

RESPONDING TO A PATIENT WITH SIGNS OR SYMPTOMS OF RESPIRATORY INFECTION

CAL FIRE

RECOMMENDED ACTIONS AND GUIDANCE

CURRENT AS OF MARCH 15, 2020

Emergency Medical Services Program
1131 S. St.
Sacramento, CA 95811



Table of Contents

<i>INTRODUCTION</i>	4
<i>BACKGROUND</i>	4
<i>Signs and Symptoms</i>	5
<i>Precautions</i>	5
<i>Status</i>	5
<i>EMERGENCY RESPONSE GUIDELINES</i>	6
<i>Enroute General Guidance</i>	6
<i>Prior to Arrival on Scene</i>	6
<i>On Scene</i>	6
<i>Approaching the Patient</i>	7
<i>Patient Care Guidelines</i>	7
<i>AFTER THE CALL</i>	8
<i>CLEANING EQUIPMENT/APPARATUS</i>	8
<i>FIRST RESPONDER WORKFORCE MONITORING AND SURVEILLANCE</i>	9
<i>Exposure Risk & Mitigation</i>	9
<i>Exposure Risk Levels</i>	9
<i>SEQUENCE FOR APPLYING PERSONAL PROTECTIVE EQUIPMENT</i>	11
<i>SEQUENCE FOR REMOVING PERSONAL PROTECTIVE EQUIPMENT EXAMPLE ONE</i>	12
<i>SEQUENCE FOR REMOVING PERSONAL PROTECTIVE EQUIPMENT EXAMPLE TWO</i>	13
<i>COVID-19 PERSONAL PROTECTIVE EQUIPMENT FOR HEALTHCARE PERSONNEL</i>	14
<i>SYMPTOMS OF CORONAVIRUS DISEASE (COVID-19)</i>	15
<i>FREQUENTLY ASKED QUESTIONS</i>	16
<i>What is a coronavirus?</i>	16
<i>What is COVID-19?</i>	16
<i>Should I worry about COVID-19?</i>	16
<i>How long is the incubation period for COVID-19?</i>	17
<i>How does COVID-19 spread?</i>	17
<i>Can the virus that causes COVID-19 be transmitted through the air?</i>	17
<i>Can COVID-19 be caught from a person who has no symptoms?</i>	17
<i>Can I catch COVID-19 from the feces of someone with the disease?</i>	17
<i>Who is at risk of developing severe illness?</i>	18
<i>Are antibiotics effective in preventing or treating the COVID-19?</i>	18
<i>Are there any medicines or therapies that can prevent or cure COVID-19?</i>	18



Is there a vaccine, drug or treatment for COVID-19?..... 18

Is COVID-19 the same as SARS? 18

Should I wear a mask to protect myself if I am not a healthcare worker? 19

How to put on, use, take off and dispose of a mask:..... 19

Reduce your chances of being infected or spreading COVID-19... 20

How long does the COVID-19 survive on a dry surface?..... 21

Are boots, impermeable aprons, or coverall suits required as routine personal protective equipment for healthcare workers caring for patients with suspected or confirmed COVID-19 inspection? 21

Why does WHO recommend contact and droplet precautions and not routine use of airborne precautions for healthcare workers providing care to patients with suspected/confirmed COVID-19 infection? 22

What are the disinfectants recommended for environmental cleaning in healthcare facilities or homes housing patients with suspected or confirmed COVID-19 infection?..... 22

How can you clean soiled bedding, towels and linens from patients with COVID-19? 22

OTHER RESOURCES..... 23



INTRODUCTION

This document, *Responding to Patients with Signs or Symptoms of Respiratory Illness*, provides guidance and recommended actions to be followed when any droplet respiratory illness is present or is suspected during response, patient assessment and care.

Personal Protective Equipment (PPE), regular workplace facility cleaning, equipment decontamination procedures, and thorough personal hygiene practices provide the best methods for reducing the risk of exposure.

BACKGROUND

Influenza and Coronavirus Disease 2019 (COVID-19), as well as colds, tuberculosis, and other transmittable respiratory illnesses, are spread via droplet transmission and may be a significant threat to fire and emergency and other first responder professionals' safety.

Corona viruses are a group of viruses belonging to the family of Corona viridae that infects both animals and humans. Human coronaviruses can cause a mild disease like the common cold, while others cause more severe disease, such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). A new coronavirus, COVID-19, previously not identified in humans emerged in the Wuhan Province of China in December 2019.

Fire, Emergency Medical Services (EMS) providers and other first responder agencies play a vital role in responding to requests for assistance, triaging patients, and providing emergency medical treatment and transport for ill persons. However, unlike patient care in the controlled environment of a healthcare facility, care and transports by EMS providers present unique challenges because of the nature of the setting, frequent need for rapid medical decision-making, interventions with limited information, and a varying range of patient acuity and jurisdictional healthcare policies/protocols and resources.



Signs and Symptoms

Signs and symptoms of COVID-19 include:

- Shortness of breath
- Fever
- Fatigue
- Dry cough

In more severe cases, COVID-19 can cause pneumonia, severe acute respiratory syndrome and sometimes death.

Precautions

Standard recommendations to prevent the spread of COVID-19 include:

- Frequent cleaning of hands using alcohol-based hand rub or soap and water
- Covering the nose and mouth with a flexed elbow or disposable tissue when coughing and sneezing
- Avoiding close contact with anyone that has a fever and cough

Personal Protective Equipment (PPE), regular workplace facility cleaning, equipment decontamination procedures, and thorough personal hygiene practices provide the best methods for reducing the risk of exposure.

