [name of supporting virus] on hard, non-porous surfaces.”

- This claim or a similar claim, will be made only through the following communications outlets: technical literature distributed exclusively to health care facilities, physicians, nurses and public health officials, “1-800” consumer information services, social media sites and company websites (non-label related). Specific claims for “2019-nCoV” will not appear on the product or master label.
- Additional information about EPA-approved emerging viral pathogens claims can be found here: <https://www.epa.gov/pesticide-registration/guidance-registrants-process-making-claims-against-emerging-viral-pathogens> external icon
- If there are no available EPA-registered products that have an approved emerging viral pathogen claim for 2019-nCoV, products with label claims against human coronaviruses should be used according to label instructions.
- Management of laundry, food service utensils, and medical waste should also be performed in accordance with routine procedures.
- Detailed information on environmental infection control in healthcare settings can be found in CDC’s [Guidelines for Environmental Infection Control in Health-Care Facilities](#) and [Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings](#) [section IV.F. Care of the environment].

## 8. Establish Reporting within Healthcare Facilities and to Public Health Authorities

- Implement mechanisms and policies that promptly alert key facility staff including infection control, healthcare epidemiology, facility leadership, occupational health, clinical laboratory, and frontline staff about known or suspected 2019-nCoV patients (i.e., PUI).
- Communicate and collaborate with public health authorities.
  - Promptly notify state or local public health authorities of known or suspected 2019-nCoV patients (i.e., PUI). Facilities should designate specific persons within the healthcare facility who are responsible for communication with public health officials and dissemination of information to HCP.

Source: <https://www.cdc.gov/coronavirus/index.html>

Attachments of informational Sheets below.

# Novel Coronavirus (2019-nCoV) and You



## What is 2019 novel coronavirus?

The 2019 novel coronavirus (2019-nCoV) is a new virus that causes respiratory illness in people and can spread from person-to-person. This virus was first identified during an investigation into an outbreak in Wuhan, China.

## Can people in the U.S. get 2019-nCoV?

The 2019-nCoV does seem to be able to spread from person-to-person although it's not clear how easily this happens. Limited person-to-person spread among close contacts has been detected with this virus in the United States. At this time, this virus is not spreading in communities in the U.S., so the likelihood of someone in the U.S. getting sick with this virus is very low. Right now, the greatest risk of infection is for people in China or people who have traveled to China. CDC continues to closely monitor the situation.

## Have there been cases of 2019-nCoV in the U.S.?

Yes. The first infection with 2019-nCoV in the United States was reported on January 21, 2020. The current count of cases of infection with 2019-nCoV in the United States is available on CDC's webpage: [www.cdc.gov/coronavirus/2019-ncov/cases-in-us.html](http://www.cdc.gov/coronavirus/2019-ncov/cases-in-us.html)

## How does 2019-nCoV spread?

This virus probably originally emerged from an animal source but now seems to be spreading from person-to-person. It's important to note that person-to-person spread can happen on a continuum. Some viruses are highly contagious (like measles), while other viruses are less so. At this time, it's unclear how easily or sustainably this virus is spreading between people. Learn what is known about the spread of newly emerged coronaviruses at [www.cdc.gov/coronavirus/2019-ncov/about/transmission.html](http://www.cdc.gov/coronavirus/2019-ncov/about/transmission.html).

## What are the symptoms of 2019-nCoV?

Patients with 2019-nCoV have reportedly had mild to severe respiratory illness with symptoms of:

- fever
- cough
- shortness of breath

## What are severe complications from this virus?

Many patients have pneumonia in both lungs.

## How can I help protect myself?

This virus is not spreading in the United States right now, but the best way to prevent infection is to avoid being exposed to this virus.

There are simple everyday preventive actions to help prevent the spread of respiratory viruses. These include:

- Avoid close contact with people who are sick.
- Avoid touching your eyes, nose, and mouth with unwashed hands.
- Wash your hands often with soap and water for at least 20 seconds. Use an alcohol-based hand sanitizer that contains at least 60% alcohol if soap and water are not available.

## If you are sick, to keep from spreading respiratory illness to others, you should:

- 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.

## What should I do if I recently traveled to China and got sick?

If you were in China within the past 14 days and feel sick with fever, cough, or difficulty breathing, you should get medical care. Call the office of your health care provider before you go and tell them about your travel and your symptoms. They will give you instructions on how to get care without exposing other people to your illness. While sick, avoid contact with people, don't go out and delay any travel to reduce the possibility of spreading illness to others.

## Is there a vaccine?

There is currently no vaccine to protect against 2019-nCoV. The best way to prevent infection is to avoid being exposed to this virus.

## Is there a treatment?

There is no specific antiviral treatment for 2019-nCoV. People with 2019-nCoV can seek medical care to help relieve symptoms.

[www.cdc.gov/nCoV](http://www.cdc.gov/nCoV)

# What to do if you are sick with 2019 Novel Coronavirus (2019-nCoV)



If you are sick with 2019-nCoV follow the steps below to help prevent 2019-nCoV from spreading to people in your home and community.

## Stay home except to get medical care

You should not leave your home, except to get medical care. Do not go to work, school, or public areas, and do not use public transportation or taxis.

## Separate yourself from other people in your home

As much as possible, you should stay in a different room from other people in your home. Also, you should use a separate bathroom, if available.

## Call ahead before visiting your doctor

Before your medical appointment, call the healthcare provider and tell them that you have, or are being evaluated for, 2019-nCoV infection. This will help the healthcare provider's office take steps to keep other people from getting infected.

## Wear a facemask

You should wear a facemask when you are in the same room with other people and when you visit a healthcare provider. If you cannot wear a facemask, the people who live with you should wear one while they are in the same room with you.

## Cover your coughs and sneezes

Cover your mouth and nose with a tissue when you cough or sneeze, or you can cough or sneeze into your sleeve. Throw used tissues in a lined trash can, and immediately wash your hands with soap and water for at least 20 seconds.

## Wash your hands

Wash your hands often and thoroughly with soap and water for at least 20 seconds. Use an alcohol-based hand sanitizer that contains at least 60% alcohol if soap and water are not available. Avoid touching your eyes, nose, and mouth with unwashed hands.

## Avoid sharing household items

You should not share dishes, drinking glasses, cups, eating utensils, towels, bedding, or other items with other people in your home. After using these items, you should wash them thoroughly with soap and water.

## Monitor your symptoms

Get medical care quickly if your illness is getting worse (for example if you are having trouble breathing). Call the healthcare provider ahead of time and tell them that you have, or are being evaluated for, 2019-nCoV infection. This will help the healthcare provider's office take steps to keep other people from getting infected.

[www.cdc.gov/nCoV](http://www.cdc.gov/nCoV)