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W122503-TPM

Rockville Fire & Rescue General Patient Care and PPE Guidelines for First Responders

Current as of March 20, 2020

These guidelines may change according to CDC or MDH recommendations. COVID-19 pandemic Frist Responder General Patient Care Guidelines

Background:

First Responder agencies, including both Fire Departments and Law Enforcement play a vital role in pre-hospital emergency care. In many areas they are the first providers on scene and perform the initial patient assessment that helps triage additional resource needs. They also play a vital role in caring for life threatening emergencies when present. The COVID-19 pandemic has introduced many challenges and concerns about the safety of providing this important care. PPE supply chain shortages have also placed limitations on many agencies ability to respond. As the situation continues to evolve and PPE supplies remain limited, it is important to prioritize use, maintain responder safety and continue to provide care with a 'greatest good for the greatest number' philosophy.

Guidelines:

1. All PSAPs should screen for the potential of febrile respiratory illness.
   a. Query callers for fever and cough or shortness of breath.
   b. Alert responding agencies of a "Positive Infectious Screen".
   c. This screen should not slow or prevent the provision of emergency pre-arrival instructions (PAI) or transferring to secondary PSAP for PAI if indicated.

   i. If transferred the secondary PSAP should screen when practical and notify the Primary PSAP if Infectious screen positive as soon as possible.

   ii. Primary PSAP shall then alert responding agencies.

2. Approach the scene with standard scene safety practices.

3. ***Assign a single responder to initiate the patient assessment (preferably highest level trained)***

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4. The provider should perform hand hygiene then don standard droplet PPE.

a. Surgical mask (or available equivalent or higher level)

i. N95 masks should be reserved for aerosolizing procedures.

b. Eye protection

i. Put on eye protection (i.e., goggles or a disposable face shield that covers the front and sides of the face) upon entry to the patient room or care area. Personal eyeglasses and contact lenses are NOT considered adequate eye protection.

c. Gloves

d. Disposable gown

i. If limited availability, then reserve for aerosolizing procedures.

5. Perform a "doorway/threshold assessment"

a. At least 6 feet away, with direct visualization of the patient.

i. Through closed door or window is preferred.

b. Ask Chief Complaint.

c. Ask the patient if they had a recent nebulized treatment.

d. Assess mental status.

e. Assess respiratory status.

i. Respiratory rate.

ii. Ability to speak full sentences.

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6. For patients with normal mental status and no respiratory distress.

   a. No further patient contact is needed.

   b. Continue to observe at a distance.

7. If altered mental status, in respiratory distress or other obvious need for care.

   a. Immediately place mask on patient or toss one in for the patient to don.

      i. Simple surgical mask or 'Cone' type mask with elastic band is preferred.

   b. Administer oxygen per normal patient care guidelines.

      i. Nasal cannula should go under the mask.

      ii. If higher flow needed, oxygen mask replaces Simple/Surgical, Cone mask.

   c. Do Not administer Nebulizer treatments.

   d. Perform any life-threatening interventions as needed.

   e. If additional providers needed, they should have the same PPE.

8. Assist transporting ambulance crew as needed.

9. Upon completion of patient care.

   a. Discard all disposable PPE at the scene.

      i. If no patient contact within 6 feet, then discard gloves only.

   ii. Watch each other removing gear to prevent accidental contamination

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iii. If uniform 'coveralls' are used, remove and bag prior to leaving the scene.

iv. Use gloves and hand hygiene when handling contaminated laundry.

v. If uniform or equipment is contaminated, it can be washed with standard laundry soap

vi. Reusable goggles, wraparound framed safety glasses or face shield should be cleaned after each use with disinfectant wipes or a 10:1 bleach solution.

vii. Perform hand hygiene

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ROCKVILLE FIRE DEPARTMENT
24001 FIRE HALL LANE
PO BOX 165
ROCKVILLE MN 56369
320-251-0072 Phone
320-251-6602 Fax

RFD - Please reply back to me that you have read this email. I will keep track to make sure we are all on the same page. (Do not- reply all)

For those that have a Yellow Grass Jump Suit... Please get them washed and ready to be worn on calls until further notice. For those that do not have one, we have some spares around and can try to find you one. If not... we will try to work out other options.

Please work together on calls as they come in. We need to stay calm and professional. Work with dispatch on getting as much info as possible before putting anyone at risk. We need to keep ourselves safe but have a community that expects our response.

Remember... This is what we do, so let's do it right the first time!
We've got this! Stay Safe :-)

Scientific evidence is showing that COVID-19 is only airborne when using aerosolizing procedure (nebulizer).

This means using a regular mask versus a N95.

We have both styles in Rescue Units 8-10-11-12
In the back of 8 & 10 and In Zip locks in 11& 12

One N95 looks more like a painter's mask and has a air valve things on the front.
The other is a simple cloth stile.

The "regular" masks are the style you see in the clinic and do not say N95…

* Be sure to put one on the patient.

Mayo will continue to use a gown, boot booties, gloves and eye protection.

Gowns- We have 2 In Units # 8-10-11-12 with more on order.
See below for RFD variation.
Booties- We have None of these in stock.
Gloves- We have plenty in stock.

Eye protection- We have two options.
Plastic Safety Glasses
Masks that have plastic eye shield.

Please take time to look it over, and only use what you have too.

Be sure to use hand sanitizer, when you exit the residence, and apply a new pair of gloves before removing your precautions.

Mayo May not be allowed to restock first responder supplies at this time.

We have supplies to keep up as we can.

Be sure to restock at the hall and let James, Tim, Keith or Myself know if we need more of anything so we can get it ordered.

RFD Responses to Potential Influenza/COVID-19

Per Chief Schaefer Follow the next guidelines, for how RFD should work these calls.

When responding to calls involving potential Influenza/COVID-19 (Fever, Cough, Shortness of Breath, etc.), staff need to follow the following procedures:

Don the proper PPE

*Gloves
* Procedure Face Mask NOT an N95 Mask. Save the N95 masks for confirmed
COVID-19, PT's with recent travel history, and if COVID-19 goes Community wide.

- Eye Protection
- Jumpsuit or Grass Fire Coat or Bunker Coat or gown or Tyvek.

Once on Scene:

Only 1-2 members should enter the residence

3rd person in PPE in 2nd Rig To assist

All bags should stay outside and only needed equipment (BP Cuff, Pulse OX,

Glucometer, etc.) brought inside

Place a Procedure mask on the PT

Prior to Leaving the Scene:

- All disposable supplies used will be throw away
- Staff who were inside will clean their hands with sanitizer
- All equipment brought into the scene will be wiped down
- Jumpsuits, grass fire jackets, or bunker coats will be placed into a plastic bag until it can be cleaned.
- 3rd Person To assist with hand sanitizer if needed.

Returning From Call:

- Wipe down Vehicle To include Radios, Steering wheel, All Doors handles inside and out.
- Portable radios, and pagers & cell phones.
- Keys for vehicle
- Clean Glasses/Goggles etc.
- Clip Board
- Decon Room

At this time, to reduced exposure to personnel and best utilize our supplies, we are remaining outside the residence on all "influenza like illness "calls, or when told to use precautions. The exception would be difficulty breathing or altered level of consciousness type calls. In these types of scenarios, 1-2 fully gowned people should enter the residence with only the oxygen bottle (removed from the bag) and a non-rebreather or BVM. Get it on the patient and keep your distance.

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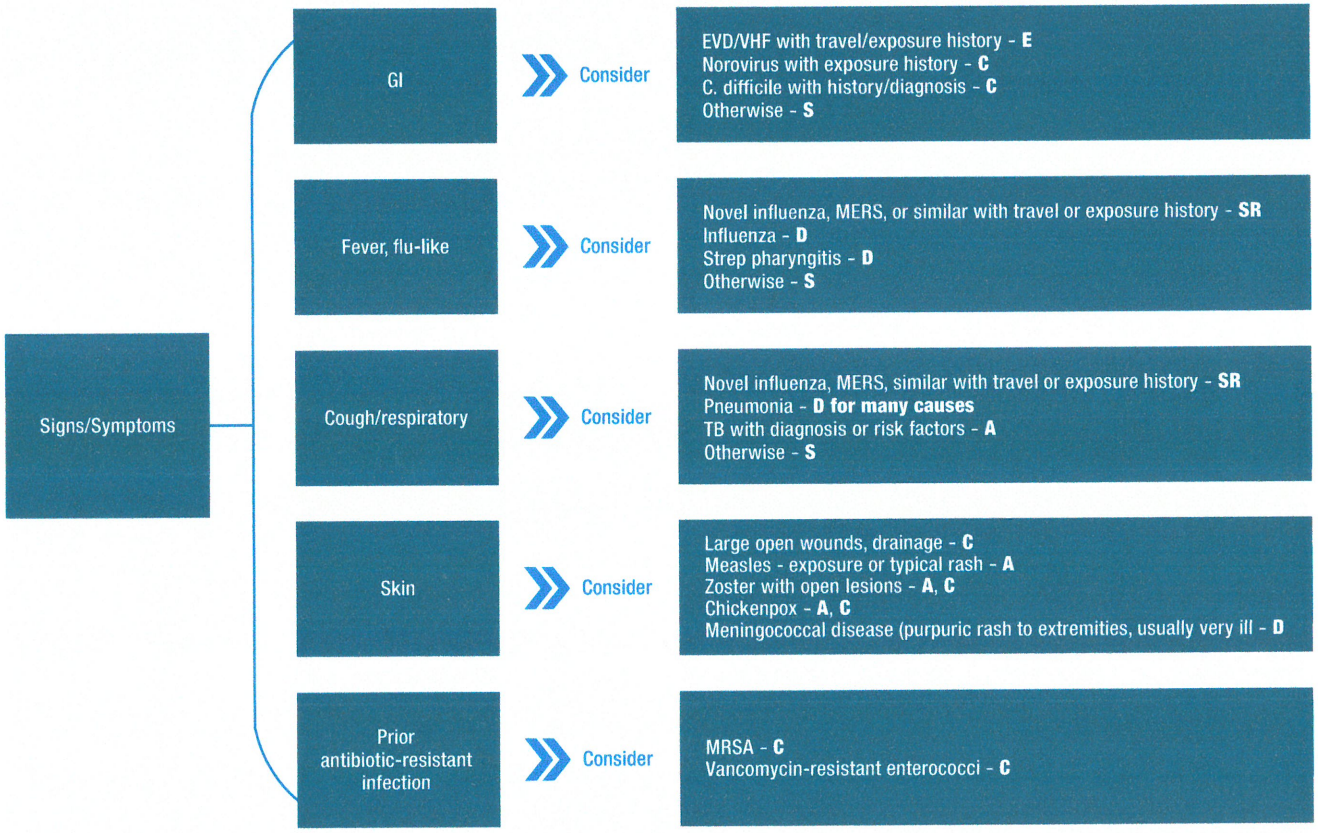
Dispatch/Responder Actions

ON-SCENE ASSESSMENT ALGORITHM



Type of Precautions
(Transmission-based precautions are always accompanied by standard precautions.)

S Standard	D Droplet	SR Special Respiratory	C Contact	A Airborne	E EVD-VHF

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Rockville Fire & Rescue

General Patient Care & PPE Guidelines

Pre-Arrival: PSAP & Dispatch

When feasible, **ALL** callers should be screened for **Cough, Fever,** or **Shortness of Breath**

Notify **ALL** responders of any **Positive Infectious Screen;** notify primary/secondary PSAPs

Approach to Scene

ALL calls: If safe, only one responder should make contact within 6 feet of any person

ALL medical calls: If safe, assess patients from the **doorway/threshold** or through a **window-**
If patient is awake, able to speak in full sentences and not in immediate danger: **observe from door**

Positive Infectious Screen: Wear **PPE** (Below) for all providers within 6 feet person

Personal Protective Equipment (PPE)

Gloves: Wear disposable gloves for all calls, remove after each call

Mask: Simple surgical mask is adequate for most contact with a **Positive Infectious Screen**

-N95 should be reserved for events that may generate aerosols. For example:

-Airway interventions such as bag-valve-mask; CPR; Nebulizer treatment

-Law enforcement: Use of force encounters

Gown: If safe, a disposable gown should be worn for a **Positive Infectious Screen**

-Alternatively, waterproof coveralls, rain jackets or similar can be used, but must be decontaminated

Eye protection: Splash-resistant eye protection should be worn for all calls

-Reusable eye protection is more economical but must be decontaminated

Clean-Up

Perform meticulous hand hygiene with soap and water or hand sanitizer
Dispose of all disposable equipment at the scene if possible
Decontaminate all reusable equipment at the scene
-Recommend using virucidal wipes, bleach solution, or similar
-Handle contaminated gear with gloves
-Contaminated uniforms should be washed with standard laundry soap

Current as of March20, 2020

These guidelines may change according to CDC or MDH recommendations

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NEWSRELEASE

March 20, 2020

Importance of Social Distancing

Every person can work to halt the spread of COVID-19

Rockville, MN –The ideal goal in fighting a pandemic is to halt the spread of disease. As the number of COVID-19 cases in Minnesota continues to rise, every person should be taking measures to lessen the spread of COVID-19.

Everyone should limit their public interactions. This is often referred to as social distancing. Work or attend school from home, cancel or postpone conferences and meetings, and visit loved ones electronically rather than in person. If you do need to go out in public, ensure there are six feet of space between yourself and others.

Efforts likes this keep people farther apart, making the spread of disease less likely. This reduces the number of cases that are active at any given time, which in turn gives the healthcare system time to prepare and respond without becoming overwhelmed. This is referred to as "flattening the curve".

Those who are at risk for getting COVID-19 should stay at home. Risk groups include older adults and people with serious medical conditions, such as heart disease, diabetes, and lung disease. If you are sick or not feeling well, stay home. People with an undiagnosed fever and/or cough or shortness of breath should stay at home until:

•7 days have passed since symptoms first appeared

•No fever for at least 72 hours (without the use of fever-reducing medication)

•Other symptoms (such as cough or shortness of breath) have improved.

If your illness worsens, call your health care provider immediately. If someone in your household isn't feeling well, limit your public activity for 14 days and monitor yourself for symptoms.

Call the Stearns County Corona Virus Hotline at

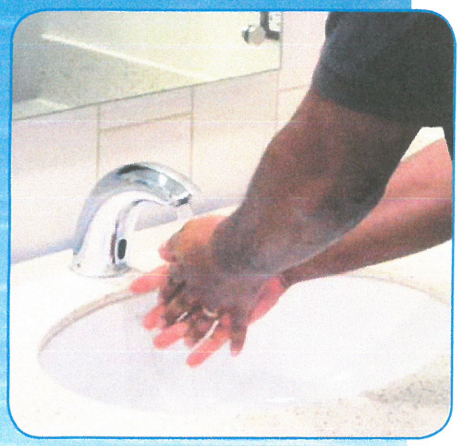
(320) 656-6625 (Open 8:30 am-4:30 pm) 1-877-782-5683 or

MDH Hotline

651-201-3920 (Open 7:00 am–7:00 pm) 800-657-3903

Handwashing: A Corporate Activity

Improving Health & Increasing Productivity



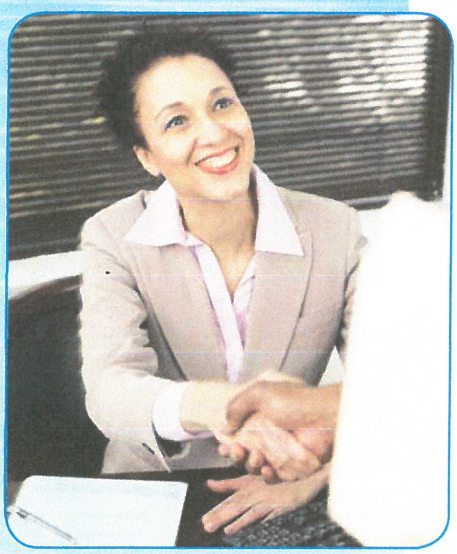
Handwashing is an easy, inexpensive, and effective way to prevent the spread of germs and keep employees healthy.

Handwashing gives people the opportunity to take an active role in their own health. Most handwashing studies have focused on child care or health care settings. The few that have looked at corporate settings show that promoting clean hands results in fewer employee sick days.

Improving Health

Germs can spread quickly. A healthier community means healthier employees. Handwashing education in the community:

- Reduces the number of people who get sick with diarrhea by 31%
- Reduces diarrheal illness in people with weakened immune systems by 58%
- Reduces respiratory illnesses, like colds, in the general population by 21%



Saving Time and Money

Handwashing is one of the best ways to avoid getting sick and spreading illness to others.

Sick employees are less productive even when they come to work. They may also spread illness to others at work. One recent study promoting clean hands in corporate environments showed:

- Fewer employee illnesses
- Less use of sick days

Helping Families and Workforces Thrive

Employees with healthy children spend less time away from work taking care of sick children, are more productive at work when not dealing with family illness, and get sick less often themselves.

Employers should promote employee handwashing and encourage them to also:

- Teach their children good handwashing technique
- Remind children to wash their hands
- Wash hands with their children

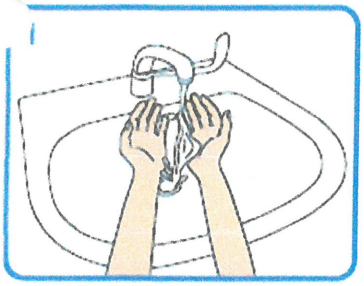
Despite widespread knowledge of the importance of handwashing, there is still room for improvement. A recent study showed that only 31% of men and 65% of women washed their hands after using a public restroom.

For more details, visit www.cdc.gov/handwashing.

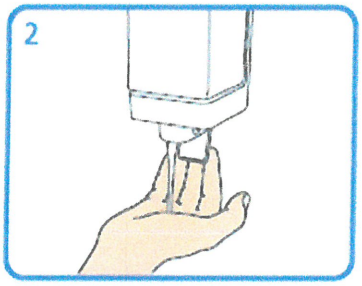
Department of Health and Human Services
Centers for Disease Control and Prevention

C5234835-B

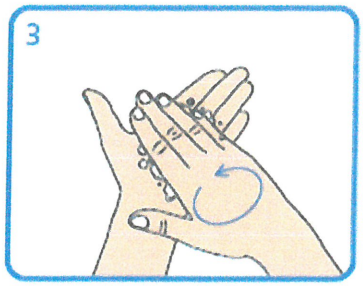
Hand-washing technique with soap and water



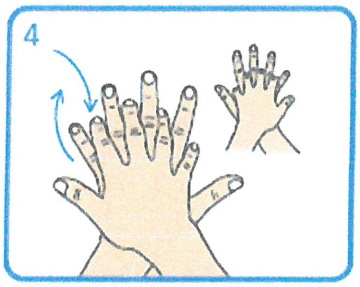
All excited but we don't know why



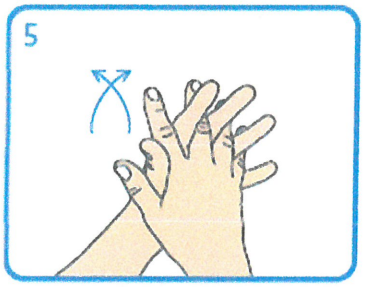
Maybe it's 'cause we're all gonna die



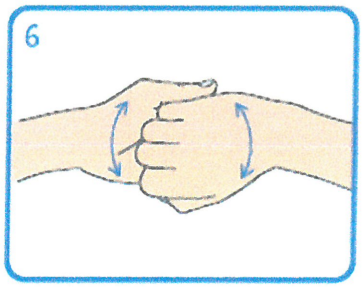
And when we do, what's it all for



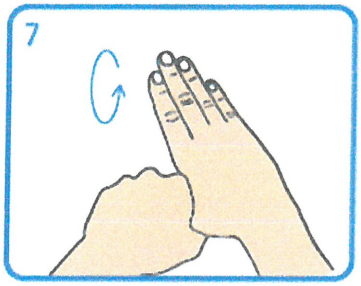
Better live now before the grim reaper



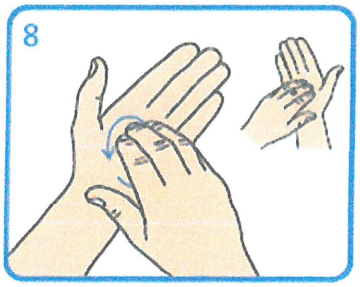
Come knocking on your door



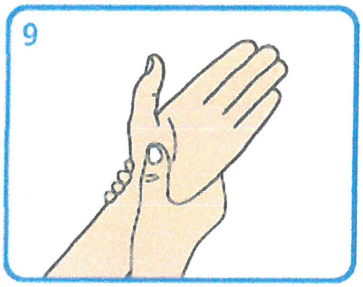
Are we gonna let the elevator



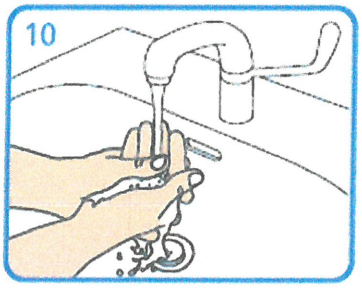
Bring us down, oh, no let's go



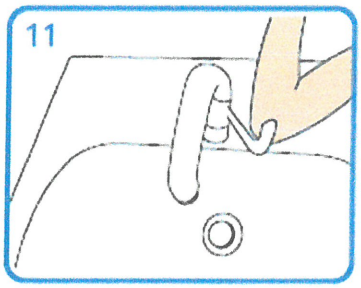
Let's go crazy, let's get nuts



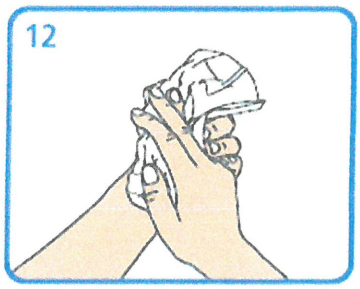
Look for the purple banana



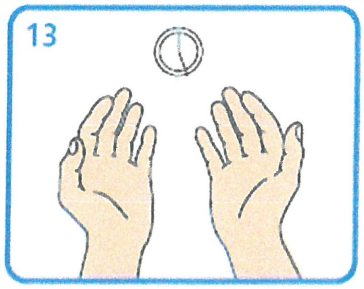
'Til they put us in the truck, let's go



Come on baby let's get nuts



Yeah, crazy



Let's go crazy

Create your own

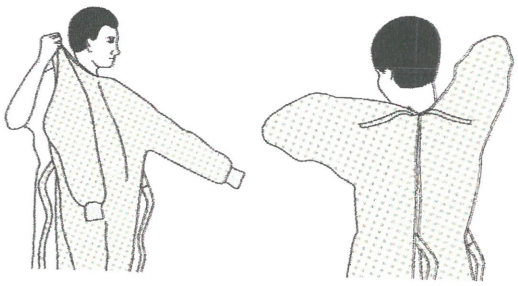
https://washyourlyrics.com

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.