Status

The World Health Organization (WHO) characterized COVID-19 as a pandemic, March 11, 2020.

There are now several laboratory-confirmed cases of COVID-19 in California and the number is increasing rapidly. In addition to cases related directly to international travel and contact with a confirmed case of COVID-19, cases are now emerging that represent “Community-Spread”. Community-Spread refers to cases of people who have contracted the virus and are unsure how the exposure occurred. This transmission/exposure category indicates that the state is entering a new phase in this pandemic. With community transmission present, all healthcare personnel (HCP) are considered at some risk for COVID-19, through both patient interactions and general community interactions.



EMERGENCY RESPONSE GUIDELINES

Enroute General Guidance

Personnel should consider heightened situational awareness on any call for medical aid that is not musculoskeletal in nature. (*Examples: unknown medical, ill, sick, flu-like symptoms, fever, cough, “not feeling well”, etc.*)

Prior to Arrival on Scene

1. The responding company officer will discuss, with the crew, the need to have all personnel engage in patient care/contact. Consideration should be given to minimize overall exposure by making risk-based and fact-informed choices to limit the number of personnel making contact and coming within six (6) feet of the patient.
2. The responding crew should also consider, based on reported patient condition, symptoms, and/or acuity, what equipment needs to be taken within the patient care area and what can remain on the response apparatus or staging area.
3. Any personnel responding to a call for service involving respiratory illness or unknown/suspected COVID-19 patient shall don appropriate PPE prior to contacting the patient.
4. The PPE shall meet requirements for routine and airborne exposure control precautions including: (NOTE: CDC Recommended donning and doffing procedures are detailed later in this document)
 - a. Use respiratory protection (i.e. N-95 respirator)
 - b. Don a single pair of disposable patient examination gloves. If gloves tear or become heavily contaminated, dispose of gloves and use a new pair
 - c. Wear eye protection (i.e. goggles or disposable face shield that fully covers the front and side of face)
 - d. Don a disposable isolation gown

On Scene

1. If no criminal or violent activity is suspected, company officers should advise any law enforcement personnel on scene to remain distanced and reduce their risk of potential exposure.
2. If the ambulance transport provider is on scene prior to the arrival of CAL FIRE engines, the responding engines should advise of their arrival on scene and state (via radio or face-to-face) that they will remain staged unless needed by the ambulance transport crew.



Approaching the Patient

This guidance applies to any personnel responding to a call where the signs/symptoms of COVID-19 are suspect and/or present.

1. Involve the fewest number of personnel required to minimize possible exposures.
2. Maintain regular visual contact with provider(s) caring for patient.
3. Ensure radio communications are available between EMS provider(s) and staged personnel.
4. Non-critical personnel should maintain the minimal distance six (6) feet and wear PPE.
5. Maintain hygiene controls when accessing equipment from medical bags to avoid contamination.
6. Persons assisting with patient care will remain at the medical bag to access equipment and always remain the minimal distance from the patient on low-acuity calls.
7. If patient not in immediate distress, the responsible EMS provider(s) will begin questioning patient from the minimal distance. Questions should include:
 - a. If the patient has any respiratory distress
 - b. If the patient has a fever
 - c. If the patient is fatigued
 - d. If the patient has a cough or shortness of breath
8. If any answers are “yes”, provide a surgical mask to the patient and ask them to place it on themselves then return to a distance of at least six (6) feet to finish your verbal assessment.

Patient Care Guidelines

Priority should be placed on masking **any** patient with a cough to reduce risk of spread and exposure.

1. If information about potential for COVID-19 has not been provided by the public safety answering point (PSAP), personnel should exercise appropriate precautions when responding to any patient with signs or symptoms of a respiratory infection.
2. Patient contact should be minimized to the extent possible until a facemask is on the patient. Appropriate PPE, as detailed on page 6, Number 4 (a.-d.)
3. A facemask should be worn by the patient for infection control. If a nasal cannula is in place, a facemask should be worn over the nasal cannula. Alternatively, an oxygen mask can be used if clinically indicated.
4. Cough-generating procedures (e.g., mechanical ventilation, nebulizer treatment) should be avoided during prehospital care unless acuity requires intervention.
5. All personnel should avoid touching their face while working.



After Patient Contact

After patient contact is completed (before transport, after transfer of care), all personnel shall remove and bag infection control PPE at distance of greater than six (6) feet from the patient and transport vehicle.

Once PPE is removed and bagged:

1. Place bag at least six (6) feet from the ambulance where the patient is receiving care and being prepared for transport.
2. Communicate with ambulance transport crew from a distance of at least six (6) feet to have them take the contaminated, bagged infection control PPE, with them to the hospital.
3. Take all measures needed to ensure the ambulance crew does not leave without taking the bagged infection control PPE to be disposed of at the receiving hospital.
4. After doffing of infection control PPE, and departure of the ambulance, crews should perform hand hygiene prior to re-gloving to clean equipment or apparatus.

Other required aspects of Standard Precautions (e.g., injection safety, hand hygiene) are not emphasized in this document but can be found in the guideline titled [Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings](#)

AFTER THE CALL

CLEANING EQUIPMENT/APPARATUS

The following are general guidelines for cleaning or maintaining response vehicles and equipment after treating a respiratory illness/unknown illness/suspected COVID-19 call.

