NSPS Region 5 RESPTC

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University of Minnesota Medical Center

HCID Skills for Hospital Response

March 2026

Introductions

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Erika started her infection prevention career in 2020 at Corewell Health where she now is the primary infection prevention specialist working with RESPTC. She also oversees key improvements related to Cdiff and Construction.

Ryan Thatcher, MSN, RN, CMSRN – Special Pathogen Clinical Educator Corewell Health – Butterworth & Helen DeVos Children's Hospital

Ryan has worked in nursing for 19 years. His clinical experience includes Military, ED, MS, Healthcare Compliance, and Education. He is the clinical educator for the RESPTC at Corewell Health.

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Learning Objectives

- Demonstrate an understanding of the National Special Pathogens System (NSPS).
- Define the Identify, Isolate, Inform Process.
- Identify considerations needed for Waste Management of Category A waste.
- Describe the appropriate PPE to use and breach management process.

NSPS and RESPTC Overview

NSPS Overview

What is the NSPS?

The National Special Pathogen System (NSPS) is a tiered System of Care with four facility levels (e.g., Level 1, Level 2, Level 3, Level 4) that have increasing capabilities to care for suspected or confirmed patients with High Consequence Infectious Diseases (HCIDs).

High Consequence Infectious Disease

What is an HCID?

- *Often referred to as a special pathogen.*
- *High mortality rate*
- *High person to person transmission*
- *Great potential to disrupt public health*
- *Requires specialized response*
- *Limited or no treatment options*

High Consequence Infectious Disease

Examples

Viral Hemorrhagic Fevers

- Ebola
- Lassa Fever
- Crimean-Congo
- Marburg

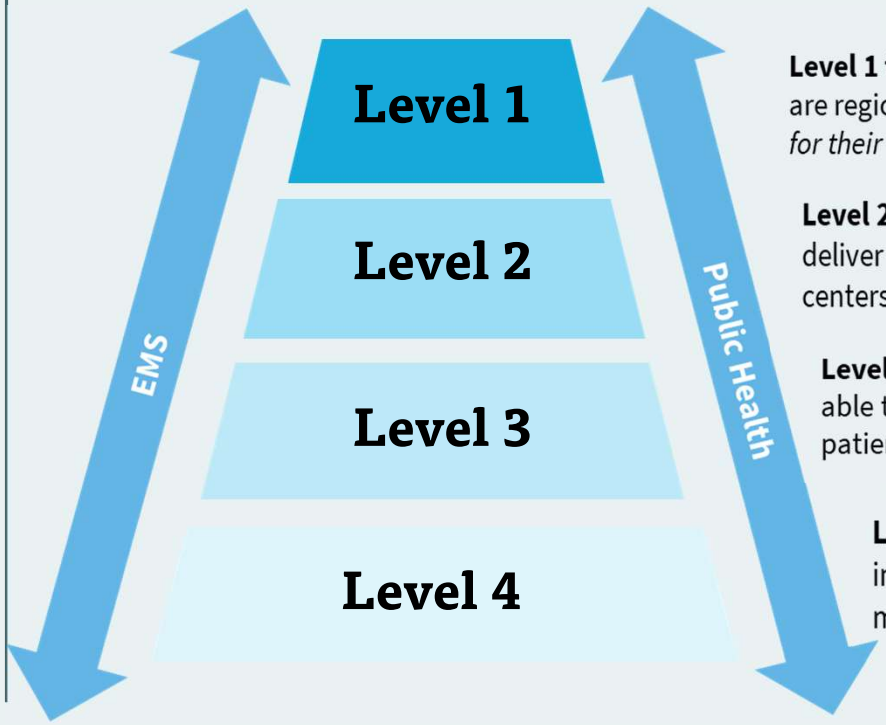
Pox Diseases

- Smallpox
- Mpox

Highly Pathogenic Respiratory Viruses

- Middle Eastern Respiratory Syndrome (MERS)
- SARS

NSPS Tiered System of Care



Level 1 facilities, or Regional Emerging Special Pathogen Treatment Centers (RESPTCs), are regional resources hubs which provide highly specialized care. *Level 1s care for patients for their duration of illness.*

Level 2 facilities, or Special Pathogen Treatment Centers (SPTCs), have the capacity to deliver specialized care to clusters of patients and serve as primary patient care delivery centers. *Level 2s can care for patients for their duration of illness.*

Level 3 facilities, or Assessment Centers, are widely accessible care delivery facilities, able to conduct limited basic laboratory testing, stabilize patients, and coordinate rapid patient transfer. *Level 3s can care for patients for 12-36 hours.*

Level 4 facilities, or All Other Healthcare Facilities, can identify, isolate, inform, & initiate stabilizing medical care; protect staff; and arrange timely patient transport to minimize impact to normal facility operations.

