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Guidance for Emergency Medical Services (EMS) Personnel when Responding to and/or Transporting a Person Who May be Infected with a Novel or Avian Influenza Virus

Effective communication among clinicians requesting emergency transport of a patient with possible or known novel or avian influenza disease, EMS personnel, and receiving facilities is necessary to ensure the appropriate protection of healthcare workers. When novel influenza or avian influenza is suspected in a patient needing emergency transport, whenever possible **prehospital/EMS care providers and healthcare facilities should be notified in advance** that they may be transporting or receiving a patient who may have novel or avian influenza disease.

Precautions:

- Standard, contact, and airborne
 - Hand hygiene
 - Gloves
 - Impermeable gown
 - Eye protection (goggles/ face shield)
 - N-95 respirator or higher-level respirator
 - N-95 respirator: personnel must be fit tested
 - Personnel in the driver's compartment who will have no direct patient contact should wear an N-95 or higher-level respirator during transport, in addition to personnel with direct patient contact.

Transport:

- Involve the fewest EMS personnel required to minimize possible exposures.
- Family members and other contacts of the patient should not ride in the ambulance if possible. If necessary, they should be evaluated for fever and respiratory symptoms and, if either is present, asked to wear a surgical or procedure mask when riding in the vehicle.
- It is very difficult to create negative pressure in a vehicle but here are some options:
 - When possible, use vehicles that have separate 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. Set the vehicle's ventilation system to the non-recirculating mode to maximize the volume of outside air brought into 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 ACH ([NIOSH HETA report 95-0031-2601\[12 pages\]](#)).

- If a vehicle without separate compartments 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.
- Place a surgical mask on the patient to contain droplets expelled during coughing. If this is not possible (i.e., would further compromise respiratory status, difficult for the patient to wear), have the patient cover the mouth/nose with tissue when coughing.
- Oxygen delivery with a non-rebreather face mask may be used to provide oxygen support during transport. If needed, positive-pressure ventilation should be performed using a resuscitation bag-valve mask, preferably one equipped to provide HEPA or equivalent filtration of expired air.
- If a patient has been mechanically ventilated before transport, HEPA or equivalent filtration of airflow exhaust should be available. (EMS organizations should consult their ventilator equipment manufacturer to confirm appropriate filtration capability and the effect of filtration on positive-pressure ventilation.)
- Cough-generating procedures (e.g., mechanical ventilation, nebulizer treatment) should be avoided during prehospital care.
- Notify the receiving facility that the patient is suspected to have a novel/avian influenza infection.

Other Activities for EMS:

- Avoid touching one's face with contaminated gloves.
- Avoid unnecessary touching of surfaces in the ambulance vehicle.
- Arrange for the receiving facility staff to meet the patient at the ambulance door to limit the need for EMS personnel to enter the emergency department in contaminated PPE. (It may not be practical to change PPE before patient transfer into the facility.)
 - Remove and discard PPE after transferring the patient at the receiving facility and perform hand hygiene.
 - Treat used disposable PPE as medical waste.

Post Transport Management of the Contaminated Vehicle

- Follow standard operating procedures for the containment and disposal of regulated medical waste.
- Follow standard operating procedures for containing and reprocessing used linen.
 - Wear appropriate PPE when removing soiled linen from the vehicle.
 - Avoid shaking the linen.
- Clean and disinfect the vehicle in accordance with standard operating procedures.
 - Personnel performing the cleaning should wear: gloves, impermeable gown, eye protection, and an N-95 respirator.
 - PPE should be discarded after use.
 - 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 disinfectant in accordance with manufacturer's recommendations.
- Clean and disinfect reusable patient-care equipment according to manufacturer's instructions.