- When cleaning, personnel should wear a disposable gown and gloves. A face shield or facemask and goggles should also be worn if splashes or sprays during cleaning are anticipated
- All equipment and bags used during the response must be cleaned prior to being placed back inside of the vehicle
- Equipment exposed that cannot be cleaned at the scene should be bagged and transported outside the passenger compartment for cleaning at the station
- Clean all equipment in a well-ventilated area
- Ensure that environmental cleaning and disinfection procedures are followed consistently and correctly, to include the provision of adequate ventilation when chemicals are in use. Doors should remain open when cleaning the vehicle
- Routine cleaning and disinfection procedures (e.g., using cleaners and water to pre-clean surfaces prior to applying disinfectant to frequently touched surfaces or objects for appropriate contact times as indicated on the product's label) are appropriate for SARS-CoV-2 (the virus that causes COVID-19)



- Clean and disinfect the vehicle in accordance with standard operating procedures. All surfaces that may have encountered the patient or materials contaminated during patient care (e.g., stretcher, rails, control panels, floors, walls, work surfaces) should be thoroughly cleaned and disinfected using an EPA-registered hospital grade disinfectant in accordance with the product label
- Clean and disinfect reusable patient-care equipment before use on another patient, per manufacturer's instructions
- Follow standard operating procedures for the containment and disposal of used PPE and regulated medical waste

FIRST RESPONDER WORKFORCE MONITORING AND SURVEILLANCE

Exposure Risk & Mitigation

CAL FIRE Units/Programs should shift their emphasis to routine practices including, but not limited to:

1. Asking personnel to report recognized exposures to their supervisor.
2. Regularly self-monitor for fever and symptoms of respiratory infection/illness.
3. Do not report to work if employee becomes ill.
 - a. The employee should remain at home for 72 hours after the last day of a fever, or seven (7) days after symptoms began, whichever is longer.

Additional guidelines include CAL FIRE Units/Programs implement infectious control practices, including, but not limited to:

1. Self-monitor temperature before and after a shift.
 - a. If even mild symptoms consistent with COVID-19 or other respiratory illnesses develop, employees should be encouraged to go home and/or seek medical treatment. Employees cannot be forced to go home, so managers and supervisors should work with the employees on work alternatives
 - b. The employee should remain at home for 72 hours after the last day of a fever, or seven (7) days after symptoms began, whichever is longer.

Employees should contact their supervisor and/or covering Battalion Chief, at any time with any questions or concerns that may arise, including while on a scene.

Exposure Risk Levels

Low Risk:

Any personnel responding to a respiratory infection or unknown/suspected COVID-19 patient call who dons appropriate PPE prior to contacting the patient, are considered "low risk" contact(s) and:



1. Shall immediately notify their supervisor, who will notify the covering Battalion Chief of the low risk exposure.
2. May remain on shift and continue with normal job responsibilities.
3. Shall self-monitor daily for fever or any cold/flu or respiratory symptoms.

If symptoms develop, the employee should:

1. Cease normal job responsibilities.
2. Notify their supervisor, who will notify the covering Battalion Chief.
 - a. The Battalion Chief will notify the Emergency Command Center (ECC) for possible exposure and start the exposure reporting process.
3. Isolate at home.

The exposure risk to the employee(s) will be assessed by the CAL FIRE Occupational Health and Wellness Program Designated Officer (DO) the local public health department and the California Department of Public Health.

Moderate Risk:

Any personnel who has a breach in PPE while caring for a patient with known COVID-19, or who is later confirmed to have COVID-19, is considered to have “moderate risk” contact(s) and:

1. Shall report the exposure immediately to their supervisor, who will notify the covering Battalion Chief.
2. The Battalion Chief will notify the Emergency Command Center (ECC) of possible exposure and start the exposure reporting process.
3. The breach and exposure risks will be assessed by CAL FIRE Occupational Health and Wellness Program and the California Department of Public Health.
4. Based on the breach and exposure risk, the employee(s) will be assessed by the CAL FIRE Occupational Health and Wellness Program Designated Officer (DO) and the local public health department.

High Risk:

Any personnel who are not wearing PPE when they encounter an ill respiratory patient, known or unknown for COVID-19 status:

1. Shall report the exposure immediately to their supervisor, who will notify the covering Battalion Chief.
 - a. The Battalion Chief will notify the Emergency Command Center (ECC) of possible exposure and start the exposure reporting process.
2. The covering Battalion Chief, Hospital Liaison, or Ryan White Liaison will follow up with the hospital and determine if the patient meets Centers for Disease Control (CDC) and/or County/State Public Health criteria for COVID-19 person under investigation (PUI).
3. If the patient does not meet CDC/County/State Public Health criteria for COVID-19, the individual may return to duty.
4. If the patient does meet criteria for COVID-19, the employee(s) will be assessed by the CAL FIRE Occupational Health and Wellness Program Designated Officer (DO) and the local public health department.