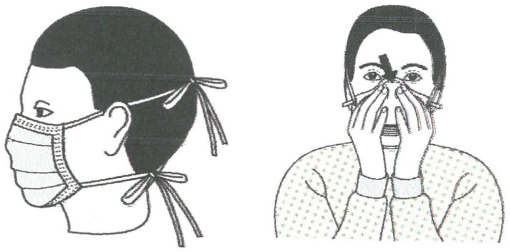
1. GOWN

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



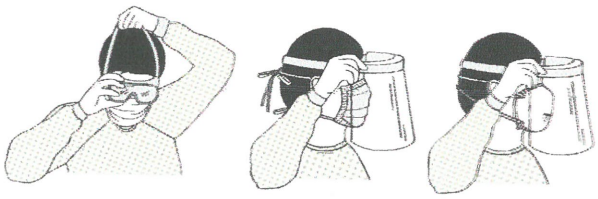
2. MASK OR RESPIRATOR

- 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



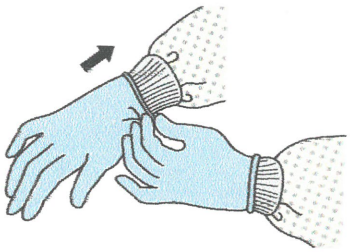
3. GOGGLES OR FACE SHIELD

- 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

CDC

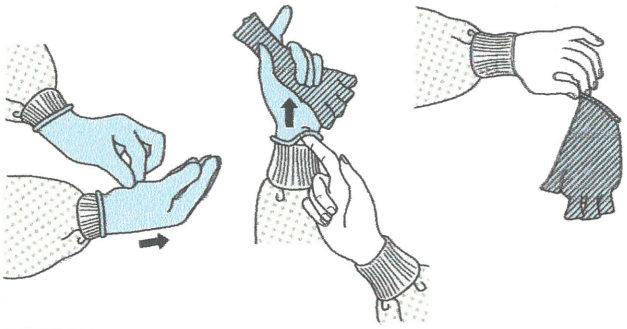
CS250672-E

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

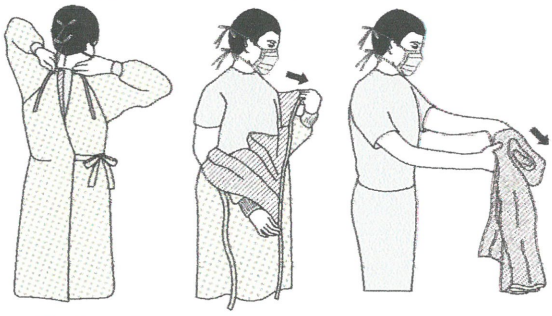


2. GOGGLES OR FACE SHIELD

- 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

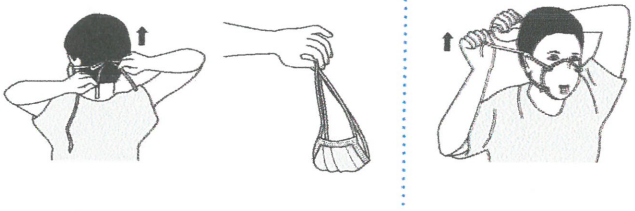
3. GOWN

- 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

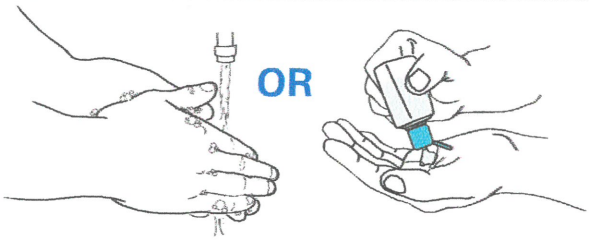


4. MASK OR RESPIRATOR

- 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

CDC

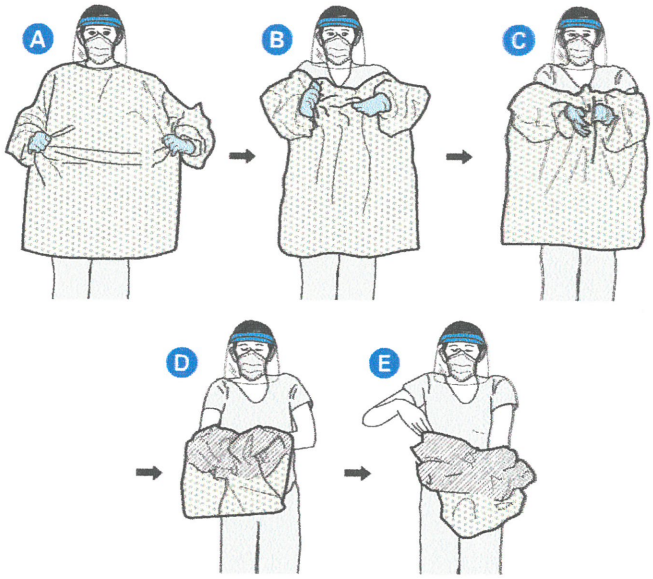
CS250672-E

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:

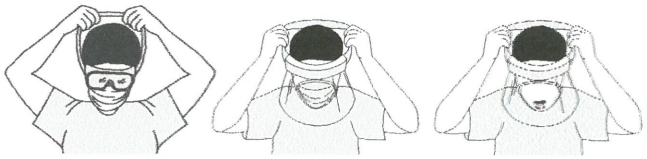
1. GOWN AND GLOVES

- 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



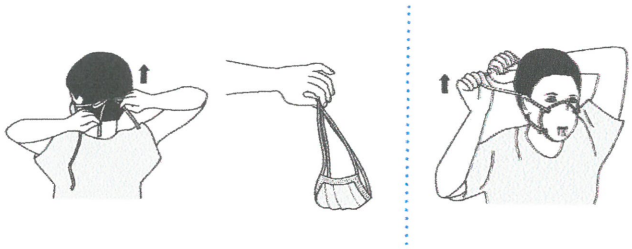
2. GOGGLES OR FACE SHIELD

- 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

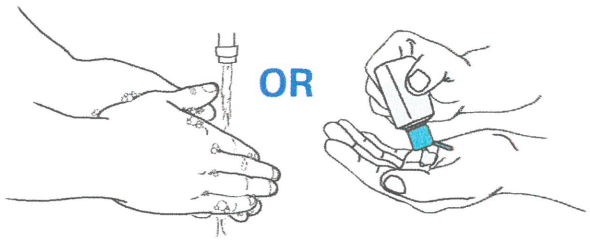


3. MASK OR RESPIRATOR

- 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

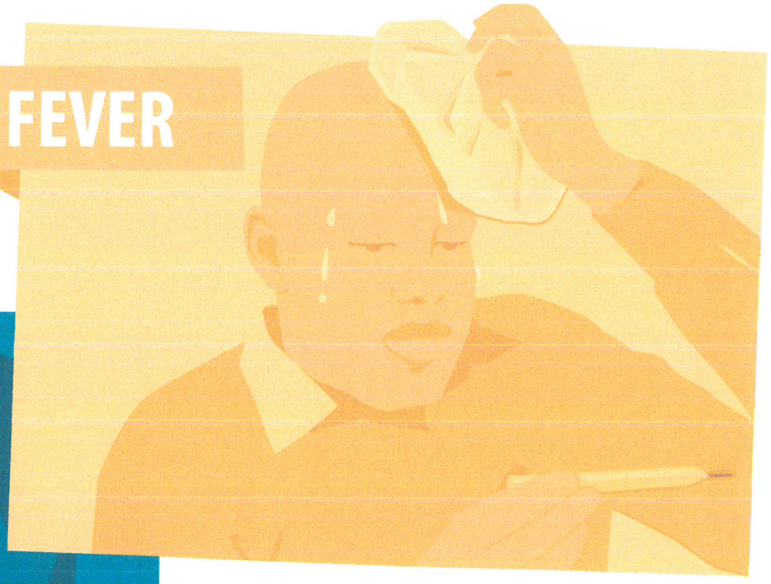
CDC

SYMPTOMS OF CORONAVIRUS DISEASE 2019

Patients with COVID-19 have experienced mild to severe respiratory illness.

Symptoms* can include

FEVER



COUGH

*Symptoms may appear 2-14 days after exposure.

SHORTNESS OF BREATH

Seek medical advice if you develop symptoms, and have been in close contact with a person known to have COVID-19 or if you live in or have recently been in an area with ongoing spread of COVID-19.

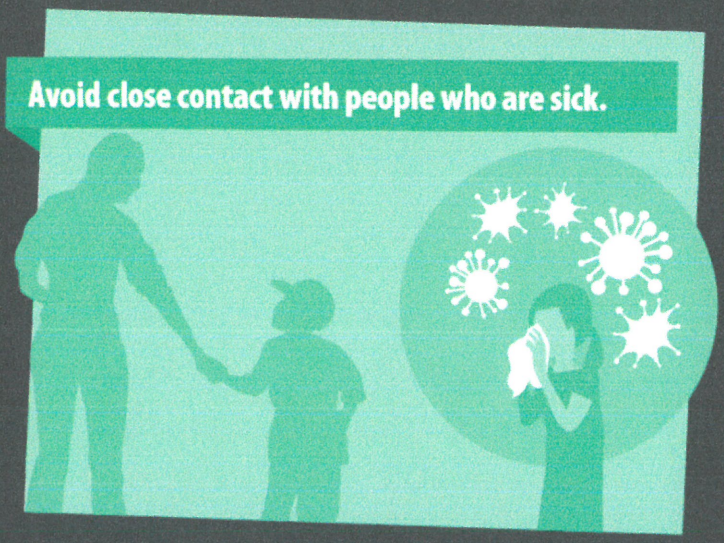
CDC

For more information: **www.cdc.gov/COVID19-symptoms**

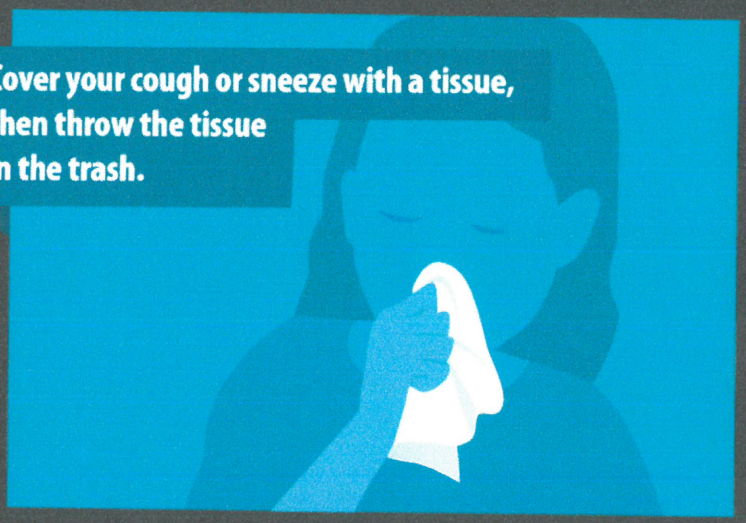
CS 315252-A March 16, 2020, 1:32PM

STOP THE SPREAD OF GERMS

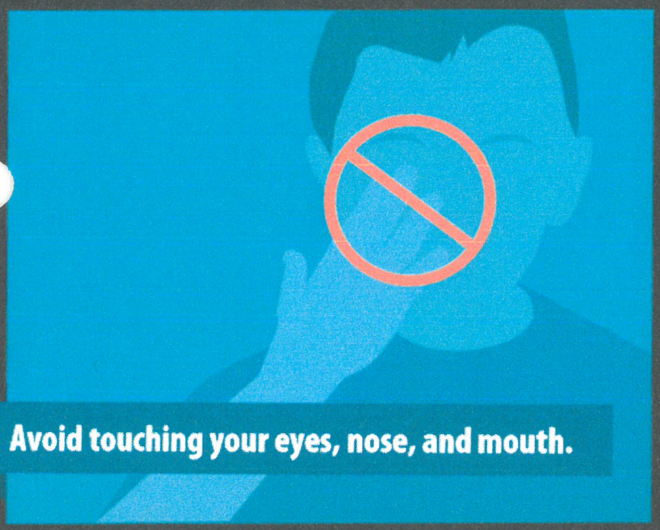
Help prevent the spread of respiratory diseases like COVID-19.



Avoid close contact with people who are sick.

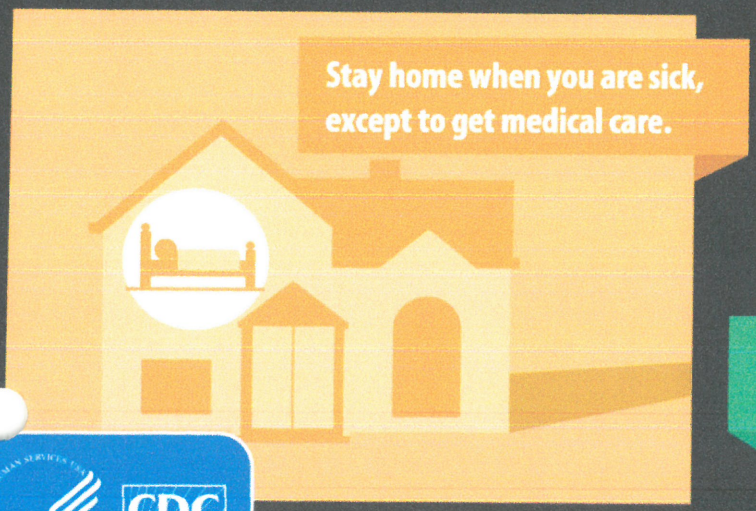


Cover your cough or sneeze with a tissue, then throw the tissue in the trash.



Avoid touching your eyes, nose, and mouth.

Clean and disinfect frequently touched objects and surfaces.



Stay home when you are sick, except to get medical care.

Wash your hands often with soap and water for at least 20 seconds.

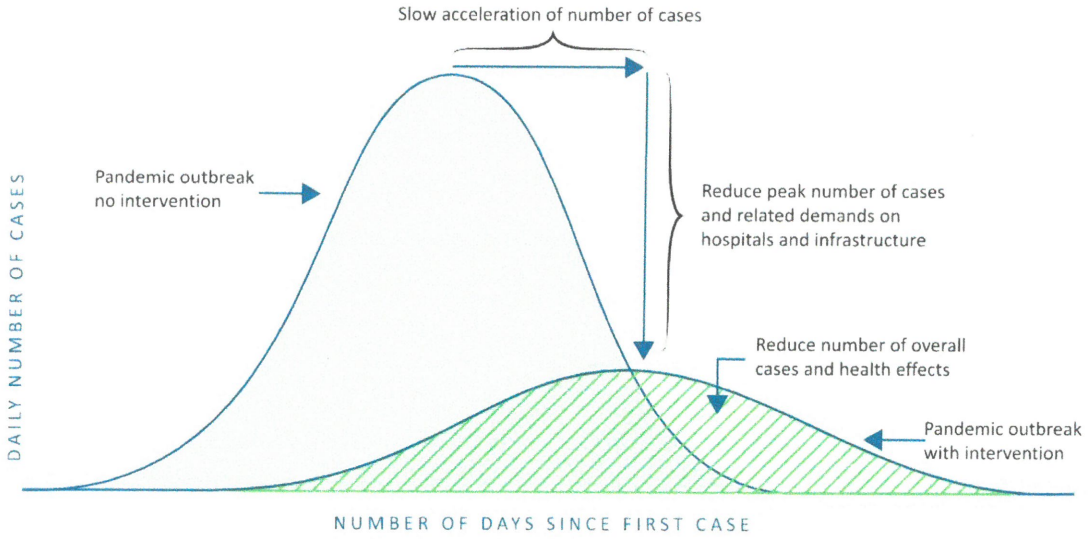
CDC

cdc.gov/COVID19

314915-A March 16, 2020 1:02 PM

Strategies to Prevent the Spread of COVID-19

Flatten the curve — The ideal goal in fighting an epidemic or pandemic is to halt the spread, but slowing it through mitigation is critical. Efforts such as social distancing and avoiding large events keep people farther apart, making every transmission opportunity less likely. This reduces the number of cases that are active at any given time, which in turn gives the healthcare system time to prepare and respond, without becoming overwhelmed.



To protect the public's health and slow the rate of transmission of COVID-19, events as described below should be postponed or canceled across the state of Minnesota until further notice. The following is intended to provide general guidance for mitigation strategies. Organizers or settings may need to take into consideration unique risks and make decisions that are protective of their communities.

MDH recommends postponing and canceling:

- Events where 50 people or more would gather, including but not limited to: concerts; conferences; professional, college, and school performances or sporting events.
- Smaller events (fewer than 50 people) that are held in crowded auditoriums, rooms, or other venues that do not allow social distancing of 6 feet per person.
- Events with more than 10 people where the majority of participants are at higher risk for severe illness from COVID-19, including gatherings such as those at retirement facilities,

assisted living facilities, developmental homes, and support groups for people with health conditions.

COVID-19

TESTING CRITERIA

- Due to a national shortage of COVID-19 laboratory testing materials, The Minnesota Department of Health (MDH) will focus testing on hospitalized patients, health care workers, and those in congregate living settings.

ISOLATION & QUARANTINE GUIDELINES

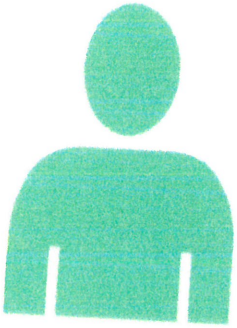
- Patients with undiagnosed fever and/or acute respiratory symptoms (cough, shortness of breath) should self-quarantine until all of the following are true:
  - 7 days have passed since symptoms first appeared
  - No fever for at least 72 hours (without the use of medication that reduces fevers)
  - Other symptoms (such as cough or shortness of breath) have improved
- Household contacts of those who are self-quarantined should limit their activity in public for 14 days and monitor for symptoms

If your illness worsens, please contact your health care provider immediately.

For more information on COVID-19, please visit:

www.health.state.mn.us keyword: coronavirus

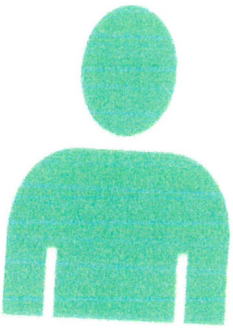
Please maintain social distancing.



Social distancing means keeping

6 feet

between yourself and others



For more information on coronavirus (COVID-19), please visit:

www.health.state.mn.us
keyword: coronavirus

THE PRESIDENT'S **CORONAVIRUS GUIDELINES** FOR AMERICA

15 DAYS TO SLOW THE SPREAD

Listen to and follow the directions of your **STATE AND LOCAL AUTHORITIES.**

IF YOU FEEL SICK, stay home. Do not go to work. Contact your medical provider.

IF YOUR CHILDREN ARE SICK, keep them at home. Do not send them to school. Contact your medica

IF SOMEONE IN YOUR HOUSEHOLD HAS TESTED POSITIVE for the coronavirus, keep the entire hous at home. Do not go to work. Do not go to school. Contact your medical provider.

IF YOU ARE AN OLDER PERSON, stay home and away from other people.

IF YOU ARE A PERSON WITH A SERIOUS UNDERLYING HEALTH CONDITION that can put you at incre risk (for example, a condition that impairs your lung or heart function or weakens your immune systen stay home and away from other people.

For mo

THE PRESIDENT'S **CORONAVIRUS GUIDELINES** FOR AMERICA

DO YOUR PART TO SLOW THE SPREAD OF THE CORONAVIRUS

Even if you are young, or otherwise healthy, you are at risk and your activities can increase the risk for others. It is critical that you do your part to slow the spread of the coronavirus.

Work or engage in schooling **FROM HOME** whenever possible.

IF YOU WORK IN A CRITICAL INFRASTRUCTURE INDUSTRY, as defined by the Department of Homeland Security, such as healthcare services and pharmaceutical and food supply, you have a special responsibility to maintain your normal work schedule. You and your employers should follow CDC guidance to protect your health at work.

AVOID SOCIAL GATHERINGS in groups of more than 10 people.

Avoid eating or drinking at bars, restaurants, and food courts — **USE DRIVE-THRU, PICKUP, OR DELIVERY OPTIONS.**

AVOID DISCRETIONARY TRAVEL, sho

DO NOT VISIT nursing homes or retire care facilities unless to provide critical

PRACTICE GOOD HYGIENE:

- *Wash your hands, especially after touchin frequently used item or surface.*
- *Avoid touching your face.*
- *Sneeze or cough into a tissue, or the inside*
- *Disinfect frequently used items and surfac*

School operations can accelerate the spread of the coronavirus. Governors of states with evidence of community transmission should close schools i Governors should close schools in communities that are near areas of community transmission, even if those areas are in neighboring states. In addit close schools where coronavirus has been identified in the population associated with the school. States and localities that close schools need to ad responders, as well as the nutritional needs of children.

Older people are particularly at risk from the coronavirus. All states should follow Federal guidance and halt social visits to nursing homes and retire

In states with evidence of community transmission, bars, restaurants, food courts, gyms, and other indoor and outdoor venues where groups of peop

COVID 19 CORONAVIRUS DISEASE

What to do if you are sick with coronavirus disease 2019 (COVID-19)

If you are sick with COVID-19 or suspect you are infected with the virus that causes COVID-19, follow the steps below to help prevent the disease from spreading to people in your home and community.

Stay home except to get medical care

You should restrict activities outside your home, except for getting medical care. Do not go to work, school, or public areas. Avoid using public transportation, ride-sharing, or taxis.

Separate yourself from other people and animals in your home

People: As much as possible, you should stay in a specific room and away from other people in your home. Also, you should use a separate bathroom, if available.

Animals: Do not handle pets or other animals while sick. See COVID-19 and Animals for more information.

Call ahead before visiting your doctor

If you have a medical appointment, call the healthcare provider and tell them that you have or may have COVID-19. This will help the healthcare provider's office take steps to keep other people from getting infected or exposed.

Wear a facemask

You should wear a facemask when you are around other people (e.g., sharing a room or vehicle) or pets and before you enter a healthcare provider's office. If you are not able to wear a facemask (for example, because it causes trouble breathing), then people who live with you should not stay in the same room with you, or they should wear a facemask if they enter your room.

Cover your coughs and sneezes

Cover your mouth and nose with a tissue when you cough or sneeze. Throw used tissues in a lined trash can; immediately wash your hands with soap and water for at least 20 seconds or clean your hands with an alcohol-based hand sanitizer that contains at least 60% alcohol covering all surfaces of your hands and rubbing them together until they feel dry. Soap and water should be used preferentially if hands are visibly dirty.

Avoid sharing personal household items

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

Clean your hands often

Wash your hands often with soap and water for at least 20 seconds. If soap and water are not available, clean your hands with an alcohol-based hand sanitizer that contains at least 60% alcohol, covering all surfaces of your hands and rubbing them together until they feel dry. Soap and water should be used preferentially if hands are visibly dirty. Avoid touching your eyes, nose, and mouth with unwashed hands.

Clean all "high-touch" surfaces every day

High touch surfaces include counters, tabletops, doorknobs, bathroom fixtures, toilets, phones, keyboards, tablets, and bedside tables. Also, clean any surfaces that may have blood, stool, or body fluids on them. Use a household cleaning spray or wipe, according to the label instructions. Labels contain instructions for safe and effective use of the cleaning product including precautions you should take when applying the product, such as wearing gloves and making sure you have good ventilation during use of the product.

Monitor your symptoms

Seek prompt medical attention if your illness is worsening (e.g., difficulty breathing). **Before** seeking care, call your healthcare provider and tell them that you have, or are being evaluated for, COVID-19. Put on a facemask before you enter the facility. These steps will help the healthcare provider's office to keep other people in the office or waiting room from getting infected or exposed.

Ask your healthcare provider to call the local or state health department. Persons who are placed under active monitoring or facilitated self-monitoring should follow instructions provided by their local health department or occupational health professionals, as appropriate. When working with your local health department check their available hours.

If you have a medical emergency and need to call 911, notify the dispatch personnel that you have, or are being evaluated for COVID-19. If possible, put on a facemask before emergency medical services arrive.

Discontinuing home isolation

Patients with confirmed COVID-19 should remain under home isolation precautions until the risk of secondary transmission to others is thought to be low. The decision to discontinue home isolation precautions should be made on a case-by-case basis, in consultation with healthcare providers and state and local health departments.