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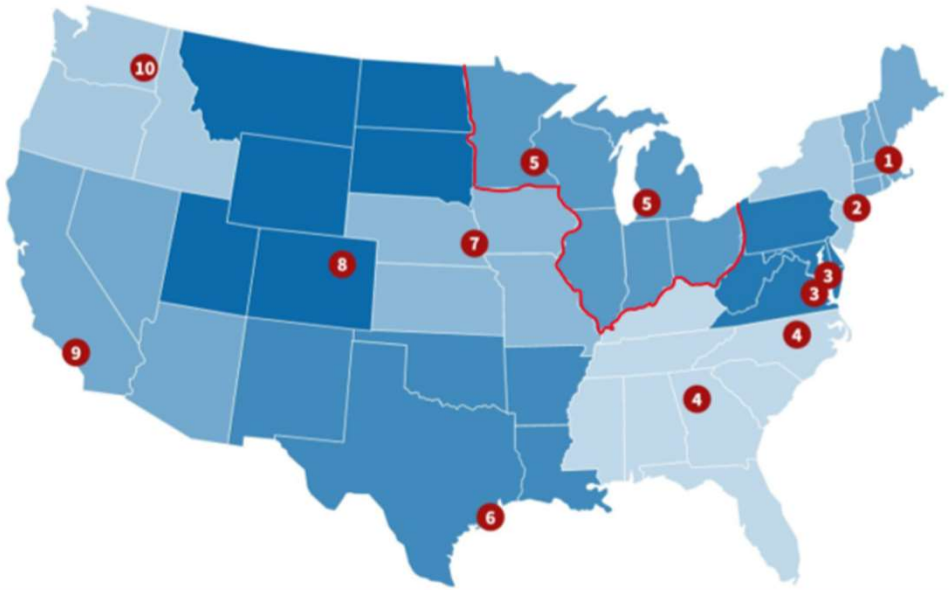
RESPTC/Level 1 Overview

Level 1 Facilities: Regional Emerging Special Pathogen Treatment Centers (RESPTCs)



1. **CT, ME, MA, NH, RI, VT**
   Massachusetts General Hospital
2. **NJ, NY, PR, VI**
   NYC Health + Hospitals / Bellevue
3. **DC, DE, MD, PA, VA, WV**
   Johns Hopkins Hospital
   MedStar Washington Hospital Center
4. **AL, FL, GA, KY, MS, NC, SC, TN**
   Emory University Hospital
   UNC Health
5. **IL, IN, MI, MN, OH, WI**
   University of Minnesota Medical Center
   Corewell Health
6. **AR, LA, NM, OK, TX**
   University of Texas Medical Branch
7. **IA, KS, MO, NE**
   University of Nebraska Medical Center/Nebraska Medicine
8. **CO, MT, ND, SD, UT, WY**
   Denver Health & Hospital Authority
9. **AZ, CA, HI, NV, AS, MP, FM, GU, MH, PW**
   Cedars-Sinai Medical Center
10. **AK, ID, OR, WA**
    Providence Sacred Heart Medical Center & Children's Hospital

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Recent Special Pathogen Exposure – Illinois/Iowa

Special Pathogen Recent Event – Lassa Fever

October 2024, An American citizen returned from Liberia to their home in Iowa.

- Patient was not symptomatic during travel
- 8 days after their return → presented to local emergency department with fever, headache, and myalgia.
  - Symptoms did not trigger the travel screen within the electronic healthcare record.
- Cared for at 3 different healthcare facilities and eventually succumbed to Lassa Fever.

Special Pathogen Recent Event – Lassa Fever

Lassa fever virus is spread by the multimammate rate and spread to humans through infected urine or droppings.

Infection typically occurs by touching or eating contaminated materials such as food or sweeping contaminated areas.

In rare cases the virus can be transmitted person-to-person through direct contact with blood and other bodily fluids.