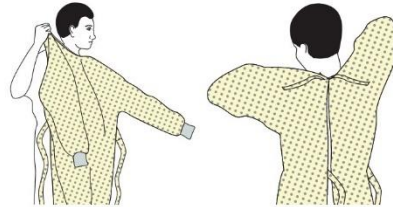
SEQUENCE FOR APPLYING PERSONAL PROTECTIVE EQUIPMENT

SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist



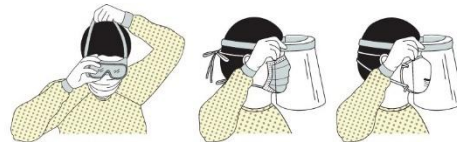
2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator



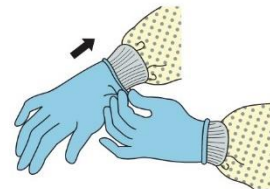
3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



4. GLOVES

- Extend to cover wrist of isolation gown



USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene



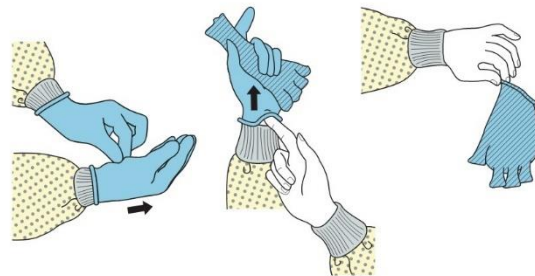
SEQUENCE FOR REMOVING PERSONAL PROTECTIVE EQUIPMENT EXAMPLE ONE

HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GLOVES

- Outside of gloves are contaminated!
- If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- Discard gloves in a waste container



2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band or ear pieces
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container



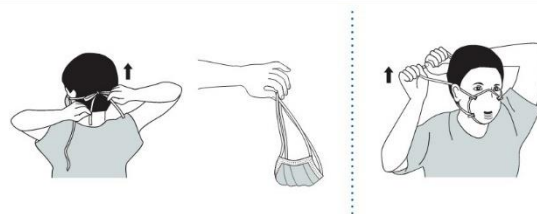
3. GOWN

- Gown front and sleeves are contaminated!
- If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
- Pull gown away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard in a waste container

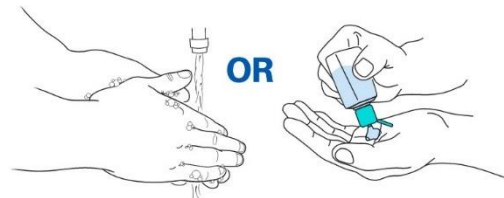


4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — **DO NOT TOUCH!**
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



**PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS
BECOME CONTAMINATED AND IMMEDIATELY AFTER
REMOVING ALL PPE**



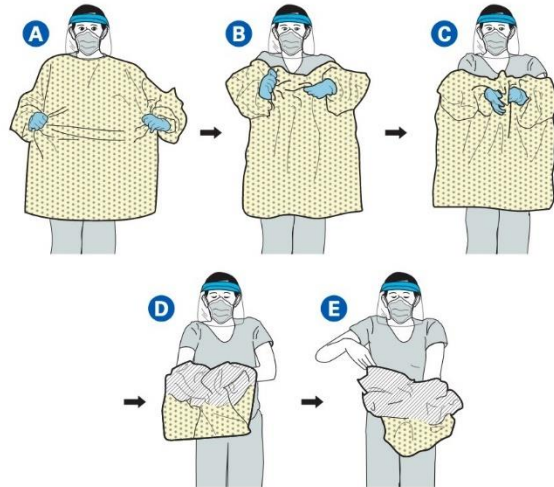
SEQUENCE FOR REMOVING PERSONAL PROTECTIVE EQUIPMENT EXAMPLE TWO

HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE) EXAMPLE 2

Here is another way to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

1. GOWN AND GLOVES

- Gown front and sleeves and the outside of gloves are contaminated!
- If your hands get contaminated during gown or glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands
- While removing the gown, fold or roll the gown inside-out into a bundle
- As you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands. Place the gown and gloves into a waste container



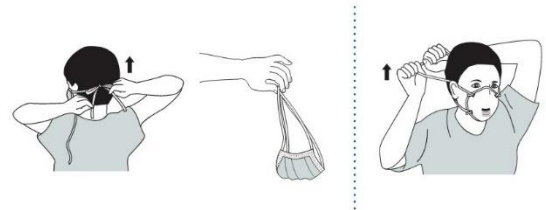
2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band and without touching the front of the goggles or face shield
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container

