

# **RESPONDING TO A PATIENT WITH SIGNS OR SYMPTOMS OF RESPIRATORY INFECTION**

**UC DAVIS FIRE DEPARTMENT  
RECOMMENDED ACTIONS AND GUIDANCE**

VERSION 4.0

REVISION DATE 03.31.2020

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# UC Davis Fire Department

## RECOMMENDED ACTIONS:

### RESPONDING TO A PATIENT WITH SIGNS OR SYMPTOMS OF RESPIRATORY INFECTION

Updated: March 31, 2020

## INTRODUCTION:

This document outlines the procedures and considerations to be followed when any droplet respiratory illness is present or is suspected during response, patient assessment and care.

Both Influenza and COVID-19, as well as other colds and transmittable respiratory illnesses, are spread via droplet transmission and may be a significant threat to fire and emergency service worker safety. PPE, regular workplace facility cleaning, equipment decontamination procedures, and thorough personal hygiene practices provide the best methods for reducing the risk of exposure.

Due to community spread of COVID-19, travel is no longer the only risk factor to influence the donning of PPE. It should also be noted that common symptoms associated COVID-19 are not always the only indicators of potential infection, and because of that we are being directed to take greater precautionary measures on all medical responses. This document seeks to protect responders by reducing unnecessary exposure at every opportunity while still providing compassionate care to the sick and injured.

Given that the Bay Area and Sacramento Region has community-wide transmission of COVID-19, dispatch/PSAP screening questions will not adequately assess the risk with high reliability of separating low and high-risk patients and initiating this step may lead to a false sense of security. Given these circumstances the Yolo EMS Agency will not implement enhanced EMD screening at this time.

## BACKGROUND:

Corona viruses are a group of viruses belonging to the family of Corona viridae, which infect both animals and humans. Human corona viruses can cause mild disease similar to a common cold, while others cause more severe disease (such as MERS-Middle East Respiratory Syndrome and SARS-Severe Acute Respiratory Syndrome). A new corona virus that previously has not been identified in humans emerged in Wuhan, China in December 2019. Signs and symptoms include respiratory symptoms: fever, cough and shortness of breath. In more severe cases, infection can cause pneumonia, severe acute respiratory syndrome and sometimes death. 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; and avoiding close contact with anyone that has a fever and cough.

Fire and emergency medical services (EMS) 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 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 resources.

The number confirmed cases of COVID-19 in the greater Sacramento region (Yolo, Sacramento, Placer) continues to increase. In addition to cases related directly to international travel and cases related to contact with a confirmed case of COVID-19, cases of community spread are now prevalent. Community spread refers to cases of people who have contracted the virus and are not sure how or where they became infected. With community transmission present, all healthcare personnel (HCP) are considered at some risk for COVID-19, whether through patient interactions or from general community interactions.

# EMERGENCY RESPONSE GUIDELINES

## ENROUTE:

### General Guidance:

Personnel should consider heightened situational awareness on all calls for medical aid. (*Examples: unknown medical, ill, sick, flu-like symptoms, fever, cough, "not feeling well", etc.*)

### Procedures:

- A. Any personnel responding to a call for service involving a request for medical aid (even when respiratory illness or unknown/suspected COVID-19 patient status is not explicitly stated) shall don appropriate PPE prior to contacting the patient.
  - a. 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)
    - i. Use respiratory protection (i.e. N-95 respirator);
    - ii. Don a single pair of disposable patient examination gloves. If gloves tear or become heavily contaminated, dispose of gloves and use a new pair;
    - iii. Wear eye protection (i.e. goggles or disposable face shield that fully covers the front and side of face); and
    - iv. Don a disposable isolation gown if the patient complains of respiratory symptoms or close contact with the patient is expected (such as during a lift-assist). Absent these criteria, a gown need not be worn.
- B. All PPE shall be donned prior to arriving on scene or exiting the apparatus cab. The only allowable exception to this is for gowns, which may need to be put in place after exiting the cab to prevent tearing.
- C. Structural firefighting gear shall not be worn on calls for medical aid until further notice where they may historically be worn for convenience. Standard uniform pants and appropriate PPE shall be worn understanding that there may be some impacts to response times.
- D. Although lift-assist calls are not necessarily medical in nature, there is an increased likelihood that a person requesting a lift assist may also be ill. Often, patients transporting as medical patients have recently requested a lift-assist in the previous 24 hours. Additionally, these calls are close-contact calls and could easily transfer pathogens from the person to a responder. For this reason, full PPE precautions as described above shall be worn during lift-assist calls.
- E. The responding unit's company officer should 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, fact-informed, choices to limit the number of personnel making contact and coming within 6-feet of the patient.
- F. 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 vs. what can be left on the apparatus or staged with other distanced personnel. All responders shall always bring any PPE that could be needed during the call with them into the scene (i.e. gowns).
- G. If no criminal or violent activity is suspected, company officers should advise any police personnel on scene to remain distanced and reduce their risk of potential exposure.
- H. If the ambulance transport provider is on scene prior to the arrival of fire units, fire units should advise of their arrival on scene and transmit that they will remain staged unless needed by the ambulance transport crew.