Special Pathogen Recent Event – Lassa Fever

Response of healthcare facilities

5

Healthcare facilities involved

172

EMS & healthcare workers exposed

Zero

Transmitted infections

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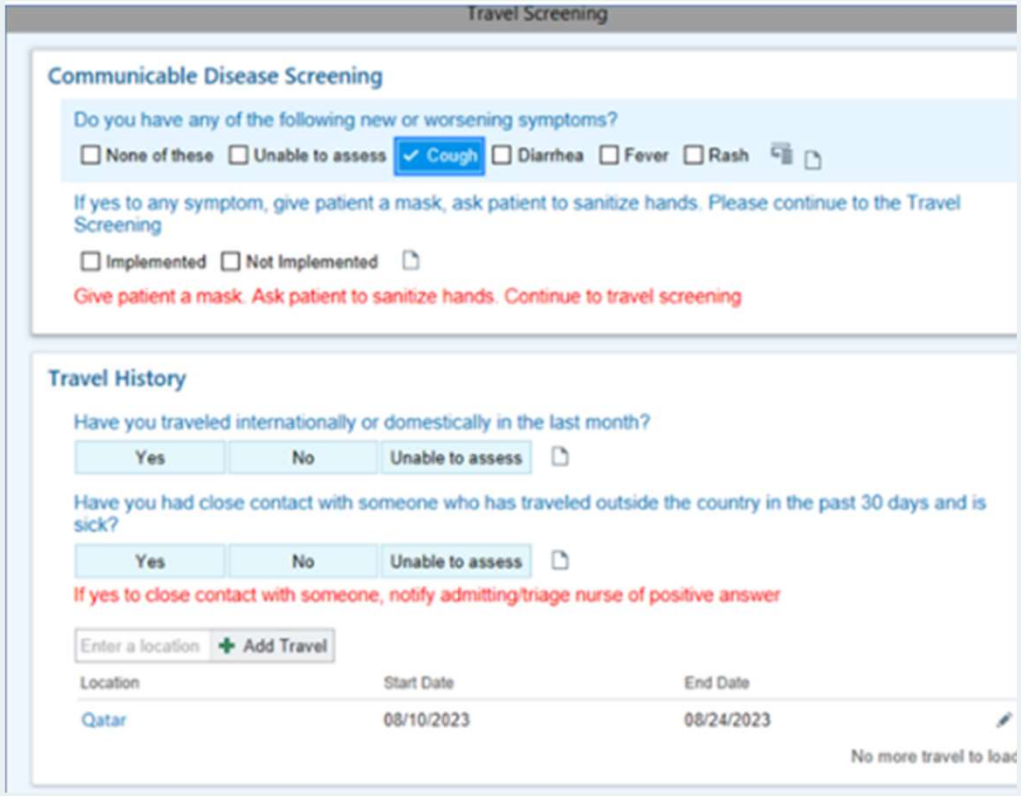
Identify, Isolate, and Inform

Identify, Isolate, Inform

The initial step is to promptly identify patients who may have a high-consequence infectious disease.

The key is to screen for specific symptoms and epidemiologic risk factors, such as recent travel history or contact with known cases.

Identify, Isolate, Inform



Utilize the electronic healthcare record

- Standard Option
- Custom Build

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Identify, Isolate, Inform

Patient has symptoms and travel possibly linked to a high consequence infectious disease. Ensure patient is wearing a surgical mask. (BPA #5410)

Hospital
Notify care team to room patient immediately.

Ambulatory
Room patient immediately. Notify care team.
Negative airflow room preferred. If not available, place in regular private room.

Identify, Isolate, Inform

- Patient dons a mask to reduce the risk of transmission.
- Patient is placed in private room with door closed, preferably negative pressure.
- Staff don appropriate PPE.

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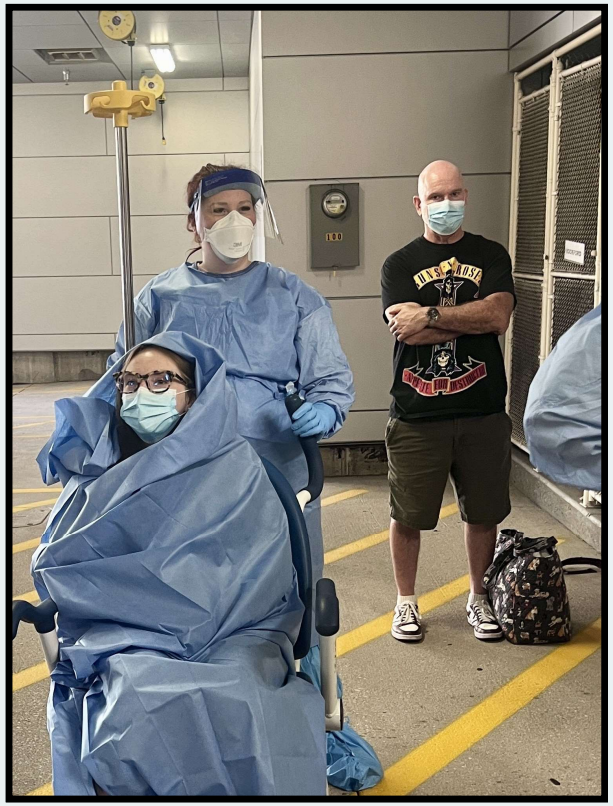
Identify, Isolate, Inform