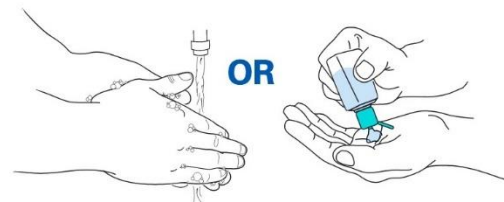


3. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



4. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE

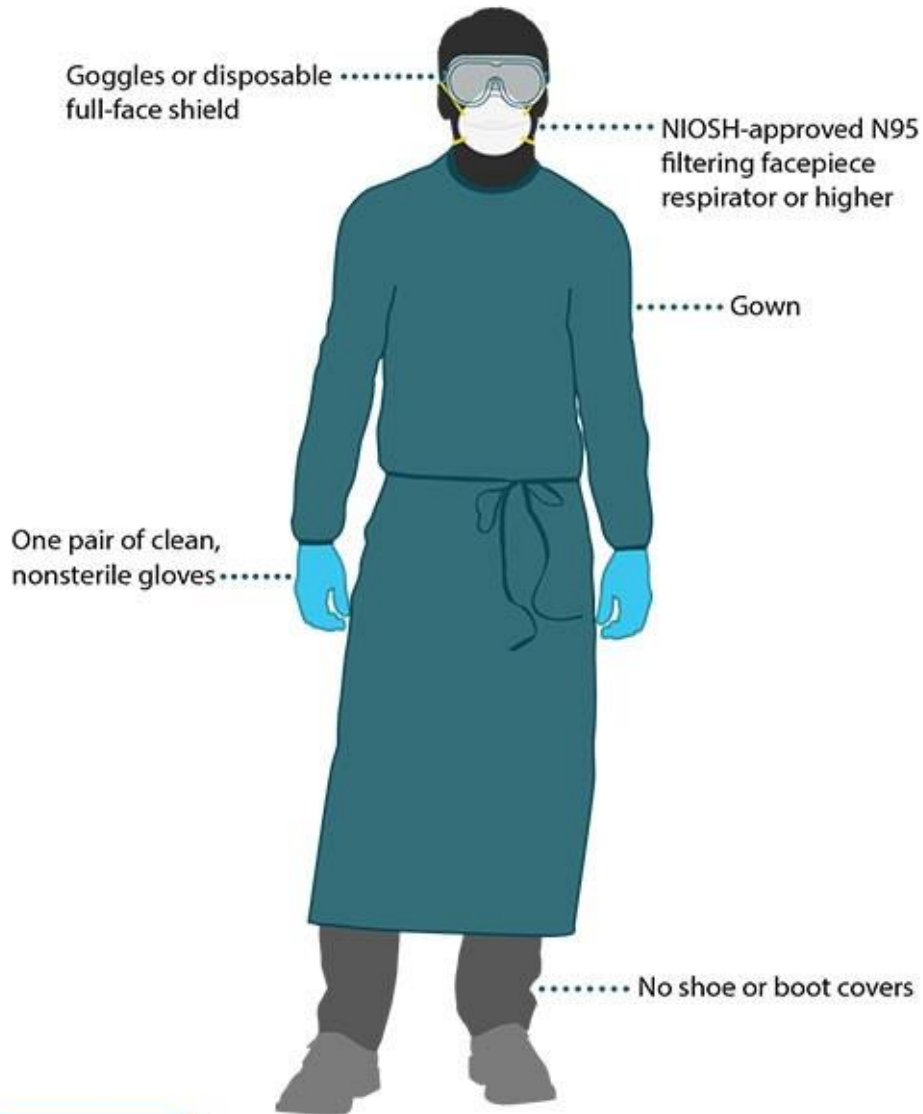




COVID-19 PERSONAL PROTECTIVE EQUIPMENT FOR HEALTHCARE PERSONNEL

COVID 19
CORONAVIRUS DISEASE

COVID-19 Personal Protective Equipment (PPE) for Healthcare Personnel

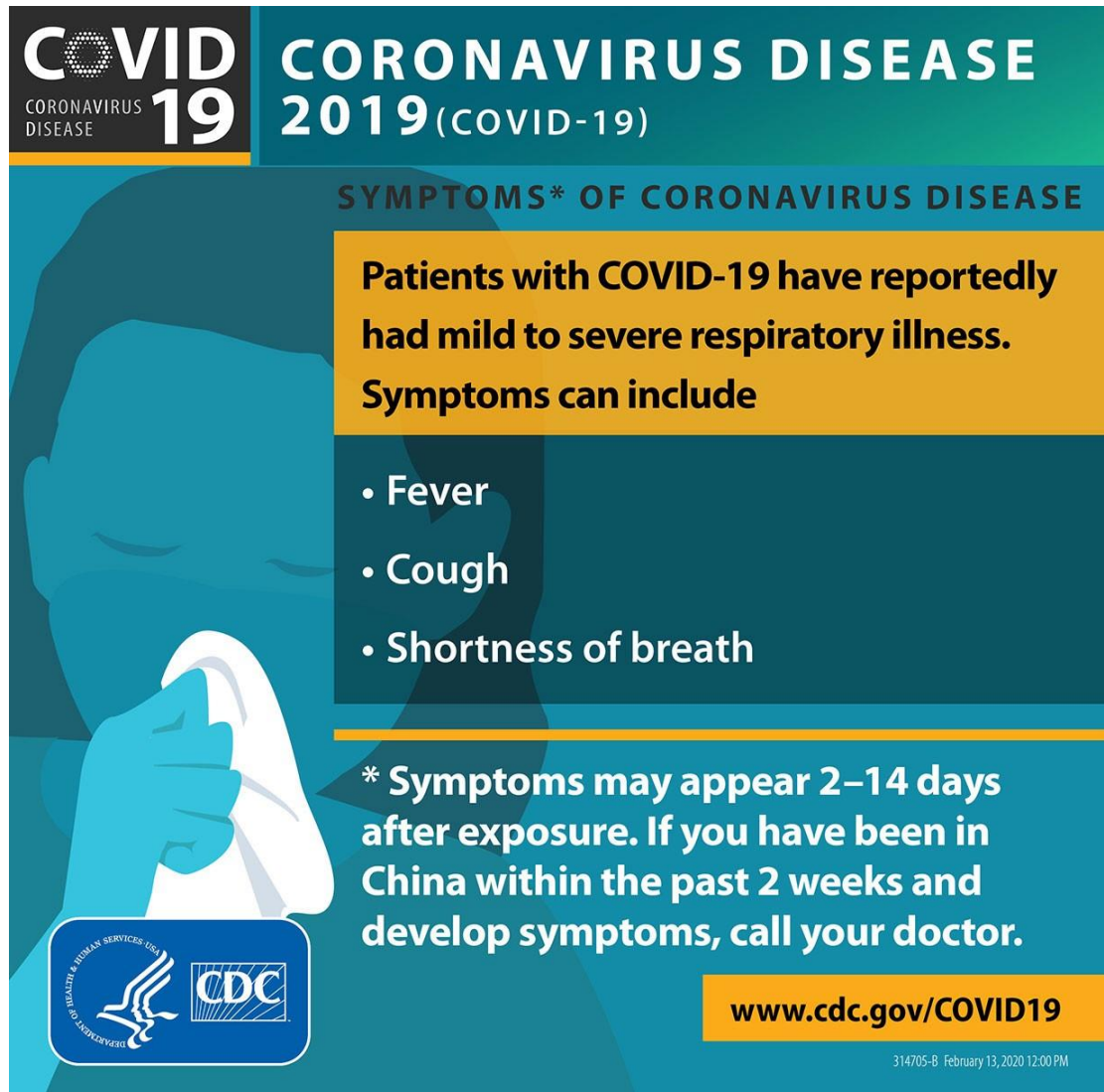


16J25041A 02/2/2020

For more information: www.cdc.gov/COVID19



SYMPTOMS OF CORONAVIRUS DISEASE (COVID-19)