DEPARTMENT OF HEALTH & HUMAN SERVICES USA CDC

For more information: **www.cdc.gov/COVID19**

CS 314937-D 02/29/2020

Call your doctor: If you think you have been exposed to COVID-19 and develop a fever and symptoms of respiratory illness, such as cough or difficulty breathing, call your healthcare provider immediately.

Stay home except to get medical care

People who are mildly ill with COVID-19 are able to isolate at home during their illness. You should restrict activities outside your home, except for getting medical care. Do not go to work, school, or public areas. Avoid using public transportation, ride-sharing, or taxis.

Separate yourself from other people in your home

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

Call ahead before visiting your doctor

If you have a medical appointment, call the healthcare provider and tell them that you have or may have COVID-19. This will help the healthcare provider's office take steps to keep other people from getting infected or exposed.

Cover your coughs and sneezes

Cover your mouth and nose with a tissue when you cough or sneeze. Throw used tissues in a lined trash can. Immediately wash your hands with soap and water for at least 20 seconds. If soap and water are not available, clean your hands with an alcohol-based hand sanitizer that contains at least 60% alcohol.

Clean your hands often

Wash your hands often with soap and water for at least 20 seconds, especially after blowing your nose, coughing, or sneezing; going to the bathroom; and before eating or preparing food. If soap and water are not readily available, use an alcohol-based hand sanitizer with at least 60% alcohol, covering all surfaces of your hands and rubbing them together until they feel dry.

Avoid sharing personal household items

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

Clean all "high-touch" surfaces everyday

High touch surfaces include counters, tabletops, doorknobs, bathroom fixtures, toilets, phones, keyboards, tablets, and bedside tables. Also, clean any surfaces that may have blood, stool, or body fluids on them.

Monitor your symptoms

Seek prompt medical attention if your illness is worsening. Before seeking care, call your healthcare provider and tell them that you have, or are being evaluated for, COVID-19. If you have a medical emergency and need to call 911, notify the dispatch personnel that you have, or are being evaluated for COVID-19.

How to discontinue home isolation

Patients with undiagnosed fever and/or acute respiratory symptoms (cough, shortness of breath) should self-quarantine until all of the following are true:

- 7 days have passed since symptoms first appeared
- No fever for at least 72 hours (without the use of medication that reduces fevers)
- Other symptoms (such as cough or shortness of breath) have improved

What healthcare personnel should know about caring for patients with confirmed or possible coronavirus disease 2019 (COVID-19)

Healthcare personnel (HCP) are on the front lines of caring for patients with confirmed or possible infection with coronavirus disease 2019 (COVID-19) and therefore have an increased risk of exposure to this virus. HCPs can minimize their risk of exposure when caring for confirmed or possible COVID-19 patients by following Interim Infection Prevention and Control Recommendations for Patients with Confirmed (COVID-19) or Persons Under Investigation for COVID-19 in Healthcare Settings.

How COVID-19 Spreads

There is much to learn about the newly emerged COVID-19, including how and how easily it spreads. Based on what is currently known about COVID-19 and what is known about other coronaviruses, spread is thought to occur mostly from person-to-person via respiratory droplets among close contacts.

Close contact can occur while caring for a patient, including:

- being within approximately 6 feet (2 meters) of a patient with COVID-19 for a prolonged period of time.
- having direct contact with infectious secretions from a patient with COVID-19. Infectious secretions may include sputum, serum, blood, and respiratory droplets.

If close contact occurs while not wearing all recommended personal protective equipment personal protective equipment (PPE), healthcare personnel may be at risk of infection.

How You Can Protect Yourself

Healthcare personnel caring for patients with confrmed or possible COVID-19 should adhere to CDC recommendations for infection prevention and control (IPC):

- Assess and triage these patients with acute respiratory symptoms and risk factors for COVID-19 to minimize chances of exposure, including placing a facemask on the patient and placing them in an examination room with the door closed in an Airborne Infection Isolation Room (AIIR), if available.
- Use Standard Precautions , Contact Precautions, and Airborne Precautions and eye protection when caring for patients with confirmed or possible COVID-19.
- Perform hand hygiene with alcohol-based hand rub before and after all patient contact, contact with potentially infectious material, and before putting on and upon removal of PPE, including gloves. Use soap and water if hands are visibly soiled.
- Practice how to properly don, use, and doff PPE in a manner to prevent self-contamination.
- Perform aerosol-generating procedures, in an AIIR, while following appropriate IPC practices, including use of appropriate PPE.

Environmental Cleaning and Disinfection

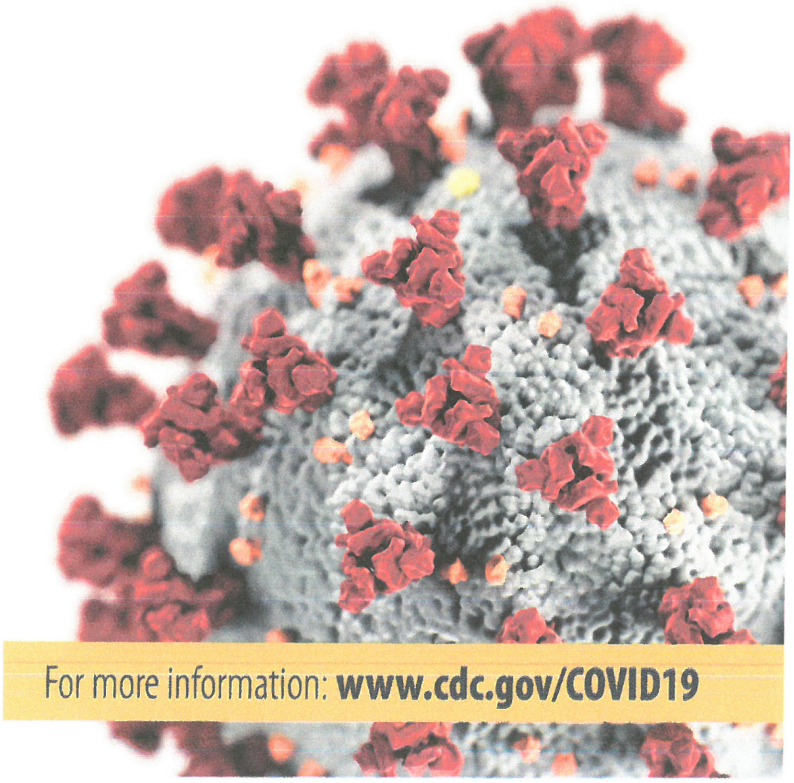
Routine cleaning and disinfection procedures are appropriate for SARS-CoV-2 in healthcare settings, including those patient-care areas in which aerosol-generating procedures are performed. Products with EPA-approved emerging viral pathogens claims are recommended for use against SARS-CoV-2. Management of laundry, food service utensils, and medical waste should also be performed in accordance with routine procedures.

When to Contact Occupational Health Services

If you have an unprotected exposure (i.e., not wearing recommended PPE) to a confirmed or possible COVID-19 patient, contact your supervisor or occupational health immediately.

If you develop symptoms consistent with COVID-19 (fever, cough, or difficulty breathing), do not report to work. Contact your occupational health services.

For more information for healthcare personnel, visit: https://www.cdc.gov/coronavirus/2019-nCoV/hcp/index.html



CS 315495-A 03/12/2020

Interim Guidance for Emergency Medical Services (EMS) Systems and 911 Public Safety Answering Points (PSAPs) for COVID-19 in the United States

This guidance applies to all first responders, including law enforcement, fire services, emergency medical services, and emergency management officials, who anticipate close contact with persons with confirmed or possible COVID-19 in the course of their work.

Summary of Key Changes for the EMS Guidance:

- Updated PPE recommendations for the care of patients with known or suspected COVID-19:
  - Facemasks are an acceptable alternative until the supply chain is restored. Respirators should be prioritized for procedures that are likely to generate respiratory aerosols, which would pose the highest exposure risk to HCP.
  - Eye protection, gown, and gloves continue to be recommended.
    - If there are shortages of gowns, they should be prioritized for aerosol-generating procedures, care activities where splashes and sprays are anticipated, and high-contact patient care activities that provide opportunities for transfer of pathogens to the hands and clothing of HCP.
  - When the supply chain is restored, fit-tested EMS clinicians should return to use of respirators for patients with known or suspected COVID-19.
- Updated guidance about recommended EPA-registered disinfectants to include reference to a list now posted on the EPA website.

Background

- 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, enclosed space during transport, frequent need for rapid medical decision-making, interventions with limited information, and a varying range of patient acuity and jurisdictional healthcare resources.

- When preparing for and responding to patients with confirmed or possible coronavirus disease 2019 (COVID-19), close coordination and effective communications are important among 911 Public Safety Answering Points (PSAPs)— commonly known as 911 call centers, the EMS system, healthcare facilities, and the public health system.

Each PSAP and EMS system should seek the involvement of an EMS medical director to provide appropriate medical oversight. For the purposes of this guidance, "EMS clinician" means prehospital EMS and medical first responders. When COVID-19 is suspected in a patient needing emergency transport, prehospital care providers and healthcare facilities should be notified in advance that they may be caring for, transporting, or receiving a patient who may have COVID-19 infection.

- Updated information about COVID-19 may be accessed at https://www.cdc.gov/coronavirus/2019-ncov/index.html. Infection prevention and control recommendations can be found here: https://www.cdc.gov/coronavirus/2019-nCoV/hcp/infection-control.html. Additional information for healthcare personnel can be found at https://www.cdc.gov/coronavirus/2019-ncov/hcp/index.html.

- **Case Definition for COVID-19**

- CDC's most current case definition for a person under investigation (PUI) for COVID-19 may be accessed at https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-criteria.html.

Recommendations for 911 PSAPs

- Municipalities and local EMS authorities should coordinate with state and local public health, PSAPs, and other emergency call centers to determine need for modified caller queries about COVID-19, outlined below.

- Development of these modified caller queries should be closely coordinated with an EMS medical director and informed by local, state, and federal public health authorities, including the city or county health department(s), state health department(s), and CDC.

Modified Caller Queries

PSAPs or Emergency Medical Dispatch (EMD) centers (as appropriate) should question callers and determine the possibility that this call concerns a person who may have signs or symptoms and risk factors for COVID-19. The query process should never supersede the provision of pre-arrival instructions to the caller when immediate lifesaving interventions (e.g., CPR or the Heimlich maneuver) are indicated. Patients in the United States who meet the appropriate criteria should be evaluated and transported as a PUI. Information on COVID-19 will be updated as the public health response proceeds. PSAPs and medical directors can access CDC's PUI definitions here.

Information on a possible PUI should be communicated immediately to EMS clinicians before arrival on scene in order to allow use of appropriate personal protective equipment (PPE). PSAPs should utilize medical dispatch procedures that are coordinated with their EMS medical director and with the local or state public health department.

PSAPs and EMS units that respond to ill travelers at US international airports or other ports of entry to the United States (maritime ports or border crossings) should be in contact with the CDC quarantine station of jurisdiction for the port of entry (see: CDC Quarantine Station Contact List) for planning guidance. They should notify the quarantine station when responding to that location if a communicable disease is suspected in a traveler. CDC has provided job aids for this purpose to EMS units operating routinely at US ports of entry. The PSAP or EMS unit can also call CDC's Emergency Operations Center at (770) 488-7100 to be connected with the appropriate CDC quarantine station.

Recommendations for EMS Clinicians and Medical First Responders

EMS clinician practices should be based on the most up-to-date COVID-19 clinical recommendations and information from appropriate public health authorities and EMS medical direction.

State and local EMS authorities may direct EMS clinicians to modify their practices as described below.

Patient assessment

- If PSAP call takers advise that the patient is suspected of having COVID-19, EMS clinicians should put on appropriate PPE before entering the scene. EMS clinicians should consider the signs, symptoms, and risk factors of COVID-19 (https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-criteria.html).

- If information about potential for COVID-19 has not been provided by the PSAP, EMS clinicians 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 facemask is on the patient. If COVID-19 is suspected, all PPE as described below should be used. If COVID-19 is not suspected, EMS clinicians should follow standard procedures and use appropriate PPE for evaluating a patient with a potential respiratory infection.

- A facemask should be worn by the patient for source 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. If the patient requires intubation, see below for additional precautions for aerosol-generating procedures.

- During transport, limit the number of providers in the patient compartment to essential personnel to minimize possible exposures.

Recommended Personal Protective Equipment (PPE)

- EMS clinicians who will directly care for a patient with possible COVID-19 infection or who will be in the compartment with the patient should follow Standard, Precautions and use the PPE as described below. Recommended PPE includes:
    - N-95 or higher-level respirator or facemask (if a respirator is not available),
        - N95 respirators or respirators that offer a higher level of protection should be used instead of a facemask when performing or present for an aerosol-generating procedure
    - Eye protection (i.e., goggles or disposable face shield that fully covers the front and sides of the face). Personal eyeglasses and contact lenses are NOT considered adequate eye protection.
    - A single pair of disposable patient examination gloves. Change gloves if they become torn or heavily contaminated, and isolation gown.,
        - If there are shortages of gowns, they should be prioritized for aerosol-generating procedures, care activities where splashes and sprays are anticipated, and high-contact patient care activities that provide opportunities for transfer of pathogens to the hands and clothing of EMS clinicians (e.g., moving patient onto a stretcher).
- When the supply chain is restored, fit-tested EMS clinicians should return to use of respirators for patients with known or suspected COVID-19.
- Drivers, if they provide direct patient care (e.g., moving patients onto stretchers), should wear all recommended PPE. After completing patient care and before entering an isolated driver's compartment, the driver should remove and dispose of PPE and perform hand hygiene to avoid soiling the compartment.
    - If the transport vehicle does **not** have an isolated driver's compartment, the driver should remove the face shield or goggles, gown and gloves and perform hand hygiene. A respirator or facemask should continue to be used during transport.
- All personnel should avoid touching their face while working.
- On arrival, after the patient is released to the facility, EMS clinicians should remove and discard PPE and perform hand hygiene. Used PPE should be discarded in accordance with routine procedures.
- 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.

Precautions for Aerosol-Generating Procedures

- If possible, consult with medical control before performing aerosol-generating procedures for specific guidance.
- An N-95 or higher-level respirator, instead of a facemask, should be worn in addition to the other PPE described above, for EMS clinicians present for or performing aerosol-generating procedures.,
- EMS clinicians should exercise caution if an aerosol-generating procedure (e.g., bag valve mask (BVM) ventilation, oropharyngeal suctioning, endotracheal intubation, nebulizer treatment, continuous positive airway pressure (CPAP), bi-phasic positive airway pressure (biPAP), or resuscitation involving emergency intubation or cardiopulmonary resuscitation (CPR)) is necessary.
    - BVMs, and other ventilatory equipment, should be equipped with HEPA filtration to filter expired air.
    - EMS organizations should consult their ventilator equipment manufacturer to confirm appropriate filtration capability and the effect of filtration on positive-pressure ventilation.
- If possible, the rear doors of the transport vehicle should be opened and the HVAC system should be activated during aerosol-generating procedures. This should be done away from pedestrian traffic.

EMS Transport of a PUI or Patient with Confirmed COVID-19 to a Healthcare Facility (including interfacility transport)

If a patient with an exposure history and signs and symptoms suggestive of COVID-19 requires transport to a healthcare facility for further evaluation and management (subject to EMS medical direction), the following actions should occur during transport:

- EMS clinicians should notify the receiving healthcare facility that the patient has an exposure history and signs and symptoms suggestive of COVID-19 so that appropriate infection control precautions may be taken prior to patient arrival.
- Keep the patient separated from other people as much as possible.
- Family members and other contacts of patients with possible COVID-19 should **not** ride in the transport vehicle, if possible. If riding in the transport vehicle, they should wear a facemask.
- Isolate the ambulance driver from the patient compartment and keep pass-through doors and windows tightly shut.
- When possible, use vehicles that have isolated driver and patient compartments that can provide separate ventilation to each area.
    - Close the door/window between these compartments before bringing the patient on board.

    - During transport, vehicle ventilation in both compartments should be on non-recirculated mode to maximize air changes that reduce potentially infectious particles in the vehicle.
    - If the vehicle has a rear exhaust fan, use it to draw air away from the cab, toward the patient-care area, and out the back end of the vehicle.
    - Some vehicles are equipped with a supplemental recirculating ventilation unit that passes air through HEPA filters before returning it to the vehicle. Such a unit can be used to increase the number of air changes per hour (ACH) (https://www.cdc.gov/niosh/hhe/reports/pdfs/1995-0031-2601.pdfpdf icon).
    -
- If a vehicle without an isolated driver compartment and ventilation must be used, open the outside air vents in the driver area and turn on the rear exhaust ventilation fans to the highest setting. This will create a negative pressure gradient in the patient area.
- Follow routine procedures for a transfer of the patient to the receiving healthcare facility (e.g., wheel the patient directly into an examination room).

Documentation of patient care

- Documentation of patient care should be done after EMS clinicians have completed transport, removed their PPE, and performed hand hygiene.
    - Any written documentation should match the verbal communication given to the emergency department providers at the time patient care was transferred.
- EMS documentation should include a listing of EMS clinicians and public safety providers involved in the response and level of contact with the patient (for example, no contact with patient, provided direct patient care). This documentation may need to be shared with local public health authorities.

Cleaning EMS Transport Vehicles after Transporting a PUI or Patient with Confirmed COVID-19

The following are general guidelines for cleaning or maintaining EMS transport vehicles and equipment after transporting a PUI:

- After transporting the patient, leave the rear doors of the transport vehicle open to allow for sufficient air changes to remove potentially infectious particles.
    - The time to complete transfer of the patient to the receiving facility and complete all documentation should provide sufficient air changes.

- When cleaning the vehicle, EMS clinicians 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.

- 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 an EPA-registered, hospital-grade disinfectant to frequently touched surfaces or objects for appropriate contact times as indicated on the product's label) are appropriate for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in healthcare settings, including those patient-care areas in which aerosol-generating procedures are performed.

- Products with EPA-approved emerging viral pathogens claims are recommended for use against SARS-CoV-2. Refer to List Nexternal icon on the EPA website for EPA-registered disinfectants that have qualified under EPA's emerging viral pathogens program for use against SARS-CoV-2.

- 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.

- Follow standard operating procedures for containing and laundering used linen. Avoid shaking the linen.

Follow-up and/or Reporting Measures by EMS Clinicians After Caring for a PUI or Patient with Confirmed COVID-19

EMS clinicians should be aware of the follow-up and/or reporting measures they should take after caring for a PUI or patient with confirmed COVID-19:

- State or local public health authorities should be notified about the patient so appropriate follow-up monitoring can occur.
- EMS agencies should develop policies for assessing exposure risk and management of EMS personnel potentially exposed to SARS-CoV-2 in coordination with state or local public health authorities. Decisions for monitoring, excluding from work, or other public health actions for HCP with potential exposure to SARS-CoV-2 should be made in consultation with state or local public health authorities. Refer to the Interim U.S. Guidance for Risk Assessment and Public Health Management of Healthcare Personnel with Potential Exposure in a Healthcare Setting to Patients with Coronavirus Disease 2019 (COVID-19) for additional information.

- EMS agencies should develop sick-leave policies for EMS personnel that are nonpunitive, flexible, and consistent with public health guidance. Ensure all EMS personnel, including staff who are not directly employed by the healthcare facility but provide essential daily services, are aware of the sick-leave policies.
- EMS personnel who have been exposed to a patient with suspected or confirmed COVID-19 should notify their chain of command to ensure appropriate follow-up.
    - Any unprotected exposure (e.g., not wearing recommended PPE) should be reported to occupational health services, a supervisor, or a designated infection control officer for evaluation.
    - EMS clinicians should be alert for fever or respiratory symptoms (e.g., cough, shortness of breath, sore throat). If symptoms develop, they should self-isolate and notify occupational health services and/or their public health authority to arrange for appropriate evaluation.

EMS Employer Responsibilities

The responsibilities described in this section are not specific for the care and transport of PUIs or patients with confirmed COVID-19. However, this interim guidance presents an opportunity to assess current practices and verify that training and procedures are up-to-date.

- EMS units should have infection control policies and procedures in place, including describing a recommended sequence for safely donning and doffing PPE.
- Provide all EMS clinicians with job- or task-specific education and training on preventing transmission of infectious agents, including refresher training.
- Ensure that EMS clinicians are educated, trained, and have practiced the appropriate use of PPE prior to caring for a patient, including attention to correct use of PPE and prevention of contamination of clothing, skin, and environment during the process of removing such equipment.
- Ensure EMS clinicians are medically cleared, trained, and fit tested for respiratory protection device use (e.g., N95 filtering facepiece respirators), or medically cleared and trained in the use of an alternative respiratory protection device (e.g., Powered Air-Purifying Respirator, PAPR) whenever respirators are required. OSHA has a number of respiratory training videosexternal icon.
- EMS units should have an adequate supply of PPE.
- Ensure an adequate supply of or access to EPA-registered hospital grade disinfectants (see above for more information) for adequate decontamination of EMS transport vehicles and their contents.
- Ensure that EMS clinicians and biohazard cleaners contracted by the EMS employer tasked to the decontamination process are educated, trained, and have practiced the process according to the manufacturer's recommendations or the EMS agency's standard operating procedures.

Additional Resources

The EMS Infectious Disease Playbook, published by the Office of the Assistant Secretary for Preparedness and Response's Technical Resources, Assistance Center, Information Exchange (TRACIE) is a resource available to planners at https://www.ems.gov/pdf/ASPR-EMS-Infectious-Disease-Playbook-June-2017.pdfpdf iconexternal icon.

Content provided and maintained by the US Centers for Disease Control and Prevention (CDC). Please see our system usage guidelines and disclaimer.

Protect Your Patients and Staff from COVID-19: CDC's Recommended Infection Control Procedures

In March 2020, CDC updated its Interim Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease 2019 (COVID-19) in Healthcare Settings. ***See the full guidance at www.cdc.gov/COVID19.***

Before patients arrive

Screen all patients for new respiratory infection symptoms before non-urgent care or elective visits. Ask about cough, shortness of breath, and fever.

Explore alternatives to face-to-face triage and visits to reduce risk of transmission and limit use of PPE. Share CDC resources with patients for how to manage at home.

Plan to receive patients via EMS. Follow agreed upon transport protocols.

Upon arrival

Consider limiting facility points of entry and establishing triage stations outside the facility to screen patients before entering. Ensure rapid and safe triage of patients with symptoms of suspected COVID-19.

Display signs on all entrances about COVID-19 symptoms. Ask symptomatic patients to inform triage personnel of symptoms upon arrival. Provide them respiratory hygiene supplies, including masks, hand sanitizer, and tissues.

Consider installing a barrier, such as a glass or plastic window, to limit contact between triage personnel and patients.

Isolate symptomatic patients in an examination room with door closed as soon as possible. If not available, identify a separate, well-ventilated place where patients can be separated by 6 feet. Provide easy access to hygiene supplies.

See page 2 for additional recommendations.

CS 315930-A 03/18/2020

During the visit

Reserve airborne infection isolation rooms (AIIR) for aerosol-generating procedures.

If an AIIR is not available, place the patient in a single-person room with their own bathroom.

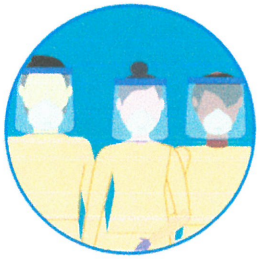
If private rooms are not available, consider cohorting patients with suspected or confirmed COVID-19 in the same area of the facility (e.g., group of rooms on the same unit).