## **APPROACHING THE PATIENT:**

### General Guidance:

This guidance applies to all personnel responding to any calls for medical aid, especially those where the signs/symptoms of COVID-19 are suspect/present.

### Procedures:

#### A. Patient Contact:

- a. Stable patient: defined as those patients who are alert, oriented and able to speak with the provider and answer all questions, not exhibiting signs of significant respiratory distress, and not requiring apparent physical interventions by responders.
  - i. Maintain a 6-foot distance, using a single crew member to pass the patient a surgical mask to don themselves. The mask shall be passed in a manner that does not bring the crew member within 6 feet of the patient. The balance of crew members should standby and use at least a 6-foot distance.
  - ii. The primary crew member (person closest to the patient) should then maintain verbal contact with patient providing the following:
    1. Conduct doorway triage by asking: "Does anyone here have a fever, cough, shortness of breath, or respiratory distress?" and "Has anyone here had previous contact with someone told they had a lab positive COVID-19 test?" (Yes, to these questions OR if: entering a facility with COVID-19 patients OR entering an elevated risk community setting such as skilled nursing facility, managed care home, independent living facility, jail, etc. is a trigger point for all crew members donning a gown.)
    2. Reinforce we are here to help and need to take some universal precautions. The first being that we are going to pass you a mask and you need to put it on.
    3. Second to keep everyone as healthy as possible, we are going to remain at a distance and ask our standard patient health history questions until an ambulance crew arrives to assume further patient care.
    4. Fire-based/non-transport responders need not obtain vitals or perform other routine patient assessments.
  - iii. If patient contact of any kind must be made, begin with only a single responder.
- b. Unstable Patients: defined as those patients whose presentation indicates that responders must take immediate physical interventions in order to save the patient's life.
  - i. Use the minimum number of responders possible to take life-sustaining measures.
- C. Involve the fewest number of personnel required to minimize possible exposures.
- D. Maintain regular visual contact with provider(s) caring for the patient.
- E. Ensure radio communications are patent and available between care provider(s) and personnel staging.
- F. Non-critical personnel should maintain a 6-foot distance at a minimum and be wearing PPE.
- F. Maintain hygiene controls when accessing equipment from medical bags to avoid bag contamination. Persons assisting with patient care will remain at the bag to access equipment and always remain over 6-feet from the patient on low-acuity patient calls.
- G. Person responsible for patient care should begin questioning patient from 6 feet away if the patient is not in immediate distress. Ask the patient if they have any respiratory distress, fever, cough, or shortness of breath. If yes, provide surgical mask to patient and ask them to place it on themselves. Remain 6-feet away from the patient to finish your verbal assessment unless interventions are needed.

## **PATIENT CARE:**

### General Guidance:

Priority should be placed on covering any patient cough using a surgical mask on the patient to immediately reduce risk of spread and exposure.

- 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.
- Initial assessment should begin from a distance of at least 6-feet from the patient, if possible.
- Patient contact should be minimized to the extent possible until a surgical mask is on the patient. If COVID-19 is suspected, all PPE as described below should be used.
- A surgical mask should be worn by the patient for source control. If a nasal cannula is in place, a surgical mask should be worn over the nasal cannula. Alternatively, an oxygen mask can be used if clinically indicated.

### Procedures:

- A. As soon as practicable, have the patient don a surgical mask where the signs/symptoms of COVID-19 are suspect/present.
- B. If not already donned prior to entry, any personnel within 6-feet shall don a N95 mask if signs/symptoms of COVID-19 are suspect/present.
- C. Cough-generating procedures (e.g., mechanical ventilation, nebulizer treatment) should not be performed.
- D. All personnel should avoid touching their face while working.

## **CHANGES TO YOLO COUNTY BLS AND ALS RESPONDER CPR PROTOCOL EFFECTIVE MARCH 24, 2020:**

CPAP/BiPAP should not be used in any patients by BLS providers without direction from a Paramedic.

Do not use facemask to BVM technique or mouth to mask technique.

Providers are to use compression only CPR unless an IGel or King Tube is placed to secure the airway.

A surgical mask shall be placed on the patient if compression only CPR is being performed.

## **AFTER THE CALL – PRIOR TO TRANSPORT:**

All personnel shall doff and bag PPE at distance of greater than 6-feet from the patient prior to the departure of the transport ambulance. If a responder does not come within 6-feet of the patient during the medical response, that responder's PPE may be re-used by the same responder on future calls and need not be disposed of until necessary.