Considerations

What do you do if you do not have an airborne isolation room available?

What if the patient arrived with a visitor? Does your approach change if the visitor is displaying symptoms

Identify, Isolate, Inform

After isolation, it is essential to notify the appropriate authorities—hospital infection control and local or state public health departments.

Timely reporting enables contact tracing, implementation of community protection measures, and access to critical resources and support.

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Great Lakes Healthcare Partnership

The GLHP's primary goal is to enhance the region's ability to respond to and recover from significant incidents and emergencies that impact healthcare delivery.

The GLHP works on developing and sharing emergency preparedness plans, resources, and best practices, and fosters collaboration among healthcare organizations and emergency management agencies

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Great Lakes Healthcare Partnership

Health Department may:

- Arrange transport/ambulance service. Will include police transport if needed.
- Identify/Notify potential receiving hospital(s).
- Will notify/contact ASPR/HHS, CDC, other state health departments if needed.
- Discuss testing process/lab work and transporting sample to state public health lab for presumptive positive.
- Connect Frontline Facility to receiving hospital and/or RESPTC/NETEC for support.

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Personal Protective Equipment(PPE) Considerations

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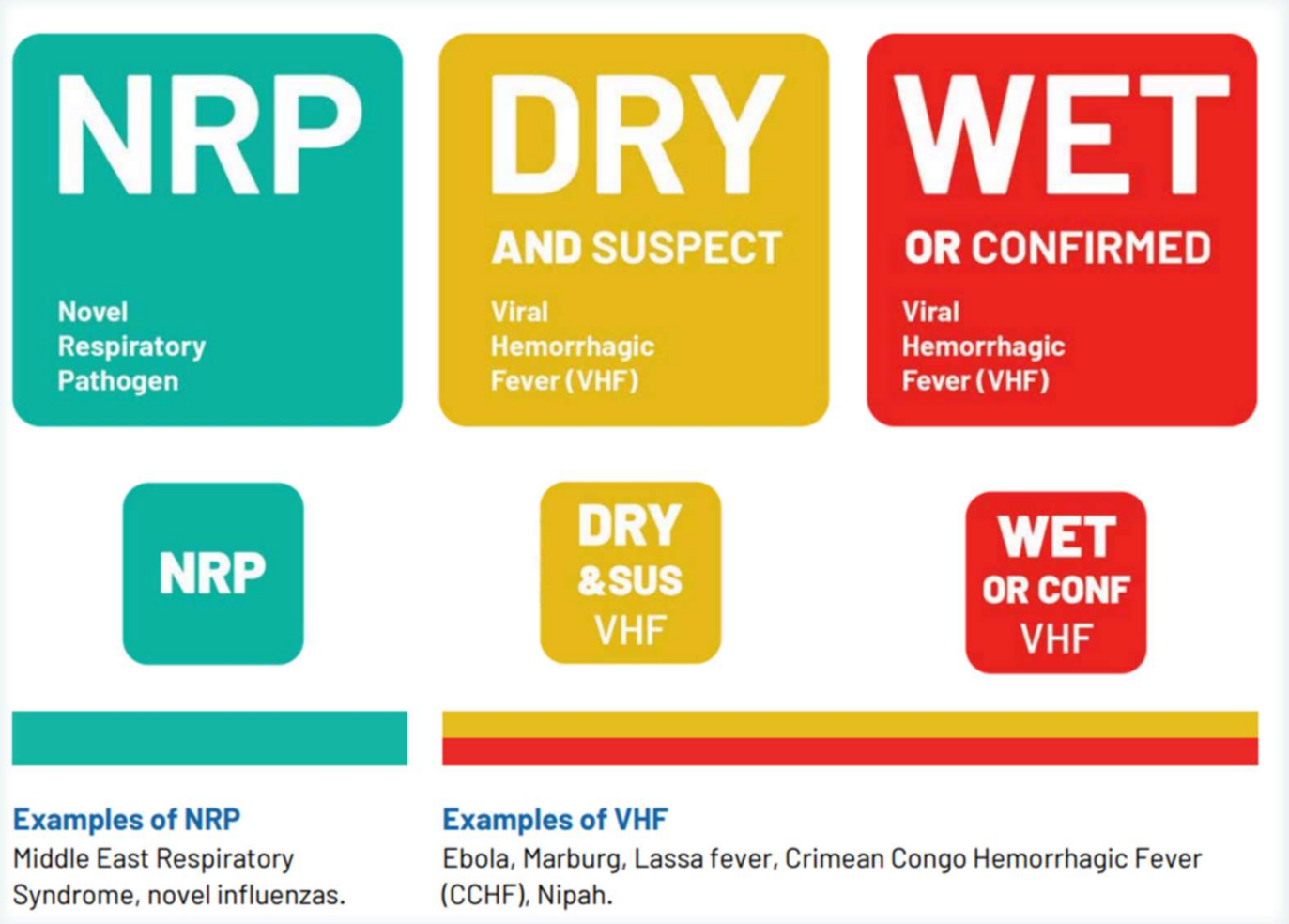
PPE Considerations