Healthcare facilities should provide respirators for fit-tested healthcare workers during aerosol-generating procedures performed on suspected or confirmed COVID-19 patients, when a procedure is likely to produce coughing or sneezing, and when strongly indicated for other respiratory conditions (e.g., tuberculosis).

When respirators aren't available, use the best available alternative, like a facemask paired with eye protection.

Use PPE, according to guidance from your facility. This includes clean, non-sterile gloves, gowns and eye protection, like goggles or eye shields.

If there are shortages remaining, equipment should be prioritized for aerosol-generating procedures and care with close-contact or anticipated splashes or sprays.



Dedicate specific staff to care for only patients with suspected or confirmed COVID-19. Staff include medical, nursing, environmental services, etc.

Limit personnel in patient rooms to essential staff, and limit movement of patients outside of rooms.

Plan ahead

Refer to and begin implementing aspects of your healthcare facility's pandemic plan. Know who to contact in your local health department.

Prepare for wider community spread of COVID-19 and develop strategies for handling high volume of patients looking for care.

Healthcare administrators should make continual, concerted efforts to procure the most appropriate PPE for their facility to protect healthcare workers on the front lines.

Learn more: **www.cdc.gov/COVID19**

EMS INFECTIOUS DISEASE PLAYBOOK

ASPR

ASSISTANT SECRETARY FOR PREPAREDNESS AND RESPONSE

TRACIE

HEALTHCARE EMERGENCY PREPAREDNESS INFORMATION GATEWAY

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Dispatch/Responder Actions

GENERAL PRINCIPLES – CALL TAKING/DISPATCH

- Safe response by EMS requires an integrated approach: Appropriate information from the caller and dispatcher; appropriate protocols for response, clinical care, application of administrative and environmental controls and use of personal protective equipment (PPE) by responding EMS personnel; and transport to a hospital that can provide effective evaluation and treatment of the suspected condition.
- Ideally, 911 call takers/emergency medical dispatchers will identify possible infectious disease patients through integrated routine screening questions and relay that information to emergency responders prior to their arrival on the scene.
- During the caller interrogation, if information about communicable diseases is offered, make sure the information is documented and relayed to responders in accordance with established policies on how to share patient-related information.
- Screening for suspected highly infectious pathogens often involves questioning patients about recent travel to endemic areas and presenting signs and symptoms. The timeframe for these conditions varies (e.g., 14 days for Middle East Respiratory Syndrome (MERS), 21 for Ebola Virus Disease (EVD)); 21 days is used in the general screen for consistency since this is inclusive of the diseases, but can be adjusted as required if screening for specific pathogens.
- Local screening questions may be needed during outbreaks and can be inserted into the dispatch algorithm and keyed to the appropriate precautions. EMS agencies should consult with local and state public health and EMS authorities to identify required modifications to processes and protocols to ensure consistency with CDC guidance.
- If persons under investigation for a highly infectious disease are known to public health, it may be beneficial for public safety to enter a temporary note on their address in the computer-aided dispatch system to alert 911 responders to the potential for illness/ exposure. This is a local decision dependent on the systems and policies in the community and the note should be removed once the infectious period has passed.
- Fever may be a helpful contributing sign or symptom, but should not be used exclusively to determine the presence or absence of disease as it is not universally present in cases of serious communicable diseases.

Dispatch/Responder Actions

GENERAL PRINCIPLES – RESPONSE

- Regardless of dispatch information, EMS personnel should be vigilant for travel history and signs and symptoms of communicable disease (e.g., fever, cough, gastrointestinal complaints) and use standard precautions and add appropriate transmission-based infection control precautions whenever history or exam findings warrant.
- Implement strict standard and transmission-based precautions based on the patient's clinical information to avoid exposure to potentially infectious bodily fluids, droplets, and airborne particles.
- Avoid direct contact with a patient who may have a serious communicable disease until you are wearing appropriate PPE.[1] Maintaining a distance of at least six feet may provide protection from transmission of many diseases.
- Understand and practice with PPE so that you can rapidly and safely don and carefully doff the equipment without cross-contamination.
- Patients or their caregivers may find responders wearing high levels of PPE such as hood, suits, and respirators alarming. Communicating with and calming anxious patients may be more challenging due to PPE as well. Responders should be mindful of this and be prepared to reassure patients and to address their distress and fear.
- Limit the number of EMS providers making contact with a potentially infectious patient to the minimum required to perform tasks safely.
- EMS must be able to implement effective infection control practices to afford emergency responder safety while avoiding excessive delays in care. Training and practice should allow EMS personnel to provide emergent medical care without waiting for specialized response.

[1] The maximum distance for droplet transmission is unresolved. While the area of defined risk has historically been a distance of less than 3 feet from the patient, experimental smallpox studies and SARS investigations suggest droplets could be transmitted 6 feet or more. The recommendation to maintain a distance of 6 feet or more is used throughout this document to be conservative given the uncertainty. Page 17 of https://www.cdc.gov/hicpac/pdf/isolation/isolation2007.pdf provides additional details.

Dispatch/Responder Actions

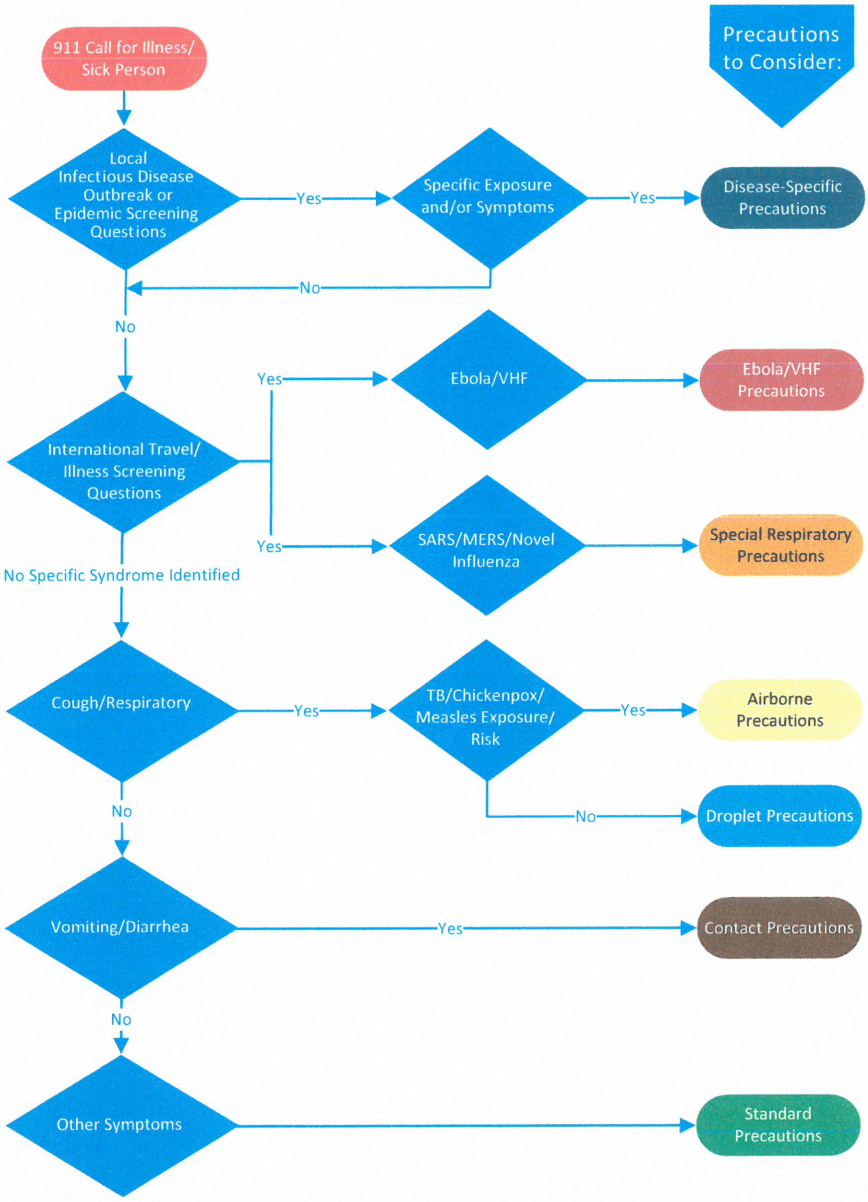
GENERAL PRINCIPLES – RESPONSE, CONTINUED

- Specialized transport should be reserved for stable suspect serious communicable disease patients (e.g., EVD, Marburg Disease, smallpox) or for inter-facility transport of those with suspected or known disease. Many communities will also have dedicated infectious disease medical transport services built into their regional transportation plan for planned patient movements.
- Hand hygiene (e.g., handwashing with non-antimicrobial soap and water, alcohol-based hand rub, or antiseptic handwash) is one of the best ways to remove germs, avoid getting sick, and prevent the spread of germs to others.
- Placing a surgical mask on a patient with likely infectious cough significantly limits droplet generation. Patients should cover their nose and mouth when coughing or sneezing; use tissues to contain respiratory secretions and, after use, dispose them in the nearest waste receptacle; and perform hand hygiene after having contact with respiratory secretions and contaminated objects or materials.
- Influenza and other diseases can transmit via the ocular surfaces as well as other mucous membranes. Use PPE to protect the mucous membranes of the eyes, nose, and mouth during procedures and patient care activities that are likely to generate splashes or sprays of blood, body fluids, secretions, and excretions. Select masks, goggles, face shields, and combinations of each according to the need anticipated by the task performed.
- Infection control practices can evolve with novel agents or during infectious disease outbreaks or epidemics. The EMS agency must be aware of changes that affect employees.
- EMS agencies should exercise their response to a highly infectious disease patient with hospitals and other healthcare coalition partners.

Dispatch/Responder Actions

DISPATCH SCREENING ALGORITHM*

*Dispatch screening is designed to suggest the highest potential level of precautions that may be required. On-scene evaluation is required to adjust precautions according to history and exam. Transmission based precautions are always accompanied by standard precautions.



Dispatch/Responder Actions

NOTES ON THE ALGORITHM:

- Basic travel and symptom screening suggests a level of precautions for responders. On-scene, additional evaluation is required to determine if higher or lower levels of protection are required.
- If a medically trained dispatcher is not available, these questions may still be used. If the dispatch agency declines to ask these questions, a process should be in place to refer the caller to an emergency medical dispatcher (EMD) if possible or the crew may be able to establish contact with the patient/caller via a callback number. EMS systems should tailor these functions and adopt processes appropriate for their structure and staffing.
- Responders should be aware of infectious disease outbreaks or epidemics in their community and, based on a doorway evaluation, be prepared to rapidly adopt appropriate infection control precautions in accordance with established public health guidelines.

ADDITIONAL DISPATCH CONSIDERATIONS

The following information may be used to update/modify dispatch reference cards:

- Call taker obtains location (and phone number) and patient status information (e.g., age, consciousness, breathing normally).
  - » Implement emergency medical dispatch to include giving the caller instructions to help treat the patient until the responding EMS unit arrives per service protocols.
  - » Consider modifying assignment to ambulance only for calls involving suspect EVD/VHF or Special Respiratory Precautions patients based on travel or exposure history (i.e., cancel first responder unless unconscious, difficulty breathing, or other clear immediate life threat).
- Subsequent "Chief Complaint" information regarding type/severity of medical emergency:
  - » Chief complaint – If illness-related 911 call, additional screening questions include:
    - – Priority symptoms – severe bloody vomiting or diarrhea (e.g., large amounts of GI blood loss), decreased level of consciousness, respiratory difficulty, chest pain
    - – Pertinent medical history - any known illness or exposures to Methicillin-resistant Staphylococcus aureus (MRSA), tuberculosis (TB), Clostridium difficile (C. difficile), norovirus, etc.
    - – Pertinent travel history - any travel within the previous 21 days

Dispatch/Responder Actions

- For the following specific chief complaints ask **additional questions** (below) and provide emergency medical dispatch instructions as indicated:
  - » Breathing problems
  - » Chest pain
  - » Headache
  - » Sick person
  - » Unknown Problem (Person Down)
  - » Cardiac/respiratory arrest
  - » Convulsions/seizure
  - » Hemorrhage
  - » Unconscious/Fainting (or Near)
- **Additional questions**
  - » Is there anyone else there who is also sick?
  - » In the last day or two any:
    - – Fever or chills?
    - – Severe cough?
    - – Vomiting or diarrhea?
    - – Active bleeding?

For any positive questions, the emergency medical dispatcher will alert any first responders and EMS providers being dispatched of potential for a patient with a communicable disease and to implement infection control measures as indicated. This designation is preliminary and responders may be able to adjust precautions based on further information from the patient/family. If language barriers prevent questions, the dispatcher should advise the crew that they cannot rule out an infectious patient.

Implement emerging infectious disease surveillance tool[2] whenever a novel or dangerous disease is endemic in specific areas.

[2] Examples: Emerging Infectious Disease Surveillance Tools (SRI/MERS/Ebola) and Identify, Isolate, Inform: Emergency Medical Services (EMS) Systems and 9-1-1 Public Safety Answering Points (PSAPs) for Management of Patients Who Present with Possible Ebola Virus Disease (Ebola) in the United States.

Dispatch/Responder Actions

ON-SCENE ASSESSMENT ALGORITHM

Signs/Symptoms

- **GI** → Consider
  - EVD/VHF with travel/exposure history - **E**
  - Norovirus with exposure history - **C**
  - C. difficile with history/diagnosis - **C**
  - Otherwise - **S**
- **Fever, flu-like** → Consider
  - Novel influenza, MERS, or similar with travel or exposure history - **SR**
  - Influenza - **D**
  - Strep pharyngitis - **D**
  - Otherwise - **S**
- **Cough/respiratory** → Consider
  - Novel influenza, MERS, similar with travel or exposure history - **SR**
  - Pneumonia - **D for many causes**
  - TB with diagnosis or risk factors - **A**
  - Otherwise - **S**
- **Skin** → Consider
  - Large open wounds, drainage - **C**
  - Measles - exposure or typical rash - **A**
  - Zoster with open lesions - **A, C**
  - Chickenpox - **A, C**
  - Meningococcal disease (purpuric rash to extremities, usually very ill - **D**
- **Prior antibiotic-resistant infection** → Consider
  - MRSA - **C**
  - Vancomycin-resistant enterococci - **C**

Type of Precautions
(Transmission-based precautions are always accompanied by standard precautions.)

S Standard	**D** Droplet	**SR** Special Respiratory	**C** Contact	**A** Airborne	**E** EVD-VHF

Dispatch/Responder Actions

FIRST RESPONDERS AND AMBULANCE RESPONDERS[3]

- Responders should have access to relevant information via radio or computer aided dispatch (CAD) to assure alerting of potential risks.
- Ask dispatch/communications center for additional information if needed.
- Identify patients who may be infected with a serious communicable disease by verbal screening and symptoms and recognize the potential hazards.
- First responders recognizing a potentially infectious patient should notify dispatch/ communications center to assure the en route ambulance responders are prepared to implement appropriate infection prevention and control measures.
- Apply PPE appropriate for the patient's condition prior to making direct patient contact.
- Patients with respiratory illnesses: Interview conducted at least 6 feet away from the patient may provide some protection from infectious droplets.
- Ask any patient with respiratory symptoms to wear a surgical mask if they can tolerate it.
- Limit the number of EMS providers making patient contact to the minimum required to perform tasks safely. Consider the strategy of one provider putting on PPE and managing the patient while the other provider does not engage in patient care, but provides the "doorway evaluation" and communications/charting. The second provider should be prepared to quickly don the appropriate PPE should the first provider require assistance.
- Avoid unnecessary direct contact with the patient.
- Use caution when approaching the disoriented or delirious patient, as erratic behavior (e.g., flailing or staggering) can place EMS providers at additional risk of exposure.
- Keep nonessential equipment away from the patient, so as to minimize contamination on the scene and in the ambulance.

[3] Adapted from Identify, Isolate, Inform: Emergency Medical Services (EMS) Systems and 9-1-1 Public Safety Answering Points (PSAPs) for Management of Patients Who Present with Possible Ebola Virus Disease (Ebola) in the United States. Note that this document is somewhat dated.

Dispatch/Responder Actions

- If patient has nausea or vomiting, treat symptoms per protocols, provide emesis bag, and contain any emesis.
- For profuse diarrhea, consider asking the patient to wear an absorbing undergarment and/or wrapping the patient in an impermeable sheet to reduce contamination of other surfaces.
- Choose a receiving facility appropriate to the potential disease and alert them about the patient and estimated time of arrival (ETA) as early as possible.
- Contact medical control with questions or for additional guidance on symptoms/signs or patient care.

For geographically-associated serious communicable diseases like EVD or MERS, the public health or EMS medical authority may request responders ask additional screening questions including:

1. Travel history and/or direct exposure to potential case within the number of days of the incubation period for the illness of interest (e.g., Ebola – 21 days, MERS – 14 days)
2. Specific signs and symptoms of illness

Contact the EMS or public health authority for guidance about family members or close patient contacts who may be at the scene.

Dispatch/Responder Actions

GENERAL PPE CONSIDERATIONS

The following is a list of PPE referred to throughout this document. This is a suggested list only. Quantities and exact PPE stocked are dependent on ambulance service protocols and transport volumes/patient population. Modifications may be necessary for specialized transport units or during specific epidemics.

- Disposable exam gloves – standard gloves for standard precautions
- Disposable exam gloves – with elongated cuffs for use with barrier gowns/suits
- Cleanable goggles OR face shield
- Surgical masks for patients and providers
- Disposable fluid-resistant gown OR disposable fluid-resistant coverall
- Disposable National Institute for Occupational Safety and Health (NIOSH)-approved, fit-tested N95 or equivalent/higher level respirator (e.g., reusable half-face elastomeric respirator N95 or higher rating mask or PAPR with full hood and HEPA filter)
- Disposable boot/shoe covers

EVD/VHF Precautions – additional equipment required

- Full face shield (plus consider head cover)
- Respiratory protection options:
  - » NIOSH-approved, fit-tested N95 respirator worn with impermeable hood that covers head and shoulders and full face shield
  - » PAPR with HEPA filtration and integrated impermeable drape-style hood
- Boots (disposable or reusable)
- Fluid-resistant coverall – if service uses gowns for other contact exposures
- OPTION: Disposable, impermeable apron in addition to fluid-resistant coverall for unstable patients

Standard Precautions

EXAMPLE DISEASES

Acquired immune deficiency syndrome (AIDS)/human immunodeficiency virus (HIV) • anthrax (cutaneous or pulmonary) • botulism • cellulitis • dengue • minor wound infections including abscess • nonspecific upper respiratory infections

GOAL OF PRECAUTIONS

Apply a standard set of protections based on the patient's symptoms and the clinical care rather than a specific suspected organism. The goal is to apply PPE as needed to prevent exposure to bodily fluids and PPE is based on how the disease is transmitted. Examples include routine use of hand hygiene, gloves, and adding eye protection and mask for patients with respiratory symptoms and during airway interventions, or gown for potential splash exposures.

DISPATCH ACTIONS

- Resource assignment – usual assignment of first responders and appropriate basic life support (BLS)/advanced (ALS) response
- Patient instructions – usual pre-arrival instructions (porch light, control animals, gather medications, etc.)
- Crew instructions: Advise responding crew of patient illness/symptoms.

Standard Precautions

ARRIVING EMS ACTIONS/CONSIDERATIONS

- Assess patient upon arrival from a distance of six feet if possible.
- Adjust infection prevention precautions as required.
- Perform hand hygiene before and after patient care activities.

PPE

- Gloves during patient contact for any potential exposure to infectious agent or bodily fluids
- Goggles/face shield and surgical mask for any airway procedures (intubation, suctioning) or patient with active cough from apparent infectious source and to protect mucous membranes from splash/liquid exposure
- Impermeable gown for any situation likely to generate splash/liquid exposures
- Consider using a checklist to assist with proper donning and doffing.
- PPE should be removed in an appropriate doffing area to prevent secondary contamination. Meticulous care should be taken to avoid self-contamination. PPE waste should be placed in a labeled leak-proof container.
- Potential exposures should be reported according to existing service protocols.

Standard Precautions

PATIENT CARE CONSIDERATIONS

- Provide a surgical mask for all patients with acute infectious respiratory symptoms who can tolerate it.
- Provide tissues to patients for secretion control and encourage patient hand hygiene and cough etiquette practices.

TRANSPORT CONSIDERATIONS

- Standard transportation to appropriate hospital facility
- If the patient compartment is equipped with an exhaust fan, ensure that it is turned on.

AMBULANCE DECONTAMINATION

- Any visibly soiled surface must first be decontaminated using an Environmental Protection Agency (EPA)-registered[4] hospital disinfectant according to directions on the label.
- Disinfect all potentially contaminated/high touch surfaces including the stretcher with an EPA-registered hospital disinfectant according to directions on the label.
- Medical equipment (stethoscope, blood pressure (BP) cuff, etc.) making patient contact should be disposable or cleaned and disinfected before use on another patient.

[4] Selected EPA-Registered Disinfectants is relevant to all mentions of EPA-registered hospital disinfectants in this document.

Standard Precautions

RESOURCES

- Guideline for Isolation Precautions 2007
- Selected EPA-Registered Disinfectants
- Standard Precautions in Health Care
- Considerations for Selecting Protective Clothing used in Healthcare for Protection against Microorganisms in Blood and Body Fluids

Contact Precautions

EXAMPLE DISEASES

Excessive wound drainage • MRSA • Vancomycin-resistant enterococci (VRE) • C. difficile • norovirus* • other suspected infectious diarrhea • head lice/body lice/scabies • respiratory syncytial virus (RSV) (plus mask)

GOAL OF PRECAUTIONS

- Provide impermeable barriers to infectious agents that are either highly pathogenic, drug resistant, contagious, or persistent that can easily be contracted or spread to other environments via fomites and surface contact.

DISPATCH ACTIONS

- Resource assignment – usual assignment of first responders and appropriate BLS/ALS response
- Patient instructions – usual pre-arrival instructions (porch light, control animals, gather medications, etc.)
- Crew instructions – Advise responding crew of patient illness/symptoms.

*Wear mask during vomiting/diarrhea if norovirus suspected

Contact Precautions

ARRIVING EMS ACTIONS/CONSIDERATIONS

- Be aware of any community-based outbreaks of norovirus or other epidemic disease requiring contact precautions and obtain relevant history as indicated.
- Assess patient upon arrival from a distance of at least six feet if possible.
  - » Inquire specifically about C. difficile, MRSA history.
  - » Look for evidence of infestation or large open draining wounds.
- Adjust infection prevention precautions as required based on symptoms, e.g., add protection for the eyes, nose, and mouth by using a mask and goggles or face shield when it is likely that there will be a splash or spray of any respiratory secretions or other body fluids (as defined in standard precautions).
  - » Not all gastrointestinal (GI) illness requires contact precautions, but since norovirus and C. difficile (among others) do, consider maintaining contact precautions unless clearly not required (and can assume standard precautions at that point).
- Perform hand hygiene before and after patient care activities.

PPE

- Consider using a checklist to assist with proper donning and doffing.
- Report potential exposures according to existing service protocols.

Type:

- Disposable fluid-resistant gown that protects the provider's legs; consider disposable fluid-resistant coveralls if there is a preference to stock and use one item or if there are concerns about provider leg coverage in the ambulance.

Contact Precautions

- Disposable gloves
- Ensure strict adherence to standard precautions based on situation (e.g., mask, goggles/face shield for splatter risk or airway interventions).