Once bagged:

- Place bag at least 6-feet from the ambulance where the patient is receiving care and being prepared for transport.
- Communicate with ambulance transport crew from a distance of at least 6-feet to have them take the contaminated, bagged PPE, with them to the hospital.

- Take all measures needed to ensure the ambulance crew does not leave without taking the bagged PPE to be disposed of at the receiving hospital.
- After doffing of 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 fire/EMS vehicles and equipment after treating a PUI:

- 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 department approved 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 come in contact with 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, according to manufacturer's instructions.
- Follow standard operating procedures for the containment and disposal of used PPE and regulated medical waste.
- It is recommended that responders not wear station/uniform clothes home.
- For detailed disinfection guidance, see the CDC website at [www.cdc.gov](http://www.cdc.gov)

## **AFTER THE CALL – EMS WORKFORCE MONITORING AND SURVEILLANCE IN RELATION TO COVID-19**

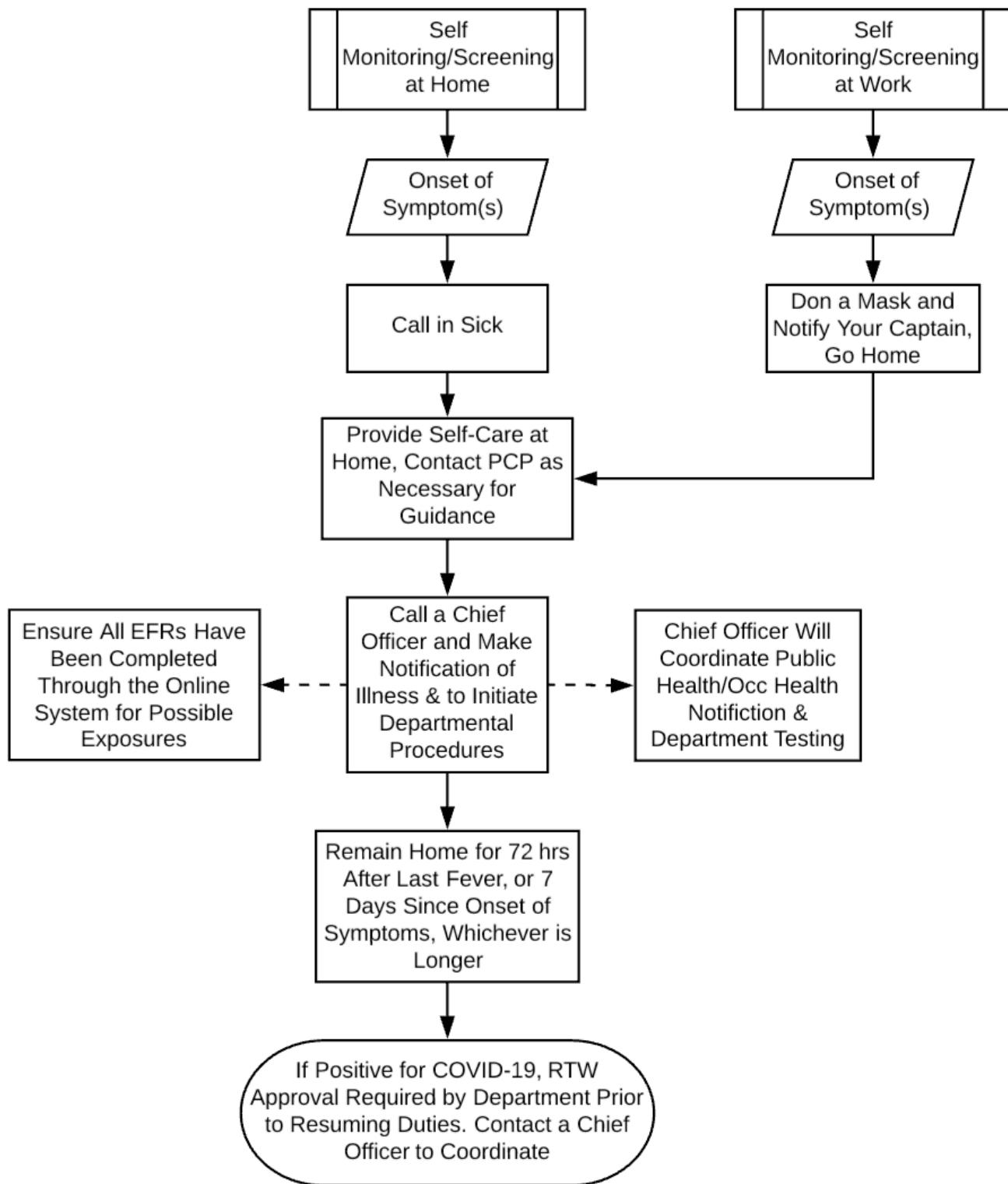
### **Exposure Risk & Mitigation:**

Routine exposure risk and mitigation practices are now in place which include asking personnel to report recognized exposures, regularly self-monitor for fever and symptoms of respiratory infection/illness, and not report to work if they become ill. The individual should remain at home for 72 hours after last day of a fever, or 7 days after symptoms began, whichever is longer.

