Special Pathogens and the Intensive Care Unit



Special pathogens

(SPs) are infections that are both contagious and dangerous to ICU staff, including novel influenza strains (e.g., H5N1), viral hemorrhagic fevers (e.g., Ebola virus disease/viral hemorrhagic fever [EVD/VHF]), smallpox, and newly emerging infections.

Early recognition of patients who may be infected with an SP can help healthcare professionals protect themselves while caring for these patients.

Scan the QR code to find detailed information from the National Emerging Special Pathogens Training and Education Center for ICUs.



Initial Evaluation



- Patients should be screened for exposures within the past 21 days (sick contacts, international travel), especially during known outbreaks.
- Look for evidence of communicable disease (fever, rash, cough, gastrointestinal symptoms).
- Patients with a suspected SP should have a surgical mask placed over the face or oxygen delivery device, if tolerated, and isolated from other patients.
- Public health notification of a patient with a suspected SP should occur promptly via the hospital's incident command system or other formal mechanism.
- Coordinate diagnostic testing with local and state public health services.

Patient Care

- Patients should be in single rooms, preferably with negative pressure.
- Establish **cold, warm, and hot zones** around patient care area.
- Dedicated and trained staff only. Minimize room entry.
- Screen for exposures to outbreak areas or sick persons within the past 21 days.
- If not already done, notify ICU manager and infection prevention promptly for patients with a suspected SP.
- Fluid resuscitation is a priority for EVD/VHF.
- In many patients, there is a low threshold for treating bacterial superinfection and screening for malaria.
- Point-of-care ultrasound can reduce exposure for radiology staff.
- Videolaryngoscopy is preferred for intubation.
- Ensure that there is a surgical mask on nonintubated patients (over the oxygen delivery device, if tolerated) during transport.
- Rooms and patient care items such as stethoscopes and blood pressure cuffs must be decontaminated after use.
- Consider early transfer to a dedicated receiving or treatment center for a patient with a suspected SP: https://netec.org/about-netec/partners-regional-contacts

Personal Protective Equipment

- · Multiple types exist for different SPs.
- Use checklists to ensure safety (especially for EVD/VHF).
- Understand and drill in different forms of PPE to ensure your own safety and minimize delays in care.
- Avoid direct contact until proper PPE is donned.
- Hand hygiene with soap and water is preferred for many SPs.
- **Doffing for suspected EVD/VHF is a high-risk activity** and must be done in a dedicated PPE removal area.
- Items marked below with an asterisk (*) may be appropriate in some circumstances but are never wrong to use if uncertain.

Level of precaution	Components	Diseases
Standard	Gloves *Eye protection *Surgical mask	All patient contact involving body fluids or non-intact skin
Contact	GlovesImpermeable gown*Eye protection*Surgical mask	Infectious diarrheaDraining woundsScabies and liceRSV
Droplet	Surgical maskEye protectionGloves*N95 (optional)	 Meningitis Most respiratory infections (viruses, pneumonias)
Airborne	N95 or PAPREye protectionGloves	TuberculosisChickenpoxMeasles
Special respiratory	N95 or PAPRImpermeable gownEye protectionGloves	 COVID-19 Novel influenza, e.g., H5N1 MERS Mpox Smallpox
EVD/VHF	 N95 or PAPR Impermeable gown Eye protection (face shield) Double gloves Shoe coverings 	VHF, e.g., Ebola, Marburg