Donning:

1. Personal items (e.g., jewelry [including rings], watches, cell phones, pens) should ideally be removed and stowed. Long hair should be tied back. Eyeglasses should be secured with a tie.
2. Inspect PPE prior to donning to assure not torn or ripped, that all required supplies are available, and that correct sizes are selected for the healthcare worker (HCW).
3. Perform hand hygiene; allow hands to dry before moving to next step
4. Put on gown or coverall. Ensure large enough to allow unrestricted movement.
5. Put on gloves. Ensure the cuffs are pulled over the sleeves of the gown or coverall and are tight.
6. After donning, the integrity of the ensemble should be verified. The HCW should go through a range of motions to ensure sufficient range of movement while all areas of the body remain covered.

Contact Precautions

Doffing:

Remove PPE only in an appropriate doffing area. Meticulous care should be taken to avoid self-contamination. PPE waste should be placed in a labeled leak-proof biohazard bag.

1. Inspect the PPE for visible contamination, cuts, or tears before removal. Disinfect any visible contamination with an EPA-registered hospital disinfectant wipe.
2. Inspect the glove outer surfaces for visible contamination, cuts, or tears.
   - Visible contamination, cut, or tear – If glove is visibly soiled, disinfect the glove with either an EPA-registered hospital disinfectant wipe in accordance with manufacturer recommendations or alcohol-based hand rub (ABHR)[5], remove the gloves, and perform hand hygiene with ABHR on bare hands. If the glove is cut or torn, review your occupational exposure protocol.
   - No visible contamination, cuts or tears – Remove the gloves and perform hand hygiene with ABHR.
3. Remove gown or coverall and discard.
   - Gown – Depending on gown design and location of fasteners, the HCW can either untie or gently break fasteners. Avoid other contact with outer surface of gown during removal. Pull gown away from body, rolling inside out and touching only the inside of the gown.
   - Coverall – Tilt head back to reach zipper or fasteners. Unzip or unfasten completely before rolling down while turning inside out. Avoid other contact with outer surface of coverall during removal, touching only the inside of the coverall.
   - Dispose of gown or coverall into the biohazard bag.

[5] Preliminary research suggests that multiple applications of some types of ABHR may affect nitrile and latex gloves. Switching the type of glove or ABHR product used is necessary if decreased glove integrity (e.g., they start to tear or rip) or unusual changes (e.g., they become sticky, shrink, or harden) that would affect work-related tasks are observed during training and practice.

Contact Precautions

4. Perform hand hygiene.
   - Visibly dirty, contaminated, or soiled with blood or body fluids – Wash hands with soap and water, then perform hand hygiene with ABHR.
   - Not visibly soiled – Perform hand hygiene with ABHR.
5. Inspect for any contamination of the HCW uniform. If there is contamination, secure the garment for cleaning. Contaminated clothing should be washed or discarded in accordance with disease-specific guidelines, generally with hot water, usual detergent, and the addition of household bleach.

PATIENT CARE CONSIDERATIONS

- Provide anti-emetics per service protocols.
- Anticipate additional stool/vomitus to reduce contamination of the HCW and the ambulance (emesis bags, towels available, and/or impermeable sheet placed on stretcher).

TRANSPORT CONSIDERATIONS

- Consider applying an impermeable barrier sheet to the patient to protect the HCW and environmental surfaces in the presence of excessive wound drainage, fecal incontinence, or other discharges.
- Patients on contact precautions should preferentially be transported to a private room.

Contact Precautions

AMBULANCE DECONTAMINATION

- Any visibly soiled surface must first be decontaminated using an EPA-registered hospital disinfectant according to directions on the label.
- Medical equipment (stethoscope, BP cuff, etc.) making patient contact should be disposable or cleaned and disinfected before use on another patient. Other visibly contaminated equipment should similarly be cleaned and disinfected.
- Confirmed or suspected C. difficile infection decontamination should utilize hypochlorite solutions. EPA-registered disinfectants with sporocidal activity may be sufficient, but limited data is available.

RESOURCES

- **Considerations for Selecting Protective Clothing used in Healthcare for Protection against Microorganisms in Blood and Body Fluids**
- **Frequently Asked Questions about Clostridium difficile for Healthcare Providers**
- **Guidelines for Isolation Precautions 2007**

Droplet Precautions

EXAMPLE DISEASES

Neisseria meningitidis • mumps • mycoplasma • streptococcal and many other causes of pneumonia • parvovirus • pertussis • pneumonic plague • rhinovirus • rubella • seasonal influenza • streptococcal pharyngitis

GOAL OF PRECAUTIONS

- Provide additional respiratory protection against inhalation of larger infectious droplets during direct patient care activities.

DISPATCH ACTIONS

- Resource assignment – usual assignment of first responders and appropriate BLS/ALS response except in infectious disease outbreak or epidemic situation consider restricting first responders if no life-threatening symptoms (chest pain, difficulty breathing, altered mental status) present
- Patient instructions – usual pre-arrival instructions (porch light, control animals, gather medications, etc.)
- Crew instructions – Advise responding crew of patient illness/symptoms.

Droplet Precautions

ARRIVING EMS ACTIONS/CONSIDERATIONS

- Be aware of any community-based outbreaks of influenza or other epidemic disease requiring droplet precautions and obtain relevant history as indicated.
- Assess patient upon arrival from a distance of at least six feet if possible.
  - » Inquire specifically about influenza or other specific exposures.
- Adjust infection prevention precautions as required based on symptoms/ history. Maintain strict adherence to standard precautions.
- Perform hand hygiene before and after patient care activities.

PPE

- Consider using a checklist to assist with proper donning and doffing.
- PPE should be removed in an appropriate doffing area to prevent secondary contamination. Meticulous care should be taken to avoid self-contamination. PPE waste should be placed in a labeled leak-proof container.
- Report potential exposures according to existing service protocols.

Type:

- Disposable surgical mask (N95 respirator not required)
- Disposable gloves
- Eye protection – cleanable goggles or disposable face shield

Droplet Precautions

Donning:

1. Select gloves and mask and inspect to ensure not torn or ripped and that the correct size is selected.
2. Perform hand hygiene with ABHR; allow hands to dry before moving to next step.
3. Put on gloves.
4. Put on eye protection if using[6].
5. Put on surgical mask.

[6] Per CDC, no recommendation for routinely wearing eye protection, but influenza and other diseases can transmit via the ocular surfaces as well as other mucous membranes. Use PPE to protect the mucous membranes of the eyes, nose, and mouth during procedures and patient-care activities that are likely to generate splashes or sprays of blood, body fluids, secretions, and excretions. Select masks, goggles, face shields, and combinations of each according to the need anticipated by the task performed.

Droplet Precautions

Doffing:

Care should be taken to avoid self-contamination when removing mask and gloves. Place all PPE waste in a labeled leak-proof biohazard bag.

1. Inspect PPE for visible contamination, cuts, or tears before starting to remove. If any PPE is visibly contaminated, disinfect with an EPA-registered hospital disinfectant wipe in accordance with manufacturer recommendations.
2. Remove and discard gloves, taking care not to contaminate hands when removing the gloves. Dispose of gloves in biohazard bag.
3. Remove eye protection: Remove by strap, avoid touching the front surface of the eye protection. Discard in biohazard bag. Perform hand hygiene with ABHR. Reusable goggles must be thoroughly cleansed with EPA-registered hospital disinfectant wipes.
4. Remove the surgical mask by tilting the head slightly forward, grasping the elastic straps, sliding them off the ears/head, and removing the mask without touching the front fabric. Discard the mask into the biohazard bag.
5. Perform hand hygiene: If hands are visibly dirty, or soiled with blood or body fluids or other material, wash hands with soap and water, then perform hand hygiene with ABHR. If hands are not visibly soiled, simply perform hand hygiene with ABHR.
6. The HCW should inspect for any contamination of their uniform. If there is contamination, remove the soiled garment and secure it for cleaning. Contaminated clothing should be washed or discarded in accordance with disease-specific guidelines, generally with hot water, usual detergent, and the addition of household bleach.

Droplet Precautions

PATIENT CARE CONSIDERATIONS

- Provide a surgical mask for all patients with acute infectious respiratory symptoms who can tolerate it.
- Provide tissues to patients for secretion control and encourage patient hand hygiene and cough etiquette practices.
- Personnel not in appropriate PPE should maintain a distance of at least 6 feet from the patient and should wear gloves to guard against infectious agents on the surfaces of objects close to the patient.
- Minimize use of nebulizers to decrease droplet generation; consider metered dose inhalers.
- Minimize airway interventions that may cause coughing (e.g., suctioning) to degree possible.

TRANSPORT CONSIDERATIONS

- Standard transportation
- Consider having the patient compartment exhaust vent on high and isolating the driver compartment if performing aerosol producing procedures (airway suctioning, intubation, aerosolized medication administration). Increase ventilation by having air or heat on non-recirculating cycle and/or opening windows.
- Advise receiving hospital of respiratory symptoms – private (but not negative pressure) room preferred.

Droplet Precautions

AMBULANCE DECONTAMINATION

- Any visibly soiled surface must first be decontaminated using an EPA-registered hospital disinfectant according to directions on the label.
- Disinfect all potentially contaminated/high touch surfaces including the stretcher with an EPA-registered hospital disinfectant according to directions on the label.
- Medical equipment (stethoscope, BP cuff, etc.) making patient contact should be disposable or cleaned and disinfected before use on another patient.

RESOURCES

+ **Guidelines for Isolation Precautions 2007**

Airborne Precautions

EXAMPLE DISEASES

measles • monkeypox • TB (suspected or confirmed pulmonary or laryngeal) • varicella (chickenpox)

GOAL OF PRECAUTIONS

- Provide respiratory protection against inhalation of infectious aerosols (agents that remain infectious over long distances when suspended in the air).

DISPATCH ACTIONS

- Resource assignment – Consider restricting assignment to ambulance only if no life-threatening symptoms (chest pain, difficulty breathing, altered mental status) present and high suspicion for airborne disease in order to decrease first responder exposure.
- Patient instructions – usual pre-arrival instructions (porch light, control animals, gather medications, etc.)
- Crew instructions – Advise responding crew of patient illness/symptoms and concern for airborne infection.

Airborne Precautions

ARRIVING EMS ACTIONS/CONSIDERATIONS

- Be aware of any community-based outbreaks of TB, measles, or other disease requiring airborne precautions and obtain relevant history as indicated.
- Assess patient upon arrival from a distance of at least six feet if possible.
  - » Inquire specifically about TB, measles or other relevant exposures.
- Adjust infection prevention precautions as required based on symptoms. Change to standard precautions if no significant concern for airborne. Maintain strict adherence to standard precautions.
- Perform hand hygiene before and after patient care activities.

PPE

- Consider using a checklist to assist with proper donning and doffing.
- Report potential exposures according to existing service protocols.

Type:

- Disposable NIOSH-approved, fit-tested N95 respirator.
  - » EMS agencies often use powered air purifying respirators (PAPRs) with full hood and high efficiency particulate air (HEPA) filter for airborne precautions for employees that cannot safely fit test on N95 respirators due to facial hair, facial structure, etc.
  - » For the purposes of consistency and simplicity, the use of respirators for all infectious agents known to be transmitted by infectious aerosols is recommended.
- Disposable exam gloves

Airborne Precautions

Donning:

1. Inspect PPE prior to donning to ensure that it is in serviceable condition (e.g., gloves not torn or ripped, respirator not soiled or creased; if using PAPR, check motor and airflow) and that correct size is selected.
2. Perform hand hygiene with ABHR; allow hands to dry before donning gloves.
3. Put on gloves.
4. Put on respirator.
   - N95 or elastomeric respirator – Apply mask, mold to nose/face, and perform fit check to assure intact seal.
   - PAPR – Turn on PAPR motor, apply hood assuring inner and outer liner drape smoothly over shoulders, and adjust headband to comfort.

Doffing:

PPE should be doffed in a appropriate removal area (particularly if using a PAPR). Care should be taken to avoid self-contamination during removal. Place all PPE waste in a labeled, leak-proof biohazard bag. PAPR should be placed in a separate biohazard bag and/or managed by service protocol.

1. Inspect glove outer surfaces for visible contamination, cuts, or tears.
   - Visible contamination, cut, or tear – If a glove is visibly soiled, then disinfect the glove with either an EPA-registered hospital disinfectant wipe or ABHR, in accordance with manufacturer recommendations, remove the gloves, dispose in biohazard bag, perform hand hygiene with ABHR on bare hands. If the glove is cut or torn, inspect the underlying skin. If any break in the skin, contact your supervisor and follow your service exposure guidelines.
   - No visible contamination, cuts or tears – Remove and discard gloves, taking care not to contaminate hands during removal. Dispose of gloves in biohazard bag. Perform hand hygiene with ABHR.

Airborne Precautions

2. Respirator

- Remove N95 respirator mask tilting the head slightly forward, grasping the elastic straps, sliding them off the ears/head, and removing the mask without touching the front fabric. Discard mask into the biohazard bag.
- Elastomeric half-face respirator – Reapply clean gloves, remove mask by straps, wipe surface with EPA-registered hospital disinfectant wipe, allow to dry. Remove gloves and perform hand hygiene with ABHR.
- PAPR with External Belt-Mounted Blower (if used): Remove PAPR belt and set PAPR down in front of you. Lean forward, grasp top of hood (avoid grabbing hose), slowly remove hood by pulling off and straight down to floor. Retain the belt-mounted blower unit and reusable PAPR components in a separate bag for disinfection (must be wiped down with EPA-registered hospital disinfectant wipes and allowed to air dry).

3. Perform hand hygiene.
   - Visibly dirty, contaminated, or soiled with blood or body fluids – Wash hands with soap and water, then perform hand hygiene with ABHR.
   - Not visibly soiled – Perform hand hygiene with ABHR.

4. Inspect for any contamination of the HCW uniform. If there is contamination, secure the garment for cleaning. Contaminated clothing should be washed or discarded in accordance with disease-specific guidelines, generally with hot water, usual detergent, and the addition of household bleach.

Airborne Precautions

PATIENT CARE CONSIDERATIONS

- Ensure strict adherence with standard precautions (e.g., add gown or coverall for significant bodily fluid exposures and follow doffing for contact precautions).
- Ask the patient to wear a surgical mask (N95 respirator not required) if they are able to tolerate it.
- Provide tissues to patients for secretion control and encourage patient hand hygiene and cough etiquette practices.
- The performance of procedures that can generate small particle aerosols (aerosol-generating procedures), such as endotracheal intubation and open suctioning of the respiratory tract, have been associated with transmission of infectious agents to healthcare personnel, including M. tuberculosis. Protection of the eyes, nose, and mouth – in addition to gown and gloves – is recommended during performance of these procedures in accordance with Standard Precautions. Use of an N95 respirator is recommended during aerosol-generating procedures when the aerosol is likely to contain M. tuberculosis.
- If clinically indicated and available, rapid sequence intubation should be considered for patient requiring definitive airway management to avoid aerosol production as a consequence of coughing.

TRANSPORT CONSIDERATIONS

- Notify the receiving hospital of the need for an airborne infection isolation room (AIIR) for patient placement.
- Consider having the patient compartment exhaust vent on high and isolating the driver compartment from the patient compartment. Consider having the driver compartment ventilation fan set to high without recirculation.
- If driver/pilot compartment is not isolated from the patient compartment, vehicle operator to wear NIOSH-approved, fit-tested N95 respirator.
- Patients who are intubated should be ventilated with a bag-valve device or ventilator equipped with a HEPA filter on exhalation port.

Airborne Precautions

AMBULANCE DECONTAMINATION

- Any visibly soiled surface must first be decontaminated using an EPA-registered hospital disinfectant according to directions on the label.
- Disinfect all potentially contaminated/high touch surfaces including the stretcher with an EPA-registered hospital disinfectant according to directions on the label.
- Medical equipment (stethoscope, BP cuff, etc.) making patient contact should be disposable or cleaned and disinfected before use on another patient.

RESOURCES

- **Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings**
- **Respiratory Protection Standards**

Special Respiratory Precautions

EXAMPLE DISEASES

Severe acute respiratory syndrome (SARS) • MERS • novel influenza strains (e.g., H7N9) • smallpox

GOAL OF PRECAUTIONS

- Provide respiratory protection against inhalation of infectious aerosols (infectious agents that remain infectious over long distances when suspended in the air) as well as impermeable barrier to reduce spread of highly pathogenic viruses on surfaces and via fomites during direct patient care activities (standard + contact + airborne).

Special Respiratory Precautions

DISPATCH ACTIONS

- In addition to travel history to affected countries, may need to introduce screening questions based on local cases.
- Resource assignment – Consider restricting assignment to ambulance only if no life-threatening symptoms (chest pain, difficulty breathing, altered mental status) present in order to decrease first responder exposure. Many communities will also have dedicated infectious disease medical transport services built into their regional transportation plan for planned movement of patients with special respiratory disease.
- Patient instructions – Usual pre-arrival instructions (porch light, control animals, gather medications, etc.). Request family member to meet arriving personnel at door.
- Crew instructions – Advise responding crew of patient illness/symptoms and concern for special pathogen.

Special Respiratory Precautions

ARRIVING EMS ACTIONS/CONSIDERATIONS

- Be aware of any community-based outbreaks of SARS/MERS/novel influenza type diseases or other disease requiring special precautions and obtain relevant travel and exposure history as indicated.
- Assure appropriate training and education on PPE use and patient management.
- "Doorway evaluation" if possible – If stable and verbal, minimize contact with while caregiver dons appropriate PPE.
- Assure history consistent with dispatch.
  - » Inquire specifically about travel and relevant exposures.
- Adjust infection prevention precautions as required based on symptoms. Change to standard precautions if no significant concern for special pathogen. Maintain strict adherence to standard precautions.
- For special pathogens, minimize number of direct caregivers.
- Perform hand hygiene before and after all patient care activities.

PPE

Type:

- Disposable NIOSH-approved, fit-tested N95 or equivalent/higher level respirator (e.g., re-usable half-face elastomeric respirator N95 or higher rating mask or PAPR with full hood and HEPA filter)
- Disposable face shield or disposable or cleanable goggles (if not using hooded PAPR)
- Disposable fluid-resistant gown that extends to at least mid-calf or disposable fluid-resistant coveralls
- Disposable gloves with extended cuffs (strongly consider double-gloving)
- Disposable boot/shoe covers

Special Respiratory Precautions

Donning:

1. Personal items (e.g., jewelry [including rings], watches, cell phones, pagers, pens) should ideally be removed and stowed. Long hair should be tied back. Eyeglasses should be secured with a tie.
2. Inspect PPE prior to donning to ensure that it is in serviceable condition (e.g., gloves not torn or ripped, respirator not soiled or creased, if using PAPR check motor and airflow) and that correct size is selected.
3. Perform hand hygiene with ABHR; allow hands to dry before donning gloves.
4. Put on first pair of gloves (assume double-gloving).
5. Put on gown or coverall. Ensure large enough to allow unrestricted movement. Ensure cuffs of inner gloves are tucked under the sleeve of the gown or coverall.
6. Put on boot/shoe protectors.
7. Put on outer gloves. Ensure the cuffs are pulled over the sleeves of the gown or coverall and are tight. Consider taping, if required.
8. Put on respirator.
   - N95 or elastomeric respirator – Apply mask, mold to nose/face, perform fit check to assure intact seal; apply face shield if not using goggles.
   - PAPR – Turn on PAPR motor, apply hood assuring inner liner (if equipped) is tucked into coverall (if used) and outer liner drapes smoothly over shoulders and adjust headband to comfort.
9. If not using hooded PAPR, apply full face shield or goggles.
10. After donning, the integrity of the ensemble should be verified by the HCW. The HCW should go through a range of motions to ensure sufficient range of movement without suit binding/stretching while all areas of the body remain covered.

Special Respiratory Precautions

Doffing:

PPE should be doffed in a designated removal area, particularly when using a PAPR. Care should be taken to avoid self-contamination during removal. Place all PPE waste in a labeled, leak-proof biohazard bag. PAPR should be placed in a separate biohazard bag and/or managed by service protocol.

1. Inspect the PPE for visible contamination, cuts, or tears before removal. Disinfect any visible contamination with an EPA-registered hospital disinfectant wipe.
2. Disinfect outer-gloved hands with either an EPA-registered hospital disinfectant wipe in accordance with manufacturer recommendations or ABHR. Remove and discard outer gloves into biohazard bag, taking care not to contaminate inner gloves in the process.
3. Inspect the inner glove outer surfaces for visible contamination, cuts, or tears.
   - Visible contamination, cut, or tear – If an inner glove is visibly soiled, then disinfect the glove with either an EPA-registered hospital disinfectant wipe or ABHR, remove the inner gloves, perform hand hygiene with ABHR on bare hands, and don a new pair of gloves. If the inner glove is cut or torn, check the underlying skin and review your occupational exposure protocol with your supervisor.
   - No visible contamination, cuts or tears – Disinfect the inner gloves with either an EPA-registered hospital disinfectant wipe or ABHR.
4. Remove gown or coverall and boot/shoe covers and discard. *(Note: Gown or coverall should be removed before face protection and respirator. If that is not possible due to the design of the PPE, remove the gown or coverall after face protection and respirator.)*
   - Gown – Depending on gown design and location of fasteners, the HCW can either untie or gently break fasteners. Avoid contact with outer surface of gown during removal. Pull gown away from body, rolling inside out and touching only the inside of the gown.

Special Respiratory Precautions

- Coverall – Tilt head back to reach zipper or fasteners. Unzip or unfasten completely before rolling down while turning inside out. Avoid contact with outer surface of coverall during removal, touching only the inside of the coverall.
- Dispose of gown or coverall into the biohazard bag.

5. Disinfect gloves with either an EPA-registered hospital disinfectant wipe or ABHR.
6. Remove goggles or face shield (if used) sliding fingers under straps and sliding up and off away from face. Do not touch the front surface of the goggles/shield. Discard into biohazard bag. If re-using goggles must clean all surfaces with EPA-approved disinfecting wipes.
7. Disinfect gloves with either an EPA-registered hospital disinfectant wipe or ABHR.
8. Respirator
   - N95 respirator: Tip head slightly forward, remove by sliding fingers under the elastic straps and sliding them off the ears/head allowing the mask to fall away from the face being careful not to touch the front of the mask. Discard into the biohazard bag.
   - Elastomeric half-face respirator: Remove mask by straps without touching the front surface of the mask, wipe surface with EPA-approved hospital disinfectant cloth, allow to dry.
   - PAPR with External Belt-Mounted Blower: Remove PAPR belt and set PAPR down in front of you. Lean forward, grasp top of hood, (avoid grabbing hose), slowly remove hood by pulling off and straight down to floor. Retain the belt-mounted blower unit and reusable PAPR components in a designated bag or area for disinfection in accordance with manufacturer instructions (must be wiped down with EPA-approved hospital disinfectant and allowed to air dry.
9. Disinfect inner-gloved hands with either an EPA-registered hospital disinfectant wipe or ABHR. Remove and discard gloves, taking care not to contaminate bare hands during removal process. Dispose of inner gloves into the biohazard bag.

Special Respiratory Precautions

10. Perform hand hygiene.
    - Visibly dirty, contaminated, or soiled with blood or body fluids – Wash hands with soap and water, then perform hand hygiene with ABHR. Refer to the Occupational/Health Exposures information in the Resources/Special Considerations section for additional guidance to ensure that occupational health is aware of potential exposure.
    - Not visibly soiled – Perform hand hygiene with ABHR.
11. HCW should inspect for any contamination of their uniform. If there is contamination, remove and secure garment for cleaning. Contaminated clothing should be washed or discarded in accordance with disease-specific guidelines, generally with hot water, usual detergent, and the addition of household bleach.