The following infectious control practices are now in place, which include:

- Self-monitor/Self-Screening Criteria:
  - Personnel shall take their temperature before (prior to reporting to work) and after the shift (prior to leaving their assigned station).
  - Crew members shall conduct mid-shift screening at a mid-point of their tour.
  - If even mild symptoms consistent with COVID-19 or other respiratory illnesses develop, the individual must cease patient care activities, notify their supervisor, and leave work. Symptoms to monitor for include:
    - Fever (greater than 100.4 F without use of fever reducing medications)
      - If positive with non-oral thermometer, confirm reading with oral
    - Cough
    - Shortness of breath
    - New onset myalgias (soreness/achiness in muscles not directly related to exercise)
- Positive Self-Screening Procedure:
  - Personnel who self-screen positive for COVID-19 related symptoms will:
    - Don a mask, notify their supervisor, and depart the station
    - The individual should remain at home for 72 hours after last day of a fever, or 7 days after symptoms began, whichever is longer.

# Self-Monitoring/Screening Positive Symptoms



Please do not hesitate to call the EMS/Public Health Duty Officer (530-321-3620), available 24/7, with any questions or concerns that may arise, including while on a scene.

## **Exposure Risk:**

**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:

- May remain on shift and continue with normal job responsibilities.
- Shall notify a Chief Officer.
- Shall self-monitor daily for fever or any cold/flu or respiratory symptoms. If systems develop, stop work, isolate at home, notify a Chief Officer, and the Chief Officer shall notify Yolo County Public Health: 530-321-3620.

**Moderate Risk:** Any personnel who has a breech 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:

- Shall report the breech immediately to a Chief Officer, and to Captain Hatcher (the department's Designated Infection Control Officer, DICO).
- The Chief Officer shall call the EMS/Public Health Duty Officer: 530-321-3620.
  - The breech and exposure risks will be assessed by public health.
  - Based on the breech and exposure risk, the individual(s) may be excluded from work for 14 days from the date of exposure.

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

- Shall report the incident immediately to a Chief Officer and DICO.
- The Chief Officer shall call the EMS/Public Health Duty Officer: 530-321-3620.
- The following process will occur:
  - The EMS/Public Health Duty Officer will follow up with the hospital and determine if the patient meets CDC/Local Health Officer criteria for COVID-19 person under investigation (PUI).
  - If the patient does not meet CDC/Local Health Officer criteria for COVID-19, the personnel may return to duty.
  - If the patient does meet criteria for COVID-19 PUI, then the individual(s) may be excluded from work for 14 days from the date of exposure.

## **Effective March 28, 2020:**

Per the Yolo County EMS Administrator: To help create awareness and transparency we are investigating every single positive case to see if fire/EMS was involved. If there was any involvement, we will contact you with the details.

That contact from the EMS Administrator will be made to the Chief of the Fire Department and further notifications/next steps taken as appropriate.

# **DEPLOYMENT OF RESOURCES IN A DEPLETED STAFFING ENVIRONMENT:**

Staffing and deployment of resources, in the event that conditions are not met to maintain minimum daily staffing, UCDFD Policy 301: Staffing shall be followed for guidance.

Specifically:

## **General Configurations**

301.5.1

As a general guideline, staffing should be distributed as follows if qualifications allow:

8 people: Engine 34 staffed with 4, Truck 34 staffed with 4

7 people: Engine 34 staffed with 3, Truck 34 staffed with 4

6 people: Engine 34 staffed with 3, Truck 34 staffed with 3

5 people: Engine 34 staffed with 2, Truck 34 staffed with 3

4 people: Truck 34 staffed with 4

3 people: Truck 34 staffed with 3

2 people: Engine 34 staffed with 2

1 person: Engine 34 staffed with 1

## **Reduced Staffing Response**

301.5.2

The Department recognizes that there may be circumstances where a resource has fewer than three (3) career personnel and must still deploy to an emergency. Alternate resource assignments are listed below by general call type:

1. Acute Medical
  - a. UC Davis Engine response with a minimum of two (2), or UC Davis Truck response with a minimum of three (3) personnel and an AMR unit.
  - b. Command Staff unit response with a minimum of one (1) personnel and an AMR unit.
  - c. Special event unit response (EMS 234, Squad 34, etc.) with a minimum of two (2) personnel and an AMR unit.
2. Serious Medical (Trauma, Cardiac Arrest, Respiratory Arrest, Stroke, etc.)
  - a. UC Davis Truck response with a minimum of three (3) personnel, or UC Davis Engine response with a minimum of two (2) and an AMR unit. An aid request shall be made for an additional, closest available, fire resource to supplement the response.
  - b. Command Staff unit response with a minimum of one (1) personnel and an AMR unit. An aid request shall be made for an additional, closest available, fire resource to supplement the response.
  - c. Special event unit response (EMS 234, Squad 34, etc.) with a minimum of two (2) personnel and an AMR unit. An aid request shall be made for an additional, closest available, fire resource to supplement the response.