Personal Protective Equipment (PPE) in healthcare is essential for protecting healthcare workers (HCWs) from exposure to infectious agents, especially when caring for patients with special pathogens. PPE serves as a physical barrier, reducing the risk of disease transmission.

This section outlines the PPE components and combinations recommended for use when treating patients who are confirmed or suspected to have a high-consequence infectious disease (HCID).

Icons



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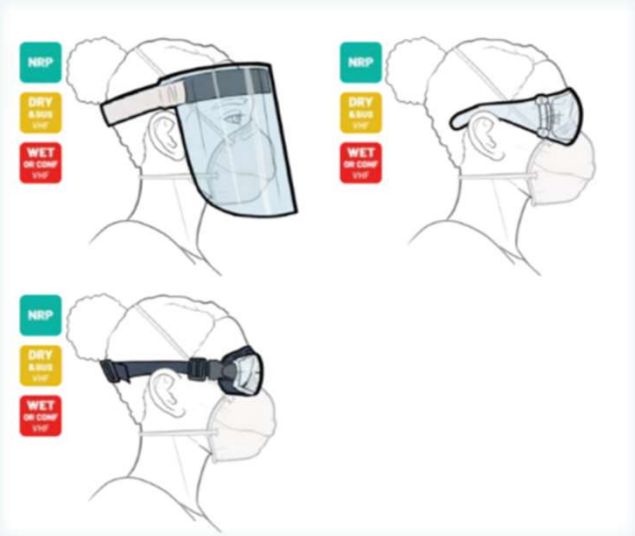
Head, Neck and Eye

Eye protection helps shield the wearer from visible splashes, sprays, and tiny airborne droplets that may not be visible to the naked eye.

Face shields should extend beyond the front of the ears and below the chin, with no open gap at the forehead.



Head and neck Covers

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Mask & Respirators

Face masks are intended to protect others and maintain a sterile field by blocking large and small droplets or particles that may be expelled from the wearer's nose and mouth.

Respirators are designed to protect the wearer from hazardous aerosols. In healthcare settings, these hazards may include infectious particles, dust, dirt, as well as chemical gases or fumes.