PATIENT CARE CONSIDERATIONS

- Ask the patient to wear a surgical mask (N95 respirator not required) if they are able to tolerate it.
- Provide tissues to patients for secretion control and encourage patient hand hygiene and cough etiquette practices.
- Exercise caution when performing aerosol-producing procedures (endotracheal intubation, airway suctioning, administration of nebulized medication, CPAP/BiPAP, CPR). Only perform these procedures if medically necessary and cannot be postponed.
- If clinically indicated and available, rapid sequence intubation should be considered for patient requiring definitive airway management to avoid aerosol production from coughing.
- Patients who are intubated should be ventilated with a bag-valve device or ventilator with a HEPA filter on the exhalation port.

Special Respiratory Precautions

TRANSPORT CONSIDERATIONS

- Notify the receiving hospital of the need for an AIIR room for patient placement.
- The patient compartment exhaust vent should be on high and the driver compartment should be isolated from the patient compartment if possible. The driver compartment ventilation fan should be set to high without recirculation.
- The vehicle operator should wear a NIOSH-approved, fit-tested N95 respirator if the patient compartment and cab cannot be isolated.
- For persons under investigation for smallpox or novel influenza, consider transport by portable isolation unit or ambulance preparation as described for EVD-VHF Precautions.
- EMS agencies should have a plan for family members wishing to accompany the patient that prevents crew exposures to highly infectious diseases and includes a procedure to contact the appropriate public health authority for further information or actions.

AMBULANCE DECONTAMINATION

- Any visibly soiled surface must first be decontaminated using an EPA-registered hospital disinfectant according to directions on the label.
- Disinfect all potentially contaminated surfaces including the stretcher with an EPA-registered hospital disinfectant according to directions on the label.
- Medical equipment (stethoscope, BP cuff, etc.) making patient contact should be disposable or cleaned and disinfected using appropriate disinfectants before use on another patient.

Special Respiratory Precautions

RESOURCES

- Considerations for Selecting Protective Clothing used in Healthcare for Protection against Microorganisms in Blood and Body Fluids
- Interim Guidance for Infection Control Within Healthcare Settings When Caring for Confirmed Cases, Probable Cases, and Cases Under Investigation with Novel Influenza A Viruses Associated with Severe Disease
- Middle East Respiratory Syndrome (MERS)

EVD/VHF Precautions

EXAMPLE DISEASES

EVD • Marburg virus • Lassa fever • Crimean-Congo fever

GOAL OF PRECAUTIONS

- Provide maximal impermeable barrier and respiratory protection against highly pathogenic VHF viruses.

DISPATCH ACTIONS

1. Inquire about travel and direct exposure history within the previous 21 days.
   - Has patient traveled to or lived in a country with hemorrhagic fever virus transmission?
   - Has patient had direct contact with a person who is confirmed or suspected to have EVD/VHF? (including local cases, if applicable)
     - » If yes, does the patient have any fever, severe headache, muscle pain, weakness, fatigue, diarrhea, vomiting, abdominal (stomach) pain, or unexplained hemorrhage (bleeding or bruising)?

EVD/VHF Precautions

- Notify responding units of any affirmative answer to these questions. Provide guidance below/ask crew to reference guidance and cancel first responder units if no life-threatening symptoms (unconscious/ altered mental status, difficulty breathing, chest pain).

2. Instructions to patients and EMS providers for EVD/VHF positive screen:
   - Instruct other people at the scene to restrict contact with patient unless wearing appropriate PPE. Provide usual pre-arrival instructions (porch light, control animals, gather medications, etc.) Request family member to meet arriving personnel at door. Ask family to assure clean clothing for the patient prior to EMS arrival, if possible.
   - Alert any first responders (if required for emergent symptoms) and EMS providers being dispatched of potential for a patient with possible exposure/signs and symptoms of EVD/VHF before they arrive on scene. This may best be done via computer-aided dispatch (CAD), text messaging, or other secure means.
   - Advise EMS providers to apply appropriate PPE before direct contact with the patient.
     - » Advise EMS providers before entering the scene to wear the highest level of PPE recommended if complaints include bleeding, vomiting, or diarrhea.
   - If responding to an airport or other port of entry to the United States, dispatch should notify the Centers for Disease Control and Prevention (CDC) Quarantine Station for the port of entry. Contact information for CDC Quarantine Stations can be accessed at http://www.cdc.gov/quarantine/quarantinestationcontactlistfull.html.
   - Dispatch should notify the local or state public health authority if a suspect case is transported to a hospital.
   - Dispatch should notify EMS supervisor and others per service protocols.
   - Alert EVD/VHF specialized EMS ambulance if available as secondary responder and the patient is stable enough to await this resource.

EVD/VHF Precautions

ARRIVING EMS ACTIONS/CONSIDERATIONS

- Be aware of any international and/or community-based outbreaks of EVD/VHF and obtain relevant history as indicated regardless of dispatch information.
- Assure appropriate training and education on PPE use and patient management.
- Consider the strategy of one provider putting on PPE with the use of a trained observer and managing the patient while the other provider does not engage in patient care, but provides the "doorway evaluation" and communications/charting from at least 6 feet away from the patient. The second provider should be prepared to quickly don the appropriate PPE should the first provider require assistance.
- Assure history consistent with dispatch.
  - » Inquire specifically about travel and relevant exposures.
  - » If initial assessment confirms suspect case of EVD/VHF and patient is stable and alert, then continue specialized EMS ambulance response to your location, if available.
- Adjust infection prevention precautions as required based on symptoms. Change to standard precautions guideline if no significant concern for special pathogen. Maintain strict adherence to standard precautions.
- Minimize number of direct caregivers.
- Perform hand hygiene before and after all patient care activities.
- Assure that appropriate ALS/BLS care is provided. The vast majority of cases identified as suspect will not have EVD/VHF.

EVD/VHF Precautions

PPE

Initial responders to **suspect** case **without** active bleeding, vomiting, or diarrhea[7]

Donning:

1. Use a checklist and a trained observer.
2. Personal items (e.g., jewelry [including rings], watches, cell phones, pagers, pens) should be stowed. Long hair should be tied back. Eye glasses should be secured with a tie.
3. Visually inspect the PPE to ensure that it is not torn or ripped, all required PPE and supplies are available, and that the correct sizes are selected.
4. Perform Hand Hygiene: Perform hand hygiene with ABHR. When using ABHR, allow hands to dry before moving to next step.
5. Put on inner gloves.
6. Put on gown or coverall. Ensure gown or coverall is large enough to allow unrestricted movement. Ensure cuffs of inner gloves are tucked under the sleeve cuff.
7. Put on surgical mask.
8. Put on second pair of gloves (with extended cuffs). Ensure the cuffs are pulled over the sleeves of the gown or coverall.
9. Put on face shield: Put on full face shield over the surgical mask to protect the eyes, as well as the front and sides of the face. Consider use of a head cover.
10. Verify the integrity of the ensemble (e.g., there should be no cuts or tears in the PPE). The HCW should be comfortable and able to extend the arms, bend at the waist, and go through a range of motions while all areas of the body remain covered.

[7] For U.S. Healthcare Settings: Donning and Doffing Personal Protective Equipment (PPE) for Evaluating Persons Under Investigation (PUIs) for Ebola Who Are Clinically Stable and Do Not Have Bleeding, Vomiting, or Diarrhea

EVD/VHF Precautions

Doffing:

PPE should be doffed in a designated PPE removal area. Meticulous care should be taken during this process to avoid self-contamination as this is the major contributor to HCW disease. Place all PPE waste in a labeled leak-proof biohazard bag.

1. Use a checklist and a trained observer.
2. Inspect the PPE for visible contamination, cuts, or tears before starting to remove. If any visible contaminant, disinfect using an EPA-registered hospital disinfectant wipe.
3. Disinfect outer-gloved hands with either an EPA-registered hospital disinfectant wipe in accordance with manufacturer recommendations or ABHR. Remove and discard outer gloves, taking care not to contaminate inner gloves in the process. Dispose of outer gloves into biohazard bag.
4. Inspect the inner glove outer surfaces for visible contamination, cuts, or tears.
   - Visibly soiled, cut or tear – Disinfect the glove with either an EPA-registered hospital disinfectant wipe or ABHR, remove the inner gloves, and discard into biohazard bag, perform hand hygiene with ABHR on bare hands, and don a new pair of gloves. For cut or tear, inspect skin for injury and report potential exposure immediately to supervisor.
   - No visible contamination and no cuts or tears – Disinfect the inner gloves with either an EPA-registered hospital disinfectant wipe or ABHR.
5. Remove the face shield (and head cover/hood if used) by tilting the head slightly forward, grabbing the rear strap, and pulling it over the head, allowing the face shield to fall forward. Avoid touching the front surface of the face shield. Discard the face shield into the designated biohazard bag.
6. Disinfect inner gloves with either an EPA-registered hospital disinfectant wipe or ABHR.

EVD/VHF Precautions

7. Remove gown or coverall.
   - Gown – Depending on gown design and location of fasteners, either untie or gently break fasteners. Avoid contact with outer surface of gown during removal. Pull gown away from body, rolling inside out and touching only the inside of the gown.
   - Coverall – Tilt head back to reach zipper or fasteners. Unzip or unfasten coverall completely before rolling down while turning inside out. Avoid contact with outer surface of coverall during removal, touching only the inside of the coverall.
   - Dispose of gown or coverall into the biohazard bag.
8. Disinfect inner gloves with either an EPA-registered hospital disinfectant wipe or ABHR, remove and discard gloves, taking care not to contaminate bare hands during removal.
9. Perform hand hygiene with ABHR and don a new pair of gloves.
10. Remove the surgical mask by tilting the head slightly forward, grasping the elastic straps, and pull the straps off the ears and/or top of head to release the mask allowing it to fall forward off the face. Avoid touching the front of the mask. Discard mask into the biohazard bag.
11. Disinfect gloved hands with either an EPA-registered hospital disinfectant wipe or ABHR. Remove and discard gloves, taking care not to contaminate bare hands during removal process. Dispose of inner gloves into the biohazard bag.
12. Perform hand hygiene with ABHR.
13. Inspect for any contamination of the HCW uniform. If there is contamination, remove the soiled garment and place it into the biohazard bag, cleanse skin with ABHR and immediately inform your supervisor of the potential exposure.

EVD/VHF Precautions

PPE

Transport of confirmed case or those **with** active bleeding, vomiting, or diarrhea[8]

Note: Services may elect to use NIOSH-approved, fit-tested N95 respirator in combination with impermeable hood that covers head and shoulders and a full face shield. The above PPE section may be modified for use of this ensemble. This section covers donning/doffing with PAPR with impermeable drape-style hood. Services may elect to add a heavier impermeable apron for high-risk situations.

Donning:

1. Identify trained observer and use a checklist.
2. Ensure hydration and use the restroom if possible.
3. Personal items (e.g., jewelry [including rings], watches, cell phones, pagers, pens) should ideally be stowed. Long hair should be tied back. Eye glasses should be secured with a tie.
4. Visually inspect the PPE ensemble to ensure it is in good condition (e.g., not torn or ripped), all required PPE and supplies are available, and correct sizes selected. Test the PAPR motor and airflow, check that the filters fit securely, and ensure all filter caps are off.
5. Don and test two-way radio headset microphone (if using).
6. Perform hand hygiene with ABHR; allow hands to dry before moving to next step.
7. Put on first pair of gloves.
8. Put on coverall, ensure unrestricted movement. Ensure cuffs of inner gloves are tucked under the sleeve cuff.

[8] Guidance on Personal Protective Equipment (PPE) To Be Used By Healthcare Workers during Management of Patients with Confirmed Ebola or Persons under Investigation (PUIs) for Ebola who are Clinically Unstable or Have Bleeding, Vomiting, or Diarrhea in U.S. Hospitals, Including Procedures for Donning and Doffing PPE

EVD/VHF Precautions

9. Put on impermeable boots, pull coverall material over top of boot and tape (leaving tab). If using boot covers per service protocols, put on boot covers.
10. Put on second pair of gloves (with extended cuffs). Ensure the cuffs are pulled over the sleeves of the coverall.
11. Turn PAPR on and put on belt and then hood. Assure inner hood (if present) is tucked into coverall and outer hood drapes over shoulders. Assure comfortable airflow and adjust headband if required.
12. Put on disposable apron, if using.
13. Observer and HCW should verify the integrity of the ensemble (e.g., there should be no cuts or tears in the PPE). The HCW should be comfortable and able to extend the arms, bend at the waist, and go through a range of motions without stressing or binding the coverall.

Doffing:

PPE should be doffed in a designated PPE removal area. Meticulous care should be taken during this process to avoid self-contamination as this is the major contributor to HCW disease. Place all PPE waste in a labeled leak-proof biohazard bag.

1. Identify a trained observer and use a checklist.
2. Inspect the PPE for visible contamination, cuts, or tears before starting to remove. If any visible contaminant, disinfect using an EPA-registered hospital disinfectant wipe.
3. Disinfect outer gloves with EPA-registered hospital disinfectant or ABHR.
4. Remove apron if using (e.g., by breaking or untying neck strap and releasing waist ties) and roll the apron away from you, containing the soiled outer surface as you roll; discard apron into biohazard bag being careful not to contact other surfaces. Re-inspect underlying coverall.

EVD/VHF Precautions

5. Disinfect outer-gloved hands with either an EPA-registered hospital disinfectant wipe in accordance with manufacturer recommendations or ABHR. Remove and discard outer gloves, taking care not to contaminate inner gloves in the process. Dispose of outer gloves into biohazard bag.
6. Inspect the inner gloves' outer surfaces for visible contamination, cuts, or tears.
   - Visibly soiled, cut or tear – Disinfect the glove with either an EPA-registered hospital disinfectant wipe or ABHR, remove the inner gloves and discard into biohazard bag, perform hand hygiene with ABHR on bare hands, and don a new pair of gloves. For cut or tear, inspect skin for injury and report any potential exposure immediately to supervisor.
   - No visible contamination and no cuts or tears – Disinfect the inner gloves with either an EPA-registered hospital disinfectant wipe or ABHR.
7. Remove PAPR with External Belt-Mounted Blower: Remove PAPR belt and set PAPR down in front of you. Lean forward, grasp top of hood (avoid grabbing hose), slowly remove hood by pulling off and straight down to floor.
8. Retain the belt-mounted blower unit and reusable PAPR components in a separate bag for disinfection.
9. Disinfect inner gloves with either an EPA-registered hospital disinfectant wipe or ABHR.
10. Remove coverall.
    - Tilt head back to reach zipper or fasteners. Unzip or unfasten coverall completely and release tape at boot cuff.
    - Avoid contact with outer surface of coverall during removal, touching only the inside of the coverall as you slide your hands down the inside of the suit, rolling it inside-out as you go.
    - Step out of boots onto clean surface.

EVD/VHF Precautions

- Boots Disposable – Discard both boots and coverall into biohazard bag.
- Boots Re-usable – After stepping out of boots, dispose of coverall into biohazard bag, then place boots into separate bag for later decontamination.

11. Disinfect inner-gloved hands with either an EPA-registered hospital disinfectant wipe or ABHR. Remove and discard gloves, taking care not to contaminate bare hands during removal. Dispose of inner gloves into the biohazard bag.
12. Perform hand hygiene with ABHR.
13. Observer and HCW inspect for any contamination of their uniform. If there is contamination, remove the soiled garment and place it into a leak-proof biohazard bag, cleanse skin with ABHR and inform the supervisor of potential exposure.
14. Step into clean area.

PATIENT CARE CONSIDERATIONS

- Ask the patient to wear a surgical mask (N95 respirator not required) if they are able to tolerate it.
- Advise the designated receiving hospital as early as possible about a suspect case to allow them preparation time.
- The biggest risk to the patient is withholding appropriate treatment from suspect EVD/VHF patients, as few will actually have the disease.
- The more body fluids, the higher the transmission risk.
- Anticipate additional stool/vomitus to reduce contamination of the HCW and the ambulance (emesis bags, towels, and/or impermeable sheet placed on stretcher).

EVD/VHF Precautions

- Minimize the number of HCWs who make patient contact.
- Dedicated medical equipment (ideally disposable) should be used for the provision of patient care whenever possible.
- If patient is ambulatory, strongly consider a barrier garment, surgical mask and gloves if tolerated.
- If patient is having large volumes of diarrhea, patient should wear an adult undergarment.
- If patient is non-ambulatory, the patient may be comfortably shrouded in a barrier sheet, and surgical mask applied.
- Exercise caution when performing aerosol-producing procedures (endotracheal intubation, airway suctioning, administration of nebulized medication, CPAP/BiPAP, CPR). Only perform these procedures if medically necessary and cannot be postponed. Note that cardiac arrest early in the illness may be due to electrolyte imbalance and may be survivable. Late cardiac arrest from multi-organ failure likely carries a dismal prognosis.
- Do not perform phlebotomy or any other invasive procedures unless urgently required for patient care or stabilization. Handle any needles and sharps with extreme care and dispose in puncture-proof, sealed containers that are specific to the single patient. Do not dispose of used needles and sharps in containers that have sharps from other patients in them.
- Consider giving oral or nasal medicine to reduce nausea and/or pain per service protocols rather than injectable.
- Responders may use hands-free communications devices (e.g., tactical head sets) inside the PPE ensemble to facilitate communication and avoid contamination of radios.
- Charting is either verbal to a partner in a clean area or completed after transport.

EVD/VHF Precautions

TRANSPORT CONSIDERATIONS – GENERAL

- If the patient is a highly suspect case and stable, consider specialized ambulance preparation and transport (see below) if time and acuity allow.
- Confirmed case or interfacility transport should be performed by EMS personnel with properly prepared ambulances (see below).
- For emergency transport, consider applying an impermeable barrier sheet or cocoon to the patient to protect the HCW and environmental surfaces in the presence of incontinence, draining wounds, or other discharges.
- The driver's compartment should remain clean! No family members or belongings in the driver's compartment!
- Suspect EVD/VHF cases should be transported to a designated regional hospital capable of evaluation and initial management and arrived into a dedicated isolation room.
- Consider deferring ambulance decontamination for a brief period to see if EVD/VHF can be quickly ruled out during initial hospital assessment.
- Formal decontamination after transport of a suspect/confirmed case should occur in a designated area by designated personnel as below.
- EMS agencies should have a plan for family members wishing to accompany the patient that prevents crew exposures to highly infectious diseases and includes a procedure to contact the appropriate public health authority for further information or actions.

EVD/VHF Precautions

SPECIALIZED AMBULANCE PREPARATION/ INTERFACILITY TRANSFER[9]

Assumptions:

- All involved HCWs (hospital and out-of-hospital) have received education and training and demonstrated competencies for EVD/VHF PPE and patient management.
- Healthcare facilities and transporting ambulance agencies have protocols for the management of patients, exposures, and ambulance preparation and decontamination.
- Facilities and transporting ambulance agencies conduct exercises to evaluate their integration.

Prior to Transport

- Ensure you have points of contact and means of communication with sending facility, receiving facility, public health authority, emergency management, law enforcement (or agency providing security for the transport), and (if applicable) aviation and hazardous materials management and disposal.
- Consider notifying your agency's public affairs official.
- Consider secure methods of communication to avoid monitoring by the media or public.
- Communicate with the sending facility to confirm patient's clinical condition and risk of contact with infectious body fluids (bleeding, vomiting, diarrhea, etc.).
- Determine if the patient will be ambulatory or non-ambulatory.
- Confirm whether additional passengers are being transported (family, etc.).

[9] Adapted from Standard Operating Procedure (SOP) for Patient Handoff between a Healthcare Facility and a Transporting Ambulance.

EVD/VHF Precautions

- Ensure adequate inventory of supplies and appropriately sized PPE for the personnel who are assigned to the transport mission using checklists.
- Ensure procedures and training to limit contamination of ambulance environmental surfaces (isolation of driver compartment, draping, etc.).
- Confirm for both origin and destination facility the location for patient hand-off. This location will likely be pre-determined by facilities and chosen to minimize environmental exposure at the facility and prevent exposure of unprotected staff, patients, and visitors.
- Confirm for both origin and destination facility the location for donning and doffing of PPE for transporting ambulance personnel and assure ambulance decontamination and disinfection location established.
- Assure plan at destination hospital and ambulance decontamination location for managing regulated (Category A) hazardous waste.
- Assure appropriate supervision for the doffing of ambulance personnel PPE as hospital PPE and doffing protocols may be different.
- Determine the need for additional security with sending and receiving facility, as well as law enforcement personnel needs during transport and at the healthcare facilities.
- Ensure medical director (or appropriate person providing medical oversight) is immediately available for consultation throughout the transport.
- Communicate with sending facility for patient updates and to confirm patient transfer location.
- Contact sending facility to verify patient management steps have been taken to facilitate event-free transport and reduce risk of exposure.
- Establish guidelines to define the clinical care objectives for patients whose condition deteriorates en route to the receiving facility.

EVD/VHF Precautions

- Hold mission briefing for transport team to review:
  - » Purpose and team primary contacts
  - » Transport provider health check
  - » Patient history and condition
  - » Infection control posture – ambulance configuration and personnel PPE
  - » Team member (paramedic, emergency medical technician (EMT), driver, supervisor/safety officer, EMS physician, etc.) roles and responsibilities, including supervision of donning and doffing procedures, etc.
  - » Relevant clinical care guidelines including appropriateness of interventions or invasive procedures
  - » Transportation of patient samples and medication, if applicable
  - » Transfer of paper or electronic ambulance patient care records in a way that avoids contaminating the receiving facility
  - » Decontamination and disinfection procedure
  - » Waste collection and mission recovery
  - » Post-mission surveillance
  - » Interaction with security/law enforcement during the transport and at the receiving facility
  - » Special considerations – transfer of patient across state borders, vehicle malfunction and other contingencies, etc.
  - » Media policies

EVD/VHF Precautions

During Transport

- Depart for patient location and provide ETA at sending facility.
- Communicate with designated point of contact at each facility the arrival of transporting ambulance at sending and receiving facilities.
- Observe donning of PPE and, when ready, proceed to make patient contact (only the minimum number of providers necessary to manage the patient should be present).
- Conduct brief patient assessment to determine patient's stability, "dry" or "wet" symptoms, and need for intervention before and/or during patient transport. Define appropriate interventions for patient deterioration. Minimize patient contact. For example, consider not obtaining vital signs if patient is "dry," has no visual evidence of distress or shock, and transport time is not prolonged.
- Transport patient in impervious suit if ambulatory, or in impervious sheets if non-ambulatory and stretcher-bound, as tolerated.
- Consider any patient belongings, which are typically bagged, labeled, and transported with the patient in the patient compartment, to be contaminated.
- Any documents provided by sending facility should be free of contamination. When in doubt, consider them contaminated and package as appropriate for transport by ambulance personnel.
- Report patient's condition and ETA to receiving facility to facilitate their readiness to receive patient from transport agency immediately upon arrival, thus avoiding PPE-induced fatigue/dehydration for patient, ambulance crew, and receiving staff.