COVID 19
CORONAVIRUS DISEASE

CORONAVIRUS DISEASE 2019 (COVID-19)


SYMPTOMS* OF CORONAVIRUS DISEASE

Patients with COVID-19 have reportedly had mild to severe respiratory illness. Symptoms can include

- Fever
- Cough
- Shortness of breath

*** Symptoms may appear 2–14 days after exposure. If you have been in China within the past 2 weeks and develop symptoms, call your doctor.**

www.cdc.gov/COVID19



314705-B February 13, 2020 12:00 PM



FREQUENTLY ASKED QUESTIONS

What is a coronavirus?

Coronaviruses are a large family of viruses which may cause illness in animals or humans. In humans, several coronaviruses are known to cause respiratory infections ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). The most recently discovered coronavirus causes coronavirus disease COVID-19.

What is COVID-19?

COVID-19 is the infectious disease caused by the most recently discovered coronavirus. This new virus and disease were unknown before the outbreak began in Wuhan, China, in December 2019.

Should I worry about COVID-19?

Illness due to COVID-19 infection is generally mild, especially for children and young adults. However, it can cause serious illness: As of March 6th, 2020, about 1 in every 20 people who catch it need hospital care. It is therefore quite normal for people to worry about how the COVID-19 outbreak will affect them and their loved ones.

We can channel our concerns into actions to protect ourselves, our loved ones and our communities. First and foremost, among these actions is regular and thorough hand-washing and good respiratory hygiene. Secondly, keep informed and follow the advice of the local health authorities including any restrictions put in place on travel, movement and gatherings.

What are symptoms of COVID-19?

The most common symptoms of COVID-19 are fever, tiredness, and dry cough. Some patients may have aches and pains, nasal congestion, runny nose, sore throat or diarrhea. These symptoms are usually mild and begin gradually. Some people become infected but don't develop any symptoms and don't feel unwell. Most people (about 80%) recover from the disease without needing special treatment. Around 1 out of every 6 people who gets COVID-19 becomes seriously ill and develops difficulty breathing. Older people, and those with underlying medical problems like high blood pressure, heart problems or diabetes, are more likely to develop serious illness. People with fever, cough and difficulty breathing should seek medical attention.



How long is the incubation period for COVID-19?

The “incubation period” means the time between catching the virus and beginning to have symptoms of the disease. Most estimates of the incubation period for COVID-19 range from 1-14 days, most commonly around five days. These estimates will be updated as more data become available.

How does COVID-19 spread?

People can catch COVID-19 from others who have the virus. The disease can spread from person to person through small droplets from the nose or mouth which are spread when a person with COVID-19 coughs or exhales. These droplets land on objects and surfaces around the person. Other people then catch COVID-19 by touching these objects or surfaces, then touching their eyes, nose or mouth. People can also catch COVID-19 if they breathe in droplets from a person with COVID-19 who coughs out or exhales droplets. This is why it is important to stay more than six (6) feet away from a person who is sick.

WHO is assessing ongoing research on the ways COVID-19 is spread and will continue to share updated findings.

Can the virus that causes COVID-19 be transmitted through the air?

Studies to date suggest that the virus that causes COVID-19 is mainly transmitted through contact with respiratory droplets rather than through the air. See previous answer on “How does COVID-19 spread?”

Can COVID-19 be caught from a person who has no symptoms?

The main way the disease spreads is through respiratory droplets expelled by someone who is coughing. The risk of catching COVID-19 from someone with no symptoms at all is very low. However, many people with COVID-19 experience only mild symptoms. This is particularly true at the early stages of the disease. It is therefore possible to catch COVID-19 from someone who has, for example, just a mild cough and does not feel ill. WHO is assessing ongoing research on the period of transmission of COVID-19 and will continue to share updated findings.

Can I catch COVID-19 from the feces of someone with the disease?

The risk of catching COVID-19 from the feces of an infected person appears to be low. While initial investigations suggest the virus may be present in feces in some cases, spread through this route is not a main feature of the outbreak. WHO is assessing ongoing research on the ways COVID-19 is spread and will continue to share new findings. Because this is a risk, however, it is another reason to clean hands regularly, after using the bathroom and before eating.



Who is at risk of developing severe illness?

While we are still learning about how COVID-2019 affects people, older persons and persons with pre-existing medical conditions (such as high blood pressure, heart disease, lung disease, cancer or diabetes) appear to develop serious illness more often than others.

Are antibiotics effective in preventing or treating the COVID-19?

No. Antibiotics do not work against viruses, they only work on bacterial infections. COVID-19 is caused by a virus, so antibiotics do not work. Antibiotics should not be used as a means of prevention or treatment of COVID-19. They should only be used as directed by a physician to treat a bacterial infection.