3. Small Fire
  - a. UC Davis Engine response with a minimum of two (2) personnel and a UC Davis Command Staff unit if available.
  - b. UC Davis Truck response with a minimum of three (3) personnel and a UC Davis Command Staff unit if available. An aid request shall be made for an additional, closest available, engine to supplement the response.
4. Structure or Commercial Fire
  - a. UC Davis Engine response with a minimum of two (2) personnel and a UC Davis Command Staff unit if available. An aid request shall be made to balance the assignment, closest available, fire resources to supplement the response.
  - b. UC Davis Truck response with a minimum of three (3) personnel and a UC Davis Command Staff unit if available. An aid request shall be made to balance the assignment, closest available, fire resources to supplement the response.

Notifications shall be made to a UC Davis Chief Officer, and the City of Davis Battalion 31, regarding the current status of reduced staffing.

While not specifically addressed in UCDFD policy, the Yolo County Operational Area Coordinator should be notified by a UC Davis Chief Officer if staffing drops below minimum to provide situational awareness and prepare regional assets for deployment if necessary.

## **STATION CLEANING:**

Personnel are expected to maintain heightened levels of cleanliness throughout the station. A general cleaning of the station and high-contact surfaces shall occur twice daily, with spot cleanings occurring on an as-needed basis between.

PPE: Personnel engaged in cleaning activities in fire station living areas, building floors, apparatus, and apparatus bays as part of routine cleaning shall wear disposable gloves.

Cleaning Products: Bleach disposable wipes, mops, beach and water solution, station washer/dryer, extractor, laundry detergent, and laundry bleach additive.

### **Product Use Guidance:**

- Bleach Disposable Wipes
  - Allow product to air dry on surfaces.
  - Alcohol-based wipes are ineffective.
- Bleach Solution
  - The CDC recommends using a bleach/water 1:10 ratio, 1 cup of bleach to 9 cups of water made fresh daily.
  - A new solution is needed every 24 hours because bleach strength decreases over time and may become less effective.
  - Keep surfaces wet with solution for ten minutes before drying with a clean towel or cloth.

### **General Cleaning:**

- Pre-clean: Surfaces to be disinfected should be clean and free from visible contamination. Gross decontamination, such as fecal matter or other bodily fluids/waste, should be cleaned by scrubbing with a disposable wipe, towelettes, or cloth.
- Disinfection: All treated surfaces with wipes shall be allowed to air dry, solution treated surfaces for ten minutes; any remaining product can be removed with disposable towelettes, wipes, or cloth. Do not reuse soiled wipes or cloths. Cleaning technique should employ the top-to-bottom, back-to-front

cleaning method to minimize the spread of contaminants and cross-contaminating surfaces. Floors and bathrooms should be done last.

- It is best to use disposable wipes, paper towels, or cleaning cloths that can be washed in hot bleach water after cleaning, sponges are not recommended. Dirty cloths should not return to a clean bucket of solution and buckets/containers should be washed and disinfected after each use.

#### Bathrooms:

- Clean and disinfect all hard, nonporous bathroom surfaces. Start with the highest surfaces working downward, saving toilets for last.
- Ensure that all surfaces are disinfected: mirror, grab bars, fixtures, handles, etc.
- Store personal grooming/hygiene items in lockers and out of public areas.
- Use bleach solution on the floors.

#### Kitchen, Day Areas, and Sleeping Quarters:

- Wipe-down tables, desks, chairs, nightstands, bed rails, lockers, computers, phones, remotes, storage bins, walls, countertops, partitions, doorknobs, handles, and light switches. Clean flooring with appropriate product.
- Appliances (special focus on handles), sinks, and countertops.

#### Apparatus:

- Wipe-down:
  - Seats, steering wheel, cab areas (switches, controls, dashboard, seatbelts), door handles, toolbox and medical kit handles/straps.
  - Radios, tablets, and other electronics.
  - Pump panel controls, steps, grab bars, and other commonly touched surfaces.
  - Clean all EMS care delivery items shared between personnel: BP cuffs, stethoscopes, thermometers, etc.