EVD/VHF Precautions

Arrival to receiving facility

- Confirm arrival with receiving facility and specific route of travel within facility before patient leaves ambulance.
- Transport patient to designated location in receiving facility – via the most direct route to isolation unit – ambulatory vs. stretcher. If any concern for stretcher contamination, transfer patient to hospital cart upon exit from ambulance.
- Ensure route of travel is secured.
- Transfer patient care to receiving facility team as arranged (and exercised).
- Package waste from transport prior to doffing PPE. Transfer waste to hospital or appropriate agency as previously arranged and in accordance with applicable regulations.
- Ambulance personnel doff PPE under supervision of qualified personnel (transport agency PPE ensemble and hospital PPE may differ). If ambulance personnel are performing ambulance disinfection and have not exceeded service threshold for time in PPE, may proceed with disinfection prior to doffing.
- Return to ambulance driver's compartment and proceed to designated decontamination/disinfection station.
- Disinfect ambulance per protocol.
- Conclude mission, debrief providers, and initiate surveillance as appropriate.

Ambulance preparation

- If a commercial patient containment system is used these guidelines may be modified accordingly. EMS personnel must be carefully trained on these systems—including appropriate cleaning, disposition, and impact on mission recovery—and understand the limitations on patient care they impose.
- Apply clear plastic sheets (at least 4mil) or similar impermeable barrier cloth to ceiling and duct tape in place. If the ceiling is a flat impermeable surface, the agency may elect not to apply plastic to the ceiling.

EVD/VHF Precautions

- Overlap all seams by at least 1 inch.
- Apply sheets to walls, cutting holes for air supply/vents and exhaust.
- Seal any conduit between the driver compartment and the passenger compartment with plastic sheeting.
- Protect floor and benches with clear plastic sheets (at least 6mil), cutting holes for stretcher locks. At this point all surfaces should be protected by plastic. A large bag or plastic sheeting may be used for the "jump" seat.
- Stretcher will be protected with impervious sheet.
- ABHR and a spill kit/absorbent disposable rags should be immediately available.
- Essential medical equipment will be stowed in patient compartment sealed inside a clear plastic bag for easy access.
- Pre-pack medical supplies into individual plastic bags (may elect to re-organize bags/kits to minimize extra contents and/or to make cleaning easier, e.g., plastic tray organizers instead of fabric bags, packed into sliding closure clear plastic bags).
- Additional medical equipment will be stowed in patient compartment behind disposable barriers, protecting it from unnecessary exposure, but available if needed by cutting plastic.
- Oxygen delivery kit should be stowed in patient compartment and sealed inside a clear plastic bag for easy access. Consider manual disposable suction unit.
- All climate controls should be set for fresh, not recirculating air!
- Ventilation system in driver compartment will be set on high and not recirculating; crack windows/vents open.
- Exhaust vent in patient compartment will be set on high.

EVD/VHF Precautions

AMBULANCE DECONTAMINATION[10]

1. Identify Decontamination Area:

- Select an appropriate site for ambulance decontamination that protects the vehicle and the team from the weather, preferably a well-ventilated, climate controlled, large enclosed garage/structure.
- Establish a secure perimeter.
- Include considerations for waste management, security plan, public perception, and media visibility when selecting decontamination site.
- Define and mark the clean/dirty zone boundary around the ambulance that requires PPE to cross.

2. Before Decontamination and Disinfection:

- Assure appropriate supplies available.
  - » Yellow caution tape
  - » Appropriate sizes of PPE for personnel performing decontamination
  - » Leak proof biohazard bags
  - » Garbage bags
  - » Autoclave bags with rubber bands
  - » EPA-registered hospital disinfectant wipes
  - » Spray bottles
  - » Bottled water
  - » Disposable rags
  - » Alcohol based hand sanitizer
  - » Absorbent compound or absorbent towels

[10] Adapted from Example: Standard Operating Procedure (SOP) for Decontamination of an Ambulance that has Transported a Person Under Investigation or Patient with Confirmed Ebola.

EVD/VHF Precautions

- » Spill Kit (absorbent, brush, pan, small red bag)
- » Bio-safety check-off sheet, briefing template, donning check-off sheet, doffing check-off sheet, contact list

- The vehicle operator and patient care provider may be responsible for decontamination and disinfection of the transport unit or a separate team may be used. Both approaches have advantages.
- All waste, including PPE, drapes, and wipes, should be considered Category A infectious substances, and should be packaged appropriately for disposal.
- Personnel must be in appropriate PPE during decontamination and disinfection. A third person should also be available as a trained observer and to assist as needed.
- PPE should be donned and doffed per above guidelines.
- PPE selection should consider worker protection for biological exposures as well as based on the disinfectant used.[11]

3. Spill decontamination:

- Grossly contaminated and visibly soiled surfaces must be decontaminated prior to disinfection.
- Gross surface contamination, including barrier drapes, must be treated with an EPA-registered hospital disinfectant according to directions on the label before soaking up the fluid with absorbent materials.
- Used absorbent materials are placed in labeled leak-proof container.
- After removal of visible contaminant, surfaces require disinfection as below.

[11] PPE Selection Matrix for Occupational Exposure to Ebola Virus

EVD/VHF Precautions

4. Disinfection:

- Disinfect the outside of any bags containing unused medical equipment as well as the stretcher, PAPR motor housings, etc. with an EPA-registered hospital disinfectant according to directions on the label.
- If equipment was removed from a protective bag in transit, assess the equipment to determine if it can be properly decontaminated and disinfected, or disposed of. All non-dedicated, non-disposable medical equipment used for patient care should be cleaned and disinfected according to manufacturer's instructions and department policies.
- If the interior of the ambulance was draped prior to transport, remove the draping by rolling the drapes down outside in, from the ceiling to the floor of the unit starting at the front of the compartment and moving to the rear.
- Roll flooring drapes from the front to rear of the compartment, rolling drapes outside in.
- To facilitate packaging and transport, drapes can be gently cut into segments. It is important that all drape materials are in sections that are small enough to facilitate the insertion of the biohazard bags into an autoclave or pre-determined Category A infectious substance packaging for disposal.
- Personnel should manually disinfect the interior of the patient care compartment with an EPA-registered hospital disinfectant according to directions on the label. This should include attention to proper contact time and particular detail for high-touch surfaces such as door handles and steps using care to limit mechanically generated aerosols (e.g., no scrub brushes) and using the surface wipe method to disinfect.

EVD/VHF Precautions

- Once the manual interior wipe down has been completed, collect and package all waste as Category A waste. Place waste in biohazard bags for disposal. All bags will be closed using a gooseneck technique and the outer surface disinfected with an EPA-registered hospital disinfectant according to directions on the label. All waste is double-bagged and exterior surfaces disinfected. Biohazard bags may be inserted into autoclave bags provided by the receiving facility.
- Manually wipe with disinfectant the ambulance's exterior patient loading doors and handles, and any areas that may have been contaminated.
- The full exterior of the ambulance does not require a disinfectant wipe down.
- Once the outside of all surfaces (including waste bags) have been wiped with disinfectant, then supervised doffing of PPE can occur into a final biohazard bag, which is closed and disinfected.

5. After disinfection/decontamination:

- Dispose of all waste according to organization protocols as well as local and federal regulations for Category A infectious substances. Best practice may be to transfer waste to the hospital for disposition.
- Additional cleaning methods may also be used. While not required, this may provide additional assurance to personnel and public prior to returning the vehicle to service.
  - » Ultraviolet germicidal irradiation, chlorine dioxide gas, or hydrogen peroxide vapor can be used for an additional disinfection step. However, these should not replace the manual disinfection, as their efficacy against organisms in body fluids has not been fully established and these methods may require specialized equipment and PPE.
- The ambulance can then be returned to service.

EVD/VHF Precautions

RESOURCES

- Bloodborne Infectious Diseases: HIV/AIDS, Hepatitis B, Hepatitis C
- Bloodborne Pathogens Standard, 29 CFR 1910.1030
- Considerations for Safe Transport of Patients Infected with Ebola Virus
- Considerations for Selecting Protective Clothing used in Healthcare for Protection against Microorganisms in Blood and Body Fluids
- Ebola-Associated Waste Management
- Ebola Patient Preparation for Transport, Patient Movement, and Decontamination Procedures
- Ebola (Ebola Virus Disease): U.S. Healthcare Workers and Settings
- Example: Standard Operating Procedure (SOP) for Decontamination of an Ambulance that has Transported a Person Under Investigation or Patient with Confirmed Ebola
- For U.S. Healthcare Settings: Donning and Doffing Personal Protective Equipment (PPE) for Evaluating Persons Under Investigation (PUIs) for Ebola Who Are Clinically Stable and Do Not Have Bleeding, Vomiting, or Diarrhea
- Guidance on Personal Protective Equipment (PPE) To Be Used by Healthcare Workers During Management of Patients with Confirmed Ebola or Persons Under Investigation (PUIs) for Ebola Who Are Clinically Unstable of Have Bleeding, Vomiting, or Diarrhea in U.S. Hospitals, Including Procedures for Donning and Doffing PPE
- Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus
- Interim – Planning Guidance for the Handling of Solid Waste Contaminated with a Category A Infectious Substance
- List L: Disinfectants for Use Against the Ebola Virus
- PPE Selection Matrix for Occupational Exposure to Ebola Virus
- Quarantine Station Contact List, Map, and Fact Sheets
- Safe Handling, Treatment, Transport, and Disposal of Ebola-Contaminated Waste
- Transport and Management of Patients with Confirmed Ebola Virus Disease

Resources/Special Considerations

HAND HYGIENE[12]

- During the delivery of healthcare, avoid unnecessary touching of surfaces in close proximity to the patient to prevent both contamination of clean hands from environmental surfaces and transmission of pathogens from contaminated hands to surfaces.
- When hands are visibly dirty, contaminated with proteinaceous material, or visibly soiled with blood or body fluids, wash hands with either a nonantimicrobial soap or an antimicrobial soap and water.
- If hands are not visibly soiled, or after removing visible material with soap and water, the preferred method of hand decontamination is with ABHR.
- Wash hands with non-antimicrobial soap or with antimicrobial soap and water if contact with spores (e.g., C. difficile or Bacillus anthracis) is likely to have occurred. The physical action of washing and rinsing hands under such circumstances is recommended because alcohols, chlorhexidine, iodophors, and other antiseptic agents have poor activity against spores.
- Do not wear artificial fingernails or extenders if duties include direct contact with patients at high risk for infections with associated adverse outcomes.

PANDEMIC INFLUENZA

- PPE guidance for novel influenza and pandemic influenza may change rapidly. EMS agencies should monitor information from CDC and regulatory organizations at the state and federal level and have established contacts with infection prevention and control professionals.
- Novel influenza strains are usually initially managed according to Special Respiratory (Airborne + Contact + Standard) Precautions. If in doubt, the service should apply Special Respiratory Precautions until disease-specific guidance is available.

[12] 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings

Resources/Special Considerations

- Dispatch should update questions to reflect any screening needed for international, domestic, or local cases.
- Responding personnel should have a low threshold to mask the patient and wear appropriate PPE as influenza is transmissible prior to the onset of significant symptoms.
- Pandemics can place enormous strain on EMS services due to high call volumes and provider illness. Crisis standard of care plans may need to be implemented, including but not limited to:
  - » Adjusted resource assignments based on availability (e.g., police only on reported vehicle crash until non-ambulatory injuries confirmed)
  - » Auto-answer and caller deferral to information/prescribing lines for non-emergency situations
  - » Recommending private transport when appropriate
  - » Changing to "closest hospital" transportation or "batch" transports
  - » Deferral of selected 911 requests for service
  - » Expanding "left at scene" discretion/guidelines
  - » Non-hospital destinations for appropriate patients
  - » Changes in staffing, crew configuration, and use of novel response structures ("jump cars", community paramedic response, etc.)
  - » Adoption of N95 respirator conservation or re-use strategies
- If EPA-registered hospital disinfectants become unavailable or are in short supply during a pandemic, consider dilute bleach solution as per CDC and WHO guidance listed below under Resources.
- Changes to 911 communications center protocols and EMS responses will require medical director and service director policy development and approval and may require local ordinance and state statutory relief. These policies and supporting governmental actions should be planned prior to an event that overwhelms EMS resources.

Resources/Special Considerations

RESOURCES

- **Collecting, Preserving and Shipping Specimens for the Diagnosis of Avian Influenza A(H5N1) Virus Infection Guide for Field Operations, Annex 7. Disinfection.**
- **Crisis Standards of Care: A Systems Framework for Catastrophic Disaster Response**
- **Crisis Standards of Care: A Toolkit for Indicators and Triggers**
- **EMS Pandemic Influenza Guidelines for Statewide Adoption**
- **Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008**

Resources/Special Considerations

PEDIATRIC ISSUES

- Children may be very fearful of caregivers in high-level PPE. Assure the ability to communicate with the child and explain what is happening and why in an age-appropriate manner.
- Caregivers who follow infectious precautions may be kept with the child if they wear appropriate PPE and have been providing care for the child during the current illness and there is no substantial risk of body fluid exposure during transport.
- Pediatric intravenous access can be difficult and the need for access must be balanced against the potential risk for needlesticks in the setting of potential blood-borne pathogens.
- Appropriate sizes of surgical masks should be available for children.
- Consider nasal/oral routes for analgesia and anxiolysis if intravenous access is not obtained.
- Assure that comfort objects (blanket, stuffed animal, etc.) can accompany the patient during transport.
- Do not avoid indicated procedures and medications for children simply because of a perceived risk of distress.
- Children are able to compensate for hypovolemia much better than adults by increasing their heart rate. However, hypotension and cardiovascular collapse can occur with little warning. Elevated heart rates can also be seen with fever, anxiety, and pain, making a determination of origin difficult. Assess perfusion, history, and other signs before assuming tachycardia is not related to early shock/sepsis.
- When possible, specialized EVD/VHF transport units should include agencies that routinely provide pediatric critical care interfacility transport.
- EVD commonly induces miscarriage. Providers should be aware of this issue and potential exposures and complications.
- Portable pediatric isolation transport units are available, but should only be used by personnel trained in their operation and limitations. The use of these units may significantly increase the patient's anxiety during transport.

RESOURCES

+ **Q&A's About the Transport of Pediatric Patients (<18 years of age) Under Investigation or with Confirmed Ebola**

Resources/Special Considerations

AEROMEDICAL TRANSPORT

Note: This section refers to domestic air medical transport providers only.

- Policies on rotor-wing and fixed-wing transport of potentially infectious patients should be in place in each agency including questions at the dispatch level and process to provide information to the crews. Careful consideration should be given to whether aeromedical transport is appropriate for the specific patient. This may include consultation with the service medical director.
- Assure dispatch provides sufficient information to anticipate potential infectious risks.
- Obtain patient information from origin hospital for mission planning including appropriate PPE, equipment, and medications.
- Contact destination hospital to assure appropriate reception planning including isolation room (if required) staff, cart, PPE, and traffic/patient movement plan.
- For flights involving interface with ground transport units, assure communications plan and confirm appropriately trained and equipped providers (define needs and role – driver only vs. assuming medical care) as well as special ambulance preparation if suspect EVD/VHF case. Maintain communications to verify arrival times.
- Provide information for ground unit or receiving hospital briefing as required.
- Assure records transfer occurs safely and that records are not contaminated (e.g., seal in zippered clear plastic bag which can be wiped with disinfectant prior to hand-off).
- See general patient care considerations for the specific infectious precautions above.
- Spill kit, alcohol-based hand disinfectant, suction, disposable rags, biohazard bags, and medical supplies should be organized similar to ground unit recommendations above for suspect EVD/VHF transports.
- For long duration flights, consider a chemical toilet for ambulatory patients.
- Aeromedical clinical personnel should carefully plan and use PPE similar to ground units.
- Aeromedical clinical personnel should carefully plan in-flight medical contingencies and have appropriate medications and equipment available to reduce contamination of non-required materials.

Resources/Special Considerations

- Intubation should be performed at the hospital of origin if there is any concern about existing or potential respiratory insufficiency. Rapid sequence techniques should be used (as opposed to sedation-only techniques) to mitigate possible generation of infectious aerosols.
- Intubated cases with suspected airborne, droplet, special respiratory, and EVD/VHF diseases should have a HEPA inline filter on the ventilator exhaust.
- Providers should anticipate altitude-dependent changes in pulmonary mechanics as well as oxygen delivery. If a patient is not able to maintain oxygenation prior to transport despite intubation, positioning, paralysis, and 100% oxygen delivery, medical control consultation should be obtained.
- Movement of known EVD patients must be reported to CDC/Federal Aviation Administration (FAA) due to Federal quarantine and isolation laws.
- Transports of suspect or confirmed EVD/VHF patients are typically performed by ground units, but air ambulance should be considered for long distances. To contain infected materials and minimize contamination of the aircraft, a portable isolation unit is recommended for air ambulance transport. Coordination with the public health authority may help to identify qualified air ambulances through HHS.
- Pilots in rotor-wing aircraft transporting non-intubated airborne or special respiratory precautions patients should wear an appropriately fitted N95 respirator.
- Aeromedical services should assure availability of medical control consultation during transport.

RESOURCES

- **Example: Standard Operating Procedure (SOP) for Air-to-Ground (Air-Ground) Patient Handoff**
- **Guidance on Air Medical Transport (AMT) for Patients with Ebola Virus Disease (EVD)**

Resources/Special Considerations

OCCUPATIONAL HEALTH/EXPOSURES

- Initial and ongoing training in the types of available PPE and demonstrated proficiency in donning and doffing of PPE is critical to worker safety.
- EMS personnel – both dispatch and responders – should be provided awareness and education about evolving diseases and known outbreaks in the community (e.g., high prevalence of active TB in shelter population, known norovirus outbreak in local nursing home population) and appropriate PPE to protect workers from these risks as part of usual operational processes.
- Significant blood and body fluid exposures should be reported immediately to a supervisor and medical evaluation ensured.
  - » Significant exposures for EMS include blood, bloody saliva or urine, amniotic fluid exposure to eyes, mucous membranes, non-intact skin or by needlestick or bites. Any contact with blood or body fluids of EVD/VHF patient may be significant and should prompt decontamination and appropriate reporting.
  - » Appropriate HIV and hepatitis screening/Hepatitis B antibody serology should be available whenever indicated.
  - » Anti-HIV prophylaxis should be available whenever indicated.
  - » An infection prevention and control provider should be available for consultation by the agency as needed.
- Contaminated clothing should be washed or discarded in accordance with disease-specific guidelines, generally with hot water, usual detergent, and the addition of household bleach. Discarding contaminated clothing is preferred when dealing with special pathogens.
- Higher levels of PPE cause increased heat stress as well as increased motor limitations that may lead to injury. These factors should be considered when determining the duties and duration of work while wearing the PPE ensemble.
- Responders should be fit and free of acute illness.

Resources/Special Considerations

- HCWs should be medically monitored after providing care to a confirmed special pathogen case, even in the absence of a recognized exposure, for subjective illness and fever for the duration of the incubation period to ensure that any developing illness is recognized and swiftly evaluated. TB, hepatitis, and other exposures may require interval employee testing.
- EMS agencies should consider policies ensuring twice daily contact with exposed personnel to discuss potential symptoms and document fever checks for special pathogens.
- Any HCW who develops signs of illness should not report to work or should immediately stop working and notify their supervisor.
  - » Prompt medical evaluation should be arranged and notification of local and state health departments.
- HCW should be assessed regarding possibility of post-exposure prophylaxis or treatment depending on the agent and exposure. Post-exposure prophylaxis is seldom indicated with the exception of direct contact with patients confirmed to have Neisseria meningitidis or after a needlestick or other high risk exposure to an HIV positive source patient. Prophylaxis may be considered in unprotected exposures to a novel influenza virus. In selected situations vaccination may be indicated after a viral exposure (e.g., smallpox, EVD).
- EMS agencies should consider standardizing pre-exposure immunization requirements for personnel in accordance with public health vaccination recommendations.
- Behavioral health effects on responders exposed to or caring for a patient with a rare and highly infectious disease are likely substantial. Provision of support, resources, and appropriate follow up is required to improve resiliency. Repeated exposures or a prolonged incident will increase risks of behavioral health consequences.
- Patients suspected of having a contagious disease, particularly one associated with high mortality or stigma, will have significant behavioral health consequences that must be addressed through reassurance, provision of support, timely and accurate information about their condition as well as normal responses to isolation and stress, and access to more specialized and culturally-specific behavioral health follow-up and resources.

Resources/Special Considerations

In case of PPE breach for EVD/VHF precautions:

- Move immediately away from sources of contamination to an area where the breach can be evaluated and doffing of PPE is possible.
- Assess the nature of the breach.
- Assess the risk of exposure to skin and mucous membranes.
- Any exposed skin should be washed thoroughly with soap and water, after which an ABHR can also be used. Care should be taken not to abrade or damage the skin.
- Exposed mucous membranes should be flushed thoroughly with water.
- Bleach solutions are not recommended for cleansing of skin as they may damage the protective outer layer of the skin.
- Supervisory personnel, occupational health, and public health authorities must be informed immediately in the case of exposure to bodily fluids.
- HCW should be assessed for the possibility of post-exposure prophylaxis or vaccination.

RESOURCES

- **Blood/Body Fluid Exposure Option**
- **Bloodborne Infectious Diseases: HIV/AIDS, Hepatitis B, Hepatitis C**
- **Bloodborne Pathogens and Needlestick Prevention**
- **Ryan White HIV/AIDS Treatment Extension Act of 2009**
- **Updated US Public Health Service Guidelines for the Management of Occupational Exposure to Human Immunodeficiency Virus and Recommendations for Postexposure Prophylaxis**

References and resources

American Medical Response. (2014). Ebola Patient Preparation for Transport, Patient Movement, and Decontamination Procedures.

This document provides AMR's protocol for ambulance preparation, patient movement, and decontamination.

CDC. (2007). 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings.

This document provides infection control guidelines for healthcare settings across the continuum of care.

CDC. (2007). 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings, Appendix A.

Though somewhat dated, this table provides a good association of selected infections and conditions with the type and duration of precautions. Note that EMS will not have a diagnosis to work with at the time of the encounter and will need to be conservative when assessing risk.

CDC. (2013). Blood/Body Fluid Exposure Option.

This document assists healthcare facilities in recording HCW bloodborne pathogen exposures and their management.

CDC. (2015). Ebola-Associated Waste Management.

The information on this webpage helps healthcare providers and facility staff safely handle, transport, and dispose of waste associated with the care of patients with suspected or confirmed EVD.

CDC. (2015). Ebola (Ebola Virus Disease): U.S. Healthcare Workers and Settings.

This webpage provides a variety of general resources for HCWs who may manage patients with EVD.

CDC. (2016). Example: Standard Operating Procedure (SOP) for Air-to-Ground (Air-Ground) Patient Handoff.

This sample SOP is intended to enable the successful handoff of patients between air and ground ambulance agencies.

References and resources

CDC. (2016). Example: Standard Operating Procedure (SOP) for Decontamination of an Ambulance that has Transported a Person Under Investigation or Patient with Confirmed Ebola.

This sample SOP is intended to assist EMS agencies in standardizing procedures and responsibilities related to the decontamination and disinfection of ambulances used to transport patients with EVD.

CDC. (2016). Example: Standard Operating Procedure (SOP) for Patient Handoff between a Healthcare Facility and a Transporting Ambulance.

This sample SOP is intended to enable planning between an EMS agency and healthcare facility on the handoff of patients with serious communicable diseases.

CDC. (2015). For U.S. Healthcare Settings: Donning and Doffing Personal Protective Equipment (PPE) for Evaluating Persons Under Investigation (PUIs) for Ebola Who Are Clinically Stable and Do Not Have Bleeding, Vomiting, or Diarrhea.

This document provides guidance to healthcare workers on donning and doffing personal protective equipment while evaluating a clinically stable person under investigation who does not have bleeding, vomiting, or diarrhea.