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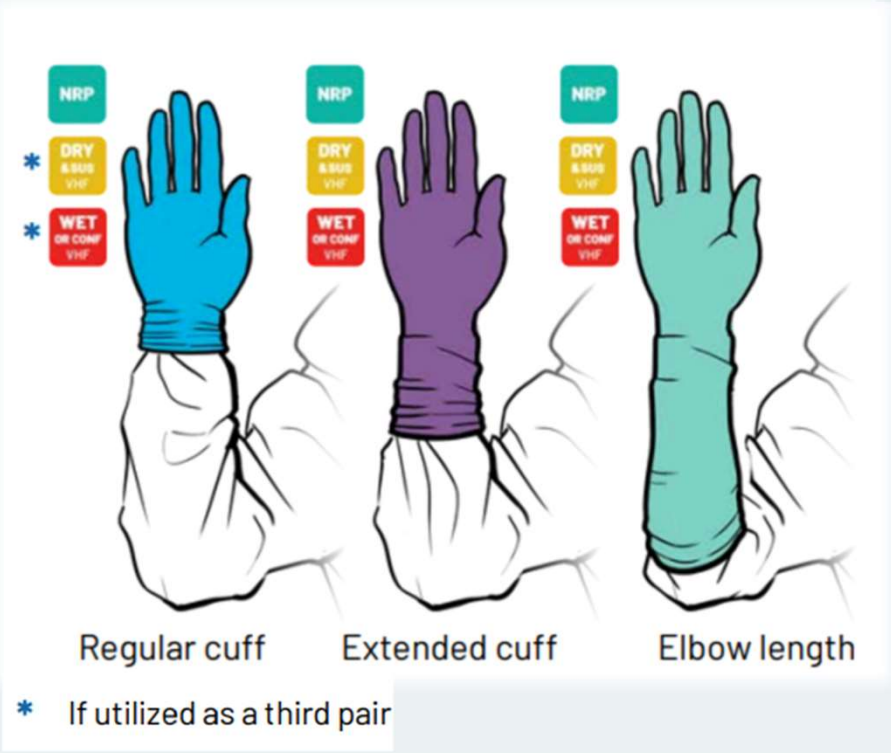
Gloves

Double gloving provides an added layer of protection for staff caring for patients with special pathogens, allowing soiled outer gloves to be safely removed without exposing bare skin.

Thicker latex, nitrile, and surgical gloves have been shown to perform better than vinyl (PVC) gloves or thinner gloves when subjected to repeated applications of alcohol-based hand sanitizer or other disinfectant methods (Gao, et.al., 2016)



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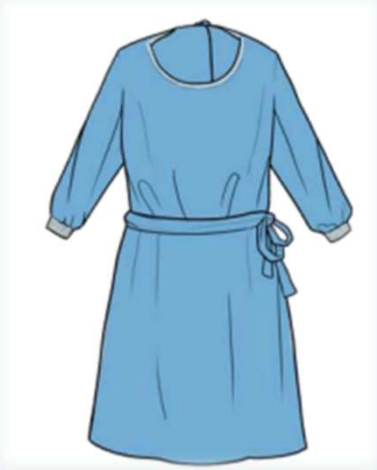
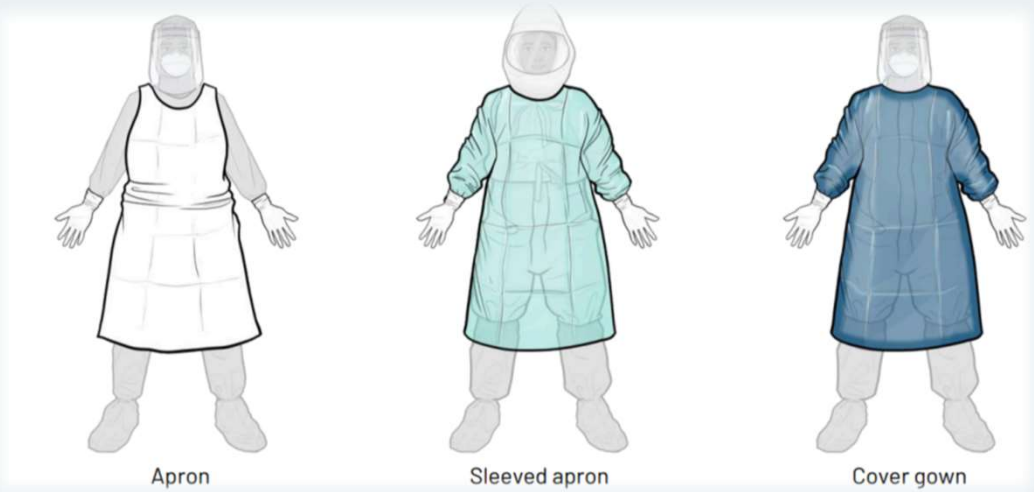
Body/Torso Protection