#### Apparatus Bay:

- Wipe-down:
  - Sinks, cabinet handles, tool handles, door handles, light and door switches.
  - Any other high-touch surface.
  - Gym equipment.
  - Laundry/extractor equipment.

## PERSONAL HYGIENE PRACTICES:

#### Hand Washing:

During shift work, personnel should ensure hands are washed with soap and water multiple times a day. Wash hands after using the restroom, before eating, before food prep, etc. The best way to avoid transmission is to wash hands consistently and thoroughly and avoid touching your face.

#### While washing hands:

- Use plenty of soap and warm water.
- Use hands to create friction, washing for a minimum of 20 seconds.
- Alcohol-based hand sanitizer with at least 60% alcohol may be used for hands when soap and water isn't readily available.

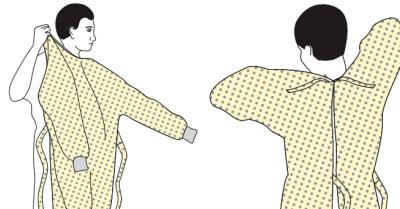
# CENTERS FOR DISEASE CONTROL (CDC) PPE – DON/DOFF SEQUENCE GUIDANCE

## 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



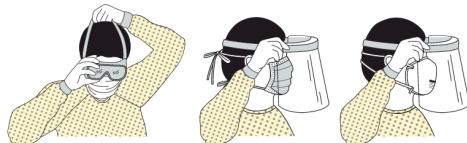
### 2. MASK OR RESPIRATOR

- 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



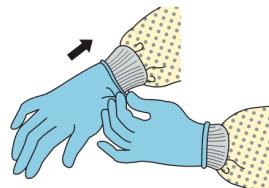
### 3. GOOGLES OR FACE SHIELD

- 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



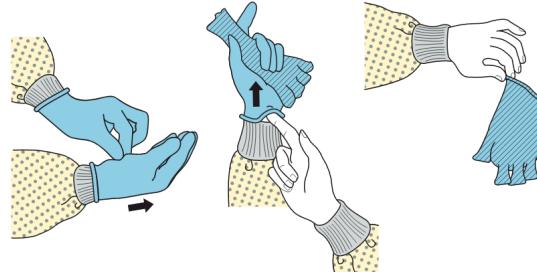
# CENTERS FOR DISEASE CONTROL (CDC) PPE – DON/DOFF SEQUENCE GUIDANCE