CDC. (2012). Frequently Asked Questions about Clostridium difficile for Healthcare Providers.

This webpage provides answers to frequently asked questions related to C. difficile.

CDC. (2015). Frequently Asked Questions for Guidance on Personal Protective Equipment to be Used by Healthcare Workers During Management of Patients with Confirmed Ebola or Persons Under Investigation (PUI) for Ebola Who are Clinically Unstable or have Bleeding, Vomiting or Diarrhea in U.S. Hospitals, Including Procedures for Donning and Doffing.

This guidance answers frequently asked questions on topics such as the type of PPE to be worn in various situations, training resources, characteristics of different PPE items, donning and doffing protocols, and management of supplies.

CDC. (2015). Guidance on Air Medical Transport (AMT) for Patients with Ebola Virus Disease (EVD).

This document provides guidance to air medical transport services on the safe transportation of patients with EVD.

References and resources

CDC. (2015). Guidance on Personal Protective Equipment (PPE) To Be Used by Healthcare Workers During Management of Patients with Confirmed Ebola or Persons Under Investigation (PUIs) for Ebola Who Are Clinically Unstable or Have Bleeding, Vomiting, or Diarrhea in U.S. Hospitals, Including Procedures for Donning and Doffing PPE.

This CDC webpage includes guidance on the types of PPE that should be used by those caring for patients with Ebola. It also includes steps for donning and doffing PPE as well as what trained observers should do to ensure these steps are followed.

CDC. (2007). Part III: Precautions to Prevent Transmission of Infectious Agents.

This section of the 2007 Guideline for Isolation Precautions describes the circumstances under which each type of infection control precaution is applied.

CDC. (n.d.). Guideline for Disinfection and Sterilization in Healthcare Facilities (2008).

This guidance provides an overview of performance characteristics of various disinfectants to assist in selection.

CDC. (2015). Identify, Isolate, Inform: Emergency Medical Services (EMS) Systems and 9-1-1 Public Safety Answering Points (PSAPs) for Management of Patients Who Present with Possible Ebola Virus Disease (Ebola) in the United States.

Though somewhat dated, this algorithm provides the steps that emergency medical service providers can take when providing patient care in the field to those with Ebola. The resource also lists steps for decontaminating transport vehicles.

CDC. (2015). Interim Guidance for Emergency Medical Services (EMS) Systems and 9-1-1 Public Safety Answering Points (PSAPs) for Management of Patients Under Investigation (PUIs) for Ebola Virus Disease in the United States.

This guidance complements the Identify, Isolate, Inform algorithm by providing additional detail on the steps EMS providers should take when caring for a patient under investigation for Ebola.

CDC. (2016). Interim Guidance for Infection Control within Healthcare Settings When Caring for Confirmed Cases, Probable Cases, and Cases under Investigation with Novel Influenza A Viruses Associated with Severe Disease.

This webpage provides guidance on avian influenza A (H7N9), Asian H5N1, and newly detected avian influenza H5 viruses in the U.S.

CDC. (2016). Middle East Respiratory Syndrome (MERS).

This page offers two checklists and other tools to assist HCWs and facilities in preparing for MERS.

References and resources

CDC. (2015). Q&A's About the Transport of Pediatric Patients (<18 years of age) Under Investigation or with Confirmed Ebola.

This webpage provides first responders with information to help protect themselves, younger patients, and patients' family members by answering the most frequently asked questions.

CDC. (2014). Quarantine Station Contact List, Map, and Fact Sheets.

This page provides information on the 20 CDC quarantine stations.

Domestic Resilience Group. (2017). Interim – Planning Guidance for the Handling of Solid Waste Contaminated with a Category A Infectious Substance.

This federal inter-agency guidance approved by the Domestic Resilience Group of the National Security Council is for the safe handling of Category A contaminated solid waste.

Environmental Protection Agency. (n.d.). List L: Disinfectants for Use Against the Ebola Virus.

The EPA lists products that meet the CDC's criteria for use against the Ebola virus on hard, non-porous surfaces. Products are listed by name and indicate whether they are approved for use in hospital/healthcare facilities, institutions such as schools and offices, and residences.

Environmental Protection Agency. (2016). Selected EPA-Registered Disinfectants.

This webpage lists antimicrobials registered by EPA as effective against a variety of pathogens.

InterAgency Board for Equipment Standardization and Interoperability. (2014). Recommendations on Selection and Use of Personal Protective Equipment for First Responders against Ebola Exposure Hazards.

The InterAgency Board for Equipment Standardization and Interoperability reviewed current U.S. government guidance related to PPE in order to develop recommendations for first responders on PPE selection and decontamination. The recommendations include descriptions of PPE items for high and low risk exposures and detailed specifications/standards for recommended PPE.

International Academies of Emergency Dispatch. (2014). Emerging Infectious Disease Surveillance Tool (SRI/MERS/Ebola).

This protocol is intended to guide the response of EMS agencies to a patient with a potential emerging infectious disease.

References and resources

Isakov, A., Miles, W., Gibbs, S., et al. (2015). Transport and Management of Patients with Confirmed Ebola Virus Disease. Annals of Emergency Medicine. 66(3):297-305.

This article describes the partnerships between hospitals and EMS agencies in Nebraska and Georgia to develop policies and practices ensuring the safe transport and management of patients with serious communicable diseases.

Kuhar, D., Henderson, D., Struble, K., et al. (2013). Updated US Public Health Service Guidelines for the Management of Occupational Exposure to Human Immunodeficiency Virus and Recommendations for Postexposure Prophylaxis. Infection Control and Hospital Epidemiology. 34(9):875-892.

This document provides recommendations on the management of HCWs with occupational exposure to blood or other body fluids possibly containing HIV.

Lowe, J., Jelden, K., Schenarts, P., et al. (2014). Considerations for Safe Transport of Patients Infected with Ebola Virus. Prehospital Emergency Care. 19(2).

This article discusses the coordinated response between the Nebraska Biocontainment Unit and Omaha Fire Department EMS to transport patients with confirmed EVD from West Africa from the airport to the high-level isolation unit.

The National Academies of Science, Engineering, and Medicine. (2012). Crisis Standards of Care: A Systems Framework for Catastrophic Disaster Response.

This report provides a foundation for the underlying principles of crisis standards of care, the steps needed for implementation, and the pillars of the emergency response system that ensures crisis standards of care planning and response occurs.

The National Academies of Science, Engineering, and Medicine. (2013). Crisis Standards of Care: A Toolkit for Indicators and Triggers.

This toolkit includes indictors, triggers, and tactics for EMS pandemic planning in Toolkit Part 2: Emergency Medical Services, pages 145-158.

National Association of County and City Health Officials. (n.d.). Building Workforce Resilience through the Practice of Psychological First Aid – A Course for Supervisors and Leaders.

This resource helps planners, supervisors, and responders consider how to support their workforce during times of increased stress and disruption. Encouraging leaders and supervisors to take this training prior to an adverse event, such as an infectious disease outbreak, will better prepare them to support their staff should an emergency or distressing incident occur.

References and resources

The National Institute for Occupational Safety and Health. (2016). Bloodborne Infectious Diseases: HIV/AIDS, Hepatitis B, Hepatitis C.

This webpage includes various resources for HCWs potentially exposed to a bloodborne infectious disease through a needlestick or sharps injury.

The National Institute for Occupational Safety and Health. (n.d.). Considerations for Selecting Protective Clothing used in Healthcare for Protection against Microorganisms in Blood and Body Fluids.

This webpage provides considerations for the selection of PPE items based on their barrier properties and includes links to current standards and specifications for fluid-resistant and impermeable gowns and coveralls.

Occupational Safety and Health Administration. (n.d.). Bloodborne Pathogens Standards, 29 CFR 1910.1030.

This page contains the regulatory language for the bloodborne pathogens standard.

Occupational Safety and Health Administration. (2009). Pandemic Influenza Preparedness and Response Guidance for Healthcare Workers and Healthcare Employers.

This document provides an overview of infection control and other standards appropriate for pandemic influenza.

Occupational Safety and Health Administration. (2014). PPE Selection Matrix for Occupational Exposure to Ebola Virus.

The U.S. Department of Labor shares information on the type of PPE to be worn in various situations (e.g., normal work activities, casual interaction, providing medical and supportive care, cleaning and disinfecting environments, and dealing with waste).

Occupational Safety and Health Administration. (n.d.). Respiratory Protection Standards.

This page contains standards on respirators, respiratory protection, and the medical evaluation program.

Occupational Safety and Health Administration. (2016). Safe Handling, Treatment, Transport, and Disposal of Ebola-Contaminated Waste.

This fact sheet provides a step-by-step summary of actions workers should take from the point Ebola-contaminated waste is generated through final disposal.

References and resources

Sehulster, L. and Chinn, R. (2003). Guidelines for Environmental Infection Control in Health-Care Facilities: Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC). Morbidity and Mortality Weekly Report. 52(RR10):1-42.

This report provides recommendations for environmental infection control in healthcare facilities. Note that an erratum to this report is also available.

U.S. Department of Health and Human Services, Office of the Assistant Secretary for Preparedness and Response. (2015). Air to Ground Transport Fact Sheet: Planning Considerations When Developing Standard Operating Procedures for the Transfer of an Ebola (or Other Highly Infectious Disease) Patient from/to an Air Transport Provider to/from a Ground Transport Provider.

This fact sheet helps transport providers and healthcare facilities develop SOPs for air-to-ground transfers of EVD patients. It focuses on six elements for consideration: securing and preparing the ground unit(s), communicating with state and local government partners, identifying and resolving airfield issues, securing an appropriate protective force, identifying and resolving travel route issues, and managing public and media communications.

U.S. Department of Health and Human Services and U.S Department of Transportation. (n.d.). Guidance for Developing a Plan for Interfacility Transport of Persons Under Investigation or Confirmed Patients with Ebola Virus Disease in the United States.

This guidance is intended to support EMS agencies in the development of plans and procedures for the interfacility transport of suspected or confirmed Ebola patients.

U.S. Department of Transportation. (2007). EMS Pandemic Influenza Guidelines for Statewide Adoption.

This document provides guidance to EMS agencies on the development of pandemic influenza plans and protocols. While the document precedes the 2009 H1N1 pandemic it is still the most comprehensive planning resource for EMS.

World Health Organization. (2006). Collecting, Preserving and Shipping Specimens for the Diagnosis of Avian Influenza A(H5N1) Virus Infection Guide for Field Operations: Annex 7. Disinfection.

This guide provides information on the preparation of chlorine bleach solutions for disinfection purposes.

World Health Organization. (2007). Standard Precautions in Health Care.

This fact sheet provides healthcare facility recommendations for standard precautions.

Index of abbreviations

ABHR	alcohol-based hand rub
AIDS	acquired immune deficiency syndrome
AIIR	airborne infection isolation room
ALS	advanced life support
ASPR	Office of the Assistant Secretary for Preparedness and Response
BiPAP	bilevel positive airway pressure
BLS	basic life support
BP	blood pressure
CAD	computer aided dispatch
CDC	Centers for Disease Control and Prevention
CPAP	continuous positive airway pressure
CPR	cardiopulmonary resuscitation
EMD	emergency medical dispatcher
EMS	emergency medical services
EMT	emergency medical technician
EPA	Environmental Protection Agency
EVD	Ebola virus disease
ETA	estimated time of arrival
FAA	Federal Aviation Administration
GI	gastrointestinal
HCW	health care worker
HEPA	high-efficiency particulate air
HHS	U.S. Department of Health and Human Services
HIV	human immunodeficiency virus
MERS	Middle East Respiratory Syndrome
MRSA	Methicillin-resistant Staphylococcus aureus
NIH	National Institutes of Health
NIOSH	National Institute for Occupational Safety and Health
PAPR	powered air-purifying respirator
PPE	personal protective equipment
PSAP	public safety answering point
RSV	respiratory syncytial virus
SARS	severe acute respiratory syndrome
SOP	standard operating procedure
TB	tuberculosis
TRACIE	Technical Resources, Assistance Center, and Information Exchange
VHF	viral hemorrhagic fever
VRE	Vancomycin-resistant enterococci

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mn.gov/emsrb

March 19, 2020 - Emergency Suspension of Ambulance Service Requirement

What does this mean?

On March 13, 2020, Governor Tim Walz declared a peacetime emergency. On March 16, 2020, the Executive Council of the State of Minnesota voted to extend the peacetime emergency declaration for thirty (30) days. For this reason, Minnesota Statutes section 144E.266 remains in effect.

The mission of the EMSRB is to protect the public's health and safety through regulation and support of the EMS system. ***During this declared emergency, normal operations should be maintained whenever possible.*** *However, operations may be modified as outlined below, when necessary.* ***If you have questions, please send them to the the EMSRB at emsrb@state.mn.us***

M.S. 144E.101 Subdivision 1: Personnel
What does this mean? An ambulance service should staff their ambulance with the highest trained personnel available to respond for service.

- *This may mean, under suspension of this statute, a responder may have no certification.*

M.S. 144E.101 Subdivision 2: Patient care
What does this mean? Please see the definition of personnel in subdivision 1

M.S. 144E.101 Subdivision 3: Continual Service
What does this mean? If an ambulance service is unable to provide services 24 hours each day, they are not obligated to do so, however 144E.101 Subdivision 4 has not been suspended and no patient shall be denied prehospital care…

M.S. 144E.101 Subdivisions 6 through 9: Basic Life Support, Advanced Life Support, Part-Time Advanced Life Support, Specialized Life Support
What does this mean? This suspends the definition of level of licensed ambulance services and removes restrictions as to what type of care you are required to provide.

M.S. 144E.101 Subdivision 10: Driver
What does this mean? This suspends the need for the driver of an ambulance to complete an emergency driving course prior to driving the ambulance.

- *This may mean, you can utilize civilian drivers.*
- *Other statutes related to driving an emergency vehicle may not be suspended.*

M.S. 144E.101 Subdivision 11: Personnel roster and files
What does this mean? While you are not required to have two people on a written on-call schedule, if you are able to maintain regular operations, you should do so.

M.S. 144E.101 Subdivision 13. Service outside primary service area

What does this mean? This suspends the defined primary service areas in the State of Minnesota.

M.S. 144.103 Equipment
What does this mean? This suspends the requirements to carry specific equipment related to your ambulance service. All maintenance, sanitation, storage, and testing of equipment, supplies, and drug requirements are also suspended.

- *Expired items may be used, please refer to the CDC Guidance for EMS*

M.S. 144E.121 Air Ambulance Service Requirements
What does this mean? This suspends all air ambulance requirements, please direct specific questions to the EMSRB.

M.S. 144E.123 Prehospital Care Data
What does this mean? This suspends all prehospital care data requirements.
While this suspends the requirements to collect and report data, please maintain operations as much as possible.

M.S. 144E.127 Interhospital; Interfacility Transfer
What does this mean? This suspends the staffing requirements for interfacility transfers.

# # #

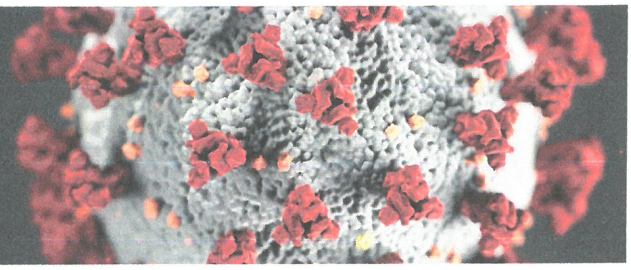
COVID-19 Planning Considerations for Fire Departments

March 13, 2020

The following is a checklist of items to consider for your fire department. These may be helpful to create or modify policies, procedures, and guidelines.

On March 13, 2020, the MSFCA has created a Task Force to assist with statewide coordination, collaboration, and communication on fire service issues related to COVID-19. You may contact the Task Force directly via e-mail at COVID19@MSFCA.org.

- **Follow MN Department of Health / CDC Guidelines**
  - Monitor various sources regularly to stay in touch with changing situations.
- **Coordinate with local Public Health Department and local Emergency Management**
- **Administration**
  - Supply chain is disrupted for supplies. Consider supply needs for day-to-day operations and plan into the future.
  - Send updates to staff about your specific operations.
    - Be clear with how this is being done.
  - Send reminders to staff.
    - Reminder to staff on handwashing.
    - Reminder to staff to stay home if sick.
- **Documentation**
  - Create an incident log to document significant activity on a daily basis.
  - Keep track of all items purchased for this situation/event.
  - Keep track of any significant overtime for this situation/event.
  - Consider working with your finance department to create a specific finance account for tracking all costs.
- **PPE**
  - Assure you have the necessary PPE for your fire department to respond to medical events.
    - Eye Protection
    - N95 or equivalent mask
    - Gloves
    - Gowns/Suits



- Wear PPE appropriate for the incident response.
- *With limited supply of some PPE items, CONSERVE YOUR PPE ITEMS!*
  - You will likely need to get more than 1 use out of the PPE items such as masks, goggles, gowns, etc.
- Masks and gowns that have been contaminated with splash or significant fluids should be discarded.
- Goggles that have been contaminated with splash or significant fluids should be cleaned.

- **Communications / Dispatch**
  - Ask your dispatch center if they are implementing questions about travel and illness to help you prepare in your response.

- **Operations / Response**
  - Connect with your EMS provider to talk about response alterations.
    - Consider sending only 1 person in for an evaluation (police or fire)
    - Consider threshold evaluations – from the doorstep.
    - May not respond on flu like symptoms calls.
  - Consider response changes for decreased staffing levels in your department
  - Consider changes to regional response.

- **Stations**
  - Consider additional cleaning in high use areas.
    - Crew rooms, lounge, kitchen, etc.
  - Consider hardening your fire stations.
    - Limit access to stations – retired, vendors, outside agencies, etc.

- **Personal Preparedness**
  - Have a plan for home. Use www.ready.gov to assist with planning information needs at home.

COVID-19 Planning Considerations for Fire Departments

March 13, 2020

The following is a checklist of items to consider for your fire department. These may be helpful to create or modify policies, procedures, and guidelines.

On March 13, 2020, the MSFCA has created a Task Force to assist with statewide coordination, collaboration, and communication on fire service issues related to COVID-19. You may contact the Task Force directly via e-mail at COVID19@MSFCA.org.

- **Follow MN Department of Health / CDC Guidelines**
  - Monitor various sources regularly to stay in touch with changing situations.

- **Coordinate with local Public Health Department and local Emergency Management**

- **Administration**
  - Supply chain is disrupted for supplies. Consider supply needs for day-to-day operations and plan into the future.
  - Send updates to staff about your specific operations.
    - Be clear with how this is being done.
  - Send reminders to staff.
    - Reminder to staff on handwashing.
    - Reminder to staff to stay home if sick.

- **Documentation**
  - Create an incident log to document significant activity on a daily basis.
  - Keep track of all items purchased for this situation/event.
  - Keep track of any significant overtime for this situation/event.
  - Consider working with your finance department to create a specific finance account for tracking all costs.

- **PPE**
  - Assure you have the necessary PPE for your fire department to respond to medical events.
    - Eye Protection
    - N95 or equivalent mask

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        - Gloves
        - Gowns/Suits
    - Wear PPE appropriate for the incident response.
    - *With limited supply of some PPE items, CONSERVE YOUR PPE ITEMS!*
        - You will likely need to get more than 1 use out of the PPE items such as masks, goggles, gowns, etc.
    - Masks and gowns that have been contaminated with splash or significant fluids should be discarded.
    - Goggles that have been contaminated with splash or significant fluids should be cleaned.

- **Communications / Dispatch**
    - Ask your dispatch center if they are implementing questions about travel and illness to help you prepare in your response.

- **Operations / Response**
    - Connect with your EMS provider to talk about response alterations.
        - Consider sending only 1 person in for an evaluation (police or fire)
        - Consider threshold evaluations – from the doorstep.
        - May not respond on flu like symptoms calls.
    - Consider response changes for decreased staffing levels in your department
    - Consider changes to regional response.

- **Stations**
    - Consider additional cleaning in high use areas.
        - Crew rooms, lounge, kitchen, etc.
    - Consider hardening your fire stations.
        - Limit access to stations – retired, vendors, outside agencies, etc.

- **Personal Preparedness**
    - Have a plan for home. Use www.ready.gov to assist with planning information needs at home.

STEVE SOYKA
SHERIFF

DAN MILLER
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SHERIFF
STEARNS COUNTY

March 16, 2020

A Message from Sheriff Soyka:

The Stearns County Sheriff's Office is taking necessary steps to reduce and mitigate potential risk of exposure to and the spread of COVID-19. These steps take the form of change in operational procedures and affect several divisions of the Sheriff's Office. The public should know and expect the level of service in respect to public safety and enforcing the law are unchanged.

Changes to jail operations consist of the following:

- Cancellation of all outside programming for jail inmates
- Cancellation of all jail visiting hours for inmates
- Initial health screening of all incoming arrests in jail garage prior to introducing anyone into the jail facility
- The possibility of initial court hearings being heard via closed circuit television instead of appearing physically in court.

These changes are done to reduce the introduction of outside parties to the Law Enforcement Center (LEC) and to reduce the likelihood of someone with possible COVID-19 introducing it into the jail population or to staff.

Jail programming staff will be working on enhanced programming for inmates considering no visits and each inmate will be provided with 20 free minutes per week of phone usage regardless of whether they were already involved in the jail telephone program.

While these changes may not be popular with some, they are a proactive response to protecting our inmates, the citizens, and our staff as best we can.

Changes the public may see in regard to Communications and Patrol operations include:

- Conducting health screenings over the phone on all medical type calls to provide first responders with vital information for treating patients
- Offering the public the choice of meeting with an officer or talking to an officer over the phone on all non-criminal, non-investigative complaints
- Officers talking to the public outside or in open spaces to provide the recommended social distancing during calls.

While deputies and other first responders are not always able to conduct the social distancing due to the nature of calls for service, every effort will be made to try and do so. All criminal and in progress type calls will still get the same level of response as we were currently doing.

As the COVID-19 pandemic changes every day, the Sheriff's Office intends to keep these protocols in place for up to 30 days with weekly reviews and analysis of each step.

These are unprecedented times in Minnesota in dealing with the COVID-19 situation and the implications can be far-reaching. The Sheriff's Office is committed to maintaining and providing a constant presence and level of service to the public during this pandemic.

Healthcare Professional Preparedness Checklist For Transport and Arrival of Patients With Confirmed or Possible COVID-19

Front-line healthcare personnel in the United States should be prepared to evaluate patients for coronavirus disease 2019 (COVID-19). The following checklist highlights key steps for healthcare personnel in preparation for transport and arrival of patients with confirmed or possible COVID-19.

Stay up to date on the latest information about signs and symptoms, diagnostic testing, and case definitions for coronavirus disease 2019.

Review your infection prevention and control policies and CDC infection control recommendations for COVID-19 for:

- Assessment and triage of patients with acute respiratory symptoms ☐
- Patient placement ☐
- Implementation of Standard, Contact, and Airborne Precautions, including the use of eye protection ☐
- Visitor management and exclusion ☐
- Source control measures for patients (e.g., put facemask on suspect patients) ☐
- Requirements for performing aerosol generating procedures ☐
- Be alert for patients who meet the persons under investigation (PUI) definition ☐
- Know how to report a potential COVID-19 case or exposure to facility infection control leads and public health officials. ☐
- Know who, when, and how to seek evaluation by occupational health following an unprotected exposure (i.e., not wearing recommended PPE) to a suspected or confirmed coronavirus disease 2019 patient. ☐
- Remain at home, and notify occupational health services, if you are ill. ☐
- Know how to contact and receive information from your state or local public health agency. ☐