Are there any medicines or therapies that can prevent or cure COVID-19?

While some western, traditional or home remedies may provide comfort and alleviate symptoms of COVID-19, there is no evidence that current medicine can prevent or cure the disease. WHO does not recommend self-medication with any medicines, including antibiotics, as a prevention or cure for COVID-19. However, there are several ongoing clinical trials that include both western and traditional medicines. WHO will continue to provide updated information as soon as clinical findings are available.

Is there a vaccine, drug or treatment for COVID-19?

Not yet. To date, there is no vaccine and no specific antiviral medicine to prevent or treat COVID-2019. However, those affected should receive care to relieve symptoms. People with serious illness should be hospitalized. Most patients recover thanks to supportive care.

Possible vaccines and some specific drug treatments are under investigation. They are being tested through clinical trials. WHO is coordinating efforts to develop vaccines and medicines to prevent and treat COVID-19.

The most effective ways to protect yourself and others against COVID-19 are to frequently clean your hands, cover your cough with the bend of elbow or tissue, and maintain a distance of at least six (6) feet from people who are coughing or sneezing.

Is COVID-19 the same as SARS?

No. The virus that causes COVID-19 and the one that caused the outbreak of Severe Acute Respiratory Syndrome (SARS) in 2003 are related to each other genetically, but the diseases they cause are quite different.



SARS was more deadly but much less infectious than COVID-19. There have been no outbreaks of SARS anywhere in the world since 2003.

Should I wear a mask to protect myself if I am not a healthcare worker?

Only wear a mask if you are ill with COVID-19 symptoms (especially coughing) or looking after someone who may have COVID-19. Disposable face mask can only be used once. If you are not ill or looking after someone who is ill then you are wasting a mask. There is a world-wide shortage of masks, so WHO urges people to use masks wisely.

The WHO advises rational use of medical masks to avoid unnecessary wastage of precious resources and misuse of masks.

The most effective ways to protect yourself and others against COVID-19 are to frequently clean your hands, cover your cough with the bend of elbow or tissue and maintain a distance of at least six (6) feet from people who are coughing or sneezing.

How to put on, use, take off and dispose of a mask:

- Remember, a mask should only be used by health workers, care takers, and individuals with respiratory symptoms, such as fever and cough.
- Before touching the mask, clean hands with an alcohol-based hand rub or soap and water
- Take the mask and inspect it for tears or holes.
- Orient which side is the top side (where the metal strip is).
- Ensure the proper side of the mask faces outwards (the colored side).
- Place the mask to your face. Pinch the metal strip or stiff edge of the mask so it molds to the shape of your nose.
- Pull down the mask's bottom so it covers your mouth and your chin.
- After use, take off the mask; remove the elastic loops from behind the ears while keeping the mask away from your face and clothes, to avoid touching potentially contaminated surfaces of the mask.
- Discard the mask in a closed bin immediately after use.
- Perform hand hygiene after touching or discarding the mask – Use alcohol-based hand rub or, if visibly soiled, wash your hands with soap and water.

What can I do to protect myself and prevent the spread of disease? Protection measures for everyone

Stay aware of the latest information on the COVID-19 outbreak, available on the WHO website and through your national and local public health authority. Many countries around the world have seen cases of COVID-19 and several have seen outbreaks. Authorities in China and some other countries have succeeded in slowing or stopping their outbreaks. However, the situation is unpredictable so check regularly for the



latest news.

You can reduce your chances of being infected or spreading COVID-19 by taking some simple precautions:

- Regularly and thoroughly clean your hands with an alcohol-based hand rub or wash them with soap and water.
 - Why? Washing your hands with soap and water or using alcohol-based hand rub kills viruses that may be on your hands.
- Maintain at least six (6) feet distance between yourself and anyone who is coughing or sneezing.
 - Why? When someone coughs or sneezes, they spray small liquid droplets from their nose or mouth which may contain virus. If you are too close, you can breathe in the droplets, including the COVID-19 virus if the person coughing has the disease.
- Avoid touching eyes, nose and mouth.
 - Why? Hands touch many surfaces and can pick up viruses. Once contaminated, hands can transfer the virus to your eyes, nose or mouth. From there, the virus can enter your body and can make you sick.
- Make sure you, and the people around you, follow good respiratory hygiene. This means covering your mouth and nose with your bent elbow or tissue when you cough or sneeze. Then dispose of the used tissue immediately.
 - Why? Droplets spread virus. By following good respiratory hygiene you protect the people around you from viruses such as cold, flu and COVID-19.
- Stay home if you feel unwell. If you have a fever, cough and difficulty breathing, seek medical attention and call in advance. Follow the directions of your local health authority.
 - Why? National and local authorities will have the most up to date information on the situation in your area. Calling in advance will allow your health care provider to quickly direct you to the right health facility. This will also protect you and help prevent spread of viruses and other infections.
- Keep up to date on the latest COVID-19 hotspots by visiting the (cities or local areas where COVID-19 is spreading widely) [John Hopkins University Dashboard](#).
- If possible, avoid traveling to places – especially if you are an older person or have diabetes, heart or lung disease.
 - Why? You have a higher chance of catching COVID-19 in one of these areas.

Protection measures for persons who are in or have recently visited (past 14 days) areas where COVID-19 is spreading

- Follow the guidance outlined above (Protection measures for everyone)
- Self-isolate by staying at home if you begin to feel unwell, even with mild symptoms such as headache, low grade fever (37.3 C or 99.2 F – above) and slight runny nose, until you recover. If it is essential for you to have someone bring you supplies or to go



out, e.g. to buy food, then wear a mask to avoid infecting other people. Why? Avoiding contact with others and visits to medical facilities will allow these facilities to operate more effectively and help protect you and others from possible COVID-19 and other viruses.