## 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



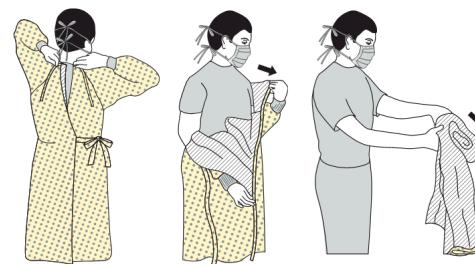
### 2. GOGGLES OR FACE SHIELD

- 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



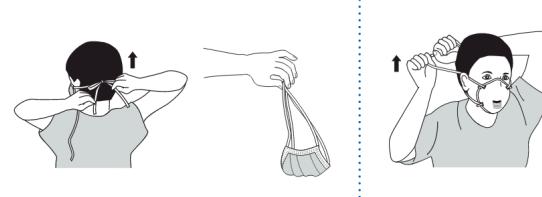
### 3. GOWN

- 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

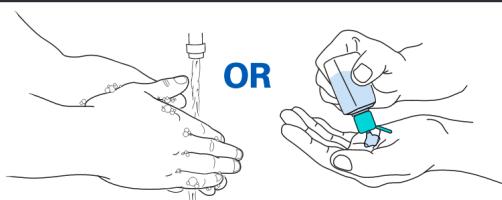


### 4. MASK OR RESPIRATOR

- 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**



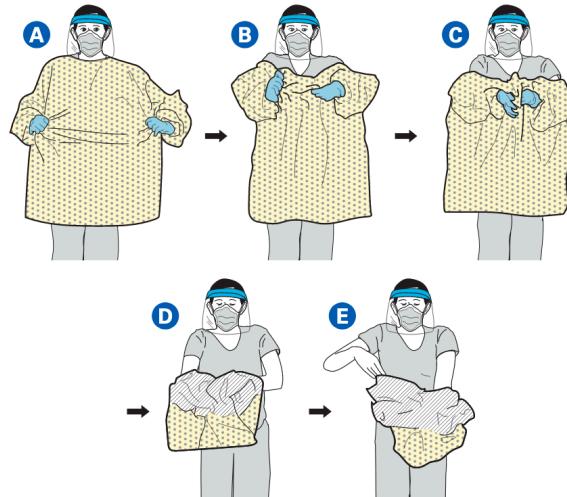
# CENTERS FOR DISEASE CONTROL (CDC) PPE – DON/DOFF SEQUENCE GUIDANCE

## 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



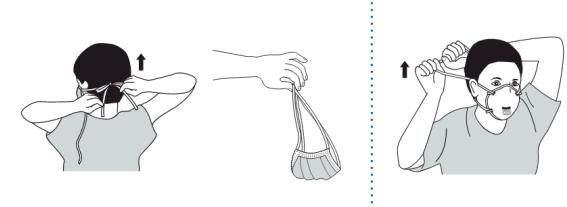
### 2. GOGGLES OR FACE SHIELD

- 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

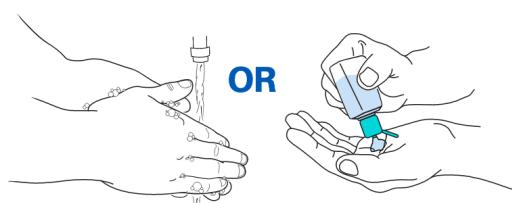


### 3. MASK OR RESPIRATOR

- 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**



# CENTERS FOR DISEASE CONTROL (CDC) PPE - GUIDANCE



One pair of clean,  
nonsterile gloves .....

NIOSH-approved N95  
filtering facepiece  
respirator or higher

..... Gown

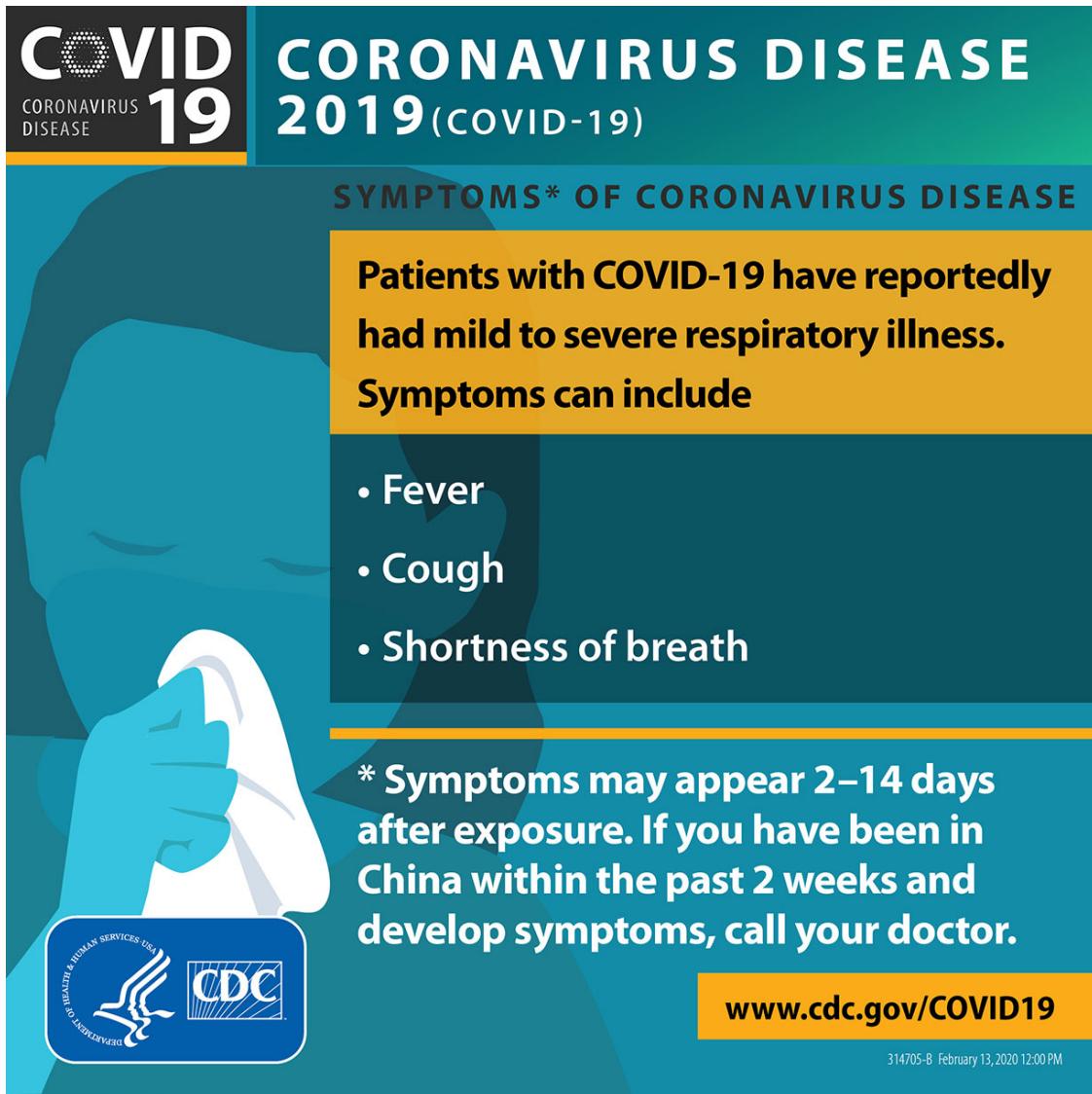
..... No shoe or boot covers



G354674 02/25/2020

For more information: [www.cdc.gov/COVID19](http://www.cdc.gov/COVID19)