Gowns



Coveralls

Aprons and Cover Gowns



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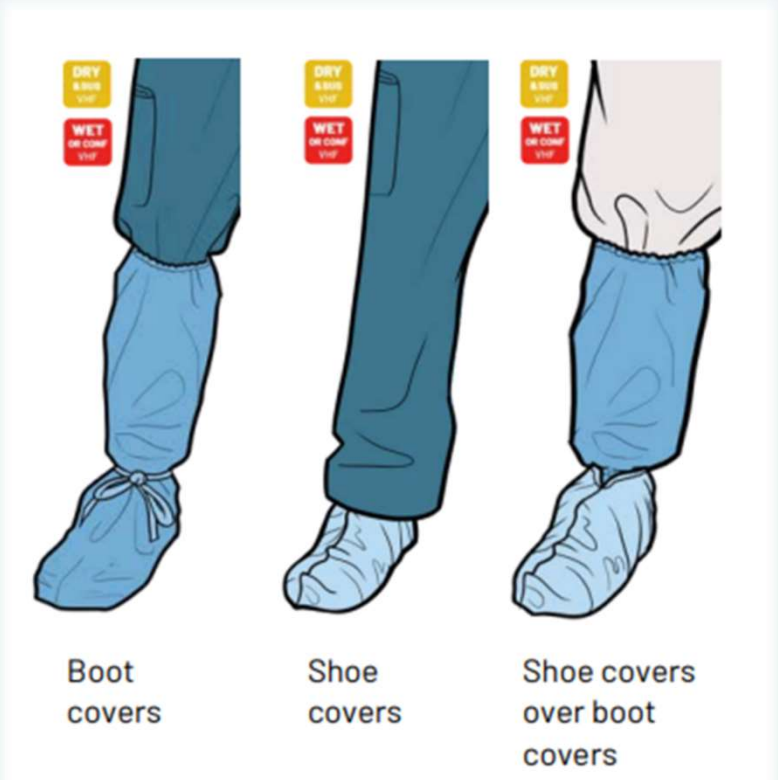
Shoe and boot covers



Look for fluid-resistant material with a nonslip bottom that can be easily put on and taken off over your shoes.

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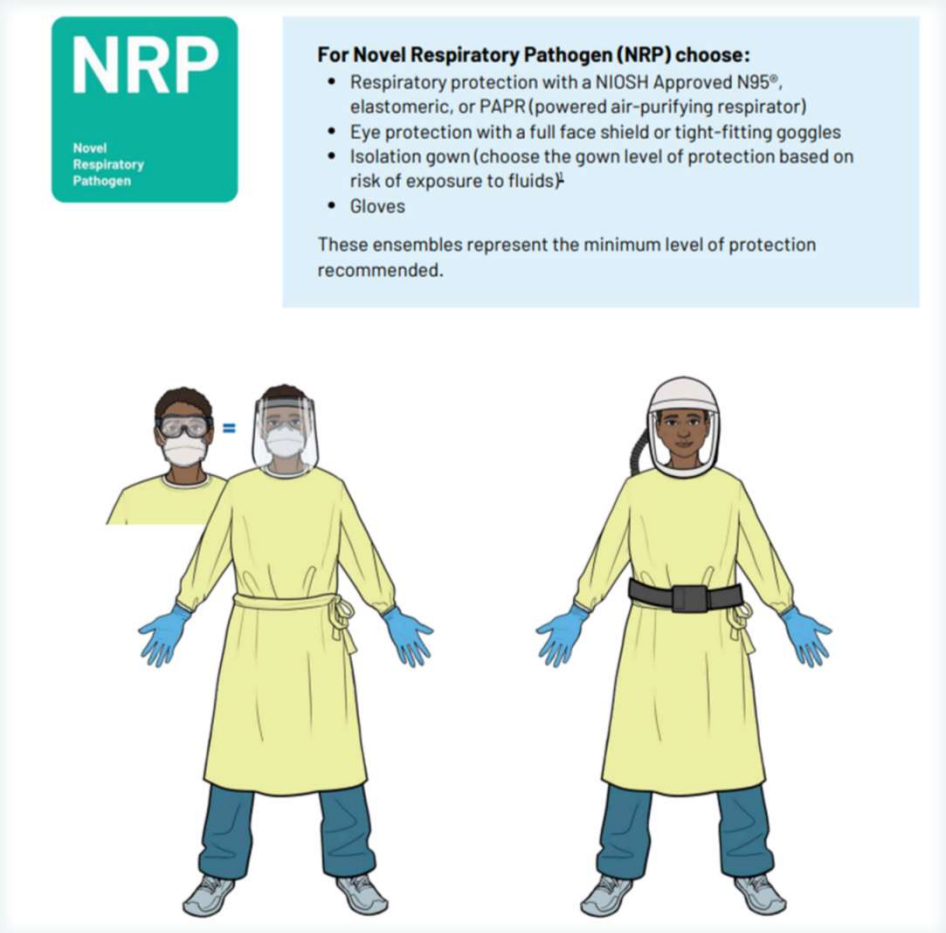
Putting it all together