- If you develop fever, cough and difficulty breathing, seek medical advice promptly as this may be due to a respiratory infection or other serious condition. Call in advance and tell your provider of any recent travel or contact with travelers.
 - Why? Calling in advance will allow your health care provider to quickly direct you to the right health facility. This will also help to prevent possible spread of COVID-19 and other viruses.

How long does the COVID-19 survive on a dry surface?

There is currently no data available on stability of COVID-19 on surfaces. Data from laboratory studies on SARS-CoV and [MERS-CoV](#) have shown that stability in the environment depends on several factors including relative temperature, humidity, and surface type. The WHO continues to monitor existing evidence around nCoV and will update when such evidence is published.

It is not certain how long the virus that causes COVID-19 survives on surfaces, but it seems to behave like other coronaviruses. Studies suggest that coronaviruses (including preliminary information on the COVID-19 virus) may persist on surfaces for a few hours or up to several days. This may vary under different conditions (e.g. type of surface, temperature or humidity of the environment).

If you think a surface may be infected, clean it with simple disinfectant to kill the virus and protect yourself and others. Clean your hands with an alcohol-based hand rub *or wash them with soap and water. Avoid touching your eyes, mouth, or nose.*

Are boots, impermeable aprons, or coverall suits required as routine personal protective equipment for healthcare workers caring for patients with suspected or confirmed COVID-19 inspection?

A: No. Current WHO guidance for HCW caring for suspected or confirmed 2019-nCoV acute respiratory disease patients recommends the use of contact and droplet precautions, in addition to standard precautions which should always be used by all HCW for all patients. In terms of PPE, contact and droplet precautions include wearing disposable gloves to protect hands, and clean, non-sterile, long-sleeve gown to protect clothes from contamination, medical masks to protect nose and mouth, and eye protection (e.g., goggles, face shield), before entering the room where suspected or confirmed 2019- nCoV acute respiratory disease patients are admitted. Respirators (e.g. N95) are only required for aerosol generating procedures.



Why does WHO recommend contact and droplet precautions and not routine use of airborne precautions for healthcare workers providing care to patients with suspected/confirmed COVID-19 infection?

A: WHO developed its rapid guidance based on the consensus of international experts who considered the currently available evidence on the modes of transmission of COVID-19. This evidence demonstrates viral transmission by droplets and contact with contaminated surfaces of equipment; it does not support routine airborne transmission. Airborne transmission may happen, as has been shown with other viral respiratory diseases, during aerosol-generating procedures (e.g., tracheal intubation, bronchoscopy), thus WHO recommends airborne precautions for these procedures. For more information about healthcare worker protection for COVID-19, [click here](#).

What are the disinfectants recommended for environmental cleaning in healthcare facilities or homes housing patients with suspected or confirmed COVID-19 infection?

Environmental cleaning in healthcare facilities or homes housing patients with suspected or confirmed COVID-19 infection should use disinfectants that are active against enveloped viruses, such as 2019-nCoV and other coronaviruses. There are many disinfectants, including commonly used hospital disinfectants, that are active against enveloped viruses. Currently WHO recommendations include:

- 70% Ethyl alcohol to disinfect reusable dedicated equipment (e.g., thermometers) between uses
- Sodium hypochlorite at 0.5% (equivalent 5000ppm) for disinfection of frequently touched surfaces in homes or healthcare facilities

Additional resources for best practices for environmental cleaning can be found in the following two documents:

[*Infection Prevention and Control of Epidemic-and Pandemic Prone Acute Respiratory Infections in Health Care*](#)

[*Best Practices for Environmental Cleaning in Healthcare Facilities: in Resource-Limited Settings*](#)

How can you clean soiled bedding, towels and linens from patients with COVID-19?

All individuals dealing with soiled bedding, towels and clothes from patients with COVID-19 should:



1. Wear appropriate personal protective equipment, which includes heavy duty gloves, mask, eye protection (face shield/goggles), long-sleeved gown, apron (if gown is not fluid resistant), boots or closed shoes before touching any soiled linen.
2. Never carry soiled linen against body; place soiled linen in a clearly labelled, leak-proof container (e.g. bag, bucket)
3. If there is any solid excrement on the linen, such as feces or vomit, scrape it off carefully with a flat, firm object and put it in the commode or designated toilet/latrine before putting linen in the designated container. If the latrine is not in the same room as the patient, place soiled excrement in covered bucket to dispose of in the toilet or latrine;
4. Wash and disinfect linen: washing by machine with warm water (60-90°C) and laundry detergent is recommended for cleaning and disinfection of linens. If machine washing is not possible, linen can be soaked in hot water and soap in a large drum, using a stick to stir, avoiding splashing. If hot water not available, soak linen in 0.05% chlorine for approximately 30 minutes. Finally, rinse with clean water and let linen dry fully in the sunlight.

OTHER RESOURCES

[COVID-2019 Situation Reports \(World Health Organization\)](#)

[Clinical management of severe acute respiratory infection when novel coronavirus \(nCoV\) infection is suspected \(World Health Organization\)](#)

[Infection prevention and control during health care when novel coronavirus \(nCoV\) infection is suspected \(World Health Organization\)](#)

REVISION DATE

Revision Date: March 15, 2020

Last Reviewed: March 15, 2020