# CENTERS FOR DISEASE CONTROL (CDC) PPE – SYMPTOMS OF COVID-19



**COVID  
19** 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

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**\* 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](http://www.cdc.gov/COVID19)**

154705-B February 13, 2020 12:00 PM

The poster features a large graphic of a person wearing a mask and gloves, with a CDC logo at the bottom left.

# **ADDITIONAL INFORMATION**

# **GENERAL COVID 19 Q&A - WORLD HEALTH ORGANIZATION (WHO)**

## 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.

## 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 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 1 meter (3 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.

## 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 1 metre (3 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 (cities or local areas where COVID-19 is spreading widely). 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 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 likely am I to catch COVID 19?

The risk depends on where you are - and more specifically, whether there is a COVID-19 outbreak unfolding there.

For most people in most locations the risk of catching COVID-19 is still low. However, there are now places around the world (cities or areas) where the disease is spreading. For people living in, or visiting, these areas the risk of catching COVID-19 is higher. Governments and health authorities are taking vigorous action every time a new case of COVID-19 is

*identified. Be sure to comply with any local restrictions on travel, movement or large gatherings. Cooperating with disease control efforts will reduce your risk of catching or spreading COVID-19.*

*COVID-19 outbreaks can be contained and transmission stopped, as has been shown in China and some other countries. Unfortunately, new outbreaks can emerge rapidly. It's important to be aware of the situation where you are or intend to go. WHO publishes daily updates on the COVID-19 situation worldwide.*

*You can see these at <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports/>*

### 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: about 1 in every 5 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.*

*Learn more about how to protect yourself at <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public>*

### 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 1 meter (3 feet) from people who are coughing or sneezing. (See [Basic protective measures against the new coronavirus](#)).*

### 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.

WHO advises rational use of medical masks to avoid unnecessary wastage of precious resources and mis-use of masks ([see Advice on the use 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 1 meter (3 feet) from people who are coughing or sneezing. See [basic protective measures against the new coronavirus](#) for more information.

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

1. Remember, a mask should only be used by health workers, care takers, and individuals with respiratory symptoms, such as fever and cough.
2. Before touching the mask, clean hands with an alcohol-based hand rub or soap and water
3. Take the mask and inspect it for tears or holes.
4. Orient which side is the top side (where the metal strip is).
5. Ensure the proper side of the mask faces outwards (the colored side).
6. 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.
7. Pull down the mask's bottom so it covers your mouth and your chin.
8. 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.
9. Discard the mask in a closed bin immediately after use.
10. 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.

### 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 long does the virus survive on surfaces?

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.

## **GOOD PORTABLE ELECTRONICS HYGIENE (SMART PHONES, TABLETS, E-READERS):**

To minimize your exposure to illness while using a smart phone, tablet, or e-reader consider these device hygiene tips:

- **Be mindful of where you set your device down.** Restrooms, airplane trays, hospital check-in counters, and other public spaces are common areas where your device can pick up germs.
- **Disinfect your device frequently.** Use disinfecting wipes or alcohol swabs. If you use a case be sure to clean both the device and the case separately.
- **Keep your hands clean.** While handwashing sounds pretty simple, keeping them clean doesn't last very long. Think about the number of door handles or surfaces you touch from the moment you wash your hands to the moment you pick up your device, or the number of surfaces or objects you touch in between handling your device (i.e., grocery cart, money, check-out or ATM keypads, gas pump dispenser, etc.) the cleaner your hands are, the less likely for germs to attach to your device. Carry disinfectant wipes or hand sanitizer.
- **Keep your device away from the dining table.** Not only will you avoid contaminating your food, but you'll also avoid picking up food residue that can contribute to bacterial growth. High temperature and humidity generated by electronic devices support germination and biofilm on the surface of your device.
- **Keep your device to yourself.** Remember, this a gadget you potentially hold next to your face, eyes, and mouth in some cases – which are the most common infection gateways. If you do pass your device around, or let someone else handle it, remember to clean it.
- **Clean your wireless charging pad and device holders.** These are also gadgets that come in frequent contact with your devices, and easy to overlook as germ hosts. Don't forget to disinfect other surfaces like your desk, keyboard, and mouse.