Novel Respiratory Pathogen (NRP)



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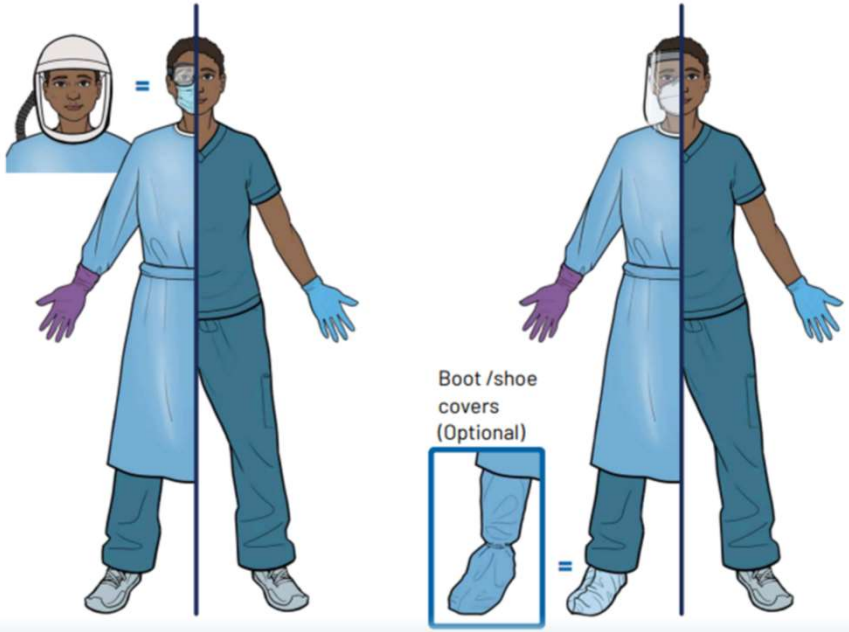
Putting it all together

Dry and Suspect (VHF)

DRY
AND SUSPECT
Viral Hemorrhagic Fever (VHF)

For Dry / Suspect VHF choose:

- Eye protection: Full face shield, integrated face shield of powered respirator, or tight-fitting goggles
- Nose and mouth coverage: Medical mask or optional respiratory protection with a NIOSH Approved N95®, elastomeric, or powered air-purifying respirator (PAPR)
- Torso/Body coverage: Fluid-resistant gown (Level 3 or 4) or coverall[1]
- Gloves: 2 pairs of gloves, outer pair with extended cuffs



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Putting it all together

Wet or Confirmed (VHF)

WET
OR CONFIRMED
Viral Hemorrhagic Fever (VHF)

For Wet VHF choose:
Wet/Confirmed VHF choose an ensemble that provides total body coverage and respiratory protection. Outer layers[1] should be fluid-impervious whenever possible, with two layers of gloves, the outer layer with extended cuffs.

- NIOSH Approved N95® or elastomeric respirator with a fluid-resistant head and neck cover
- Full face shield
- ANSI/AAMI PB70 Level 4 gown or ASTM F1670/F1671 coverall
- Shoe or boot covers
- 2 pair of gloves, outer are extended cuff

- PAPR (external motor)
- ANSI/AAMI PB70 Level 4 gown or ASTM F1670/F1671 coverall
- Shoe/boot covers
- 2 pair of gloves, outer are extended cuff

- PAPR (internal motor)
- ANSI/AAMI PB70 Level 4 gown or ASTM F1670/F1671 coverall
- Shoe boot covers
- 2 pair gloves, outer are extended cuff

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PPE Breach Management

Breach = Exposure

- A rip or tear in any PPE exposing skin or clothing
- Dislocation of a respirator
- Puncture of PPE into skin
- Exposure of mucus membranes to potentially contaminated bodily fluids.

Not a breach = Not an exposure

- Contaminated *INTACT* PPE

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Waste Management

Waste Management

Disposal of waste from a high consequence infectious disease can be a financial strain on a healthcare organization, so it is crucial to sequester the waste until the test results come back for the patient.

If the results are negative → waste can be processed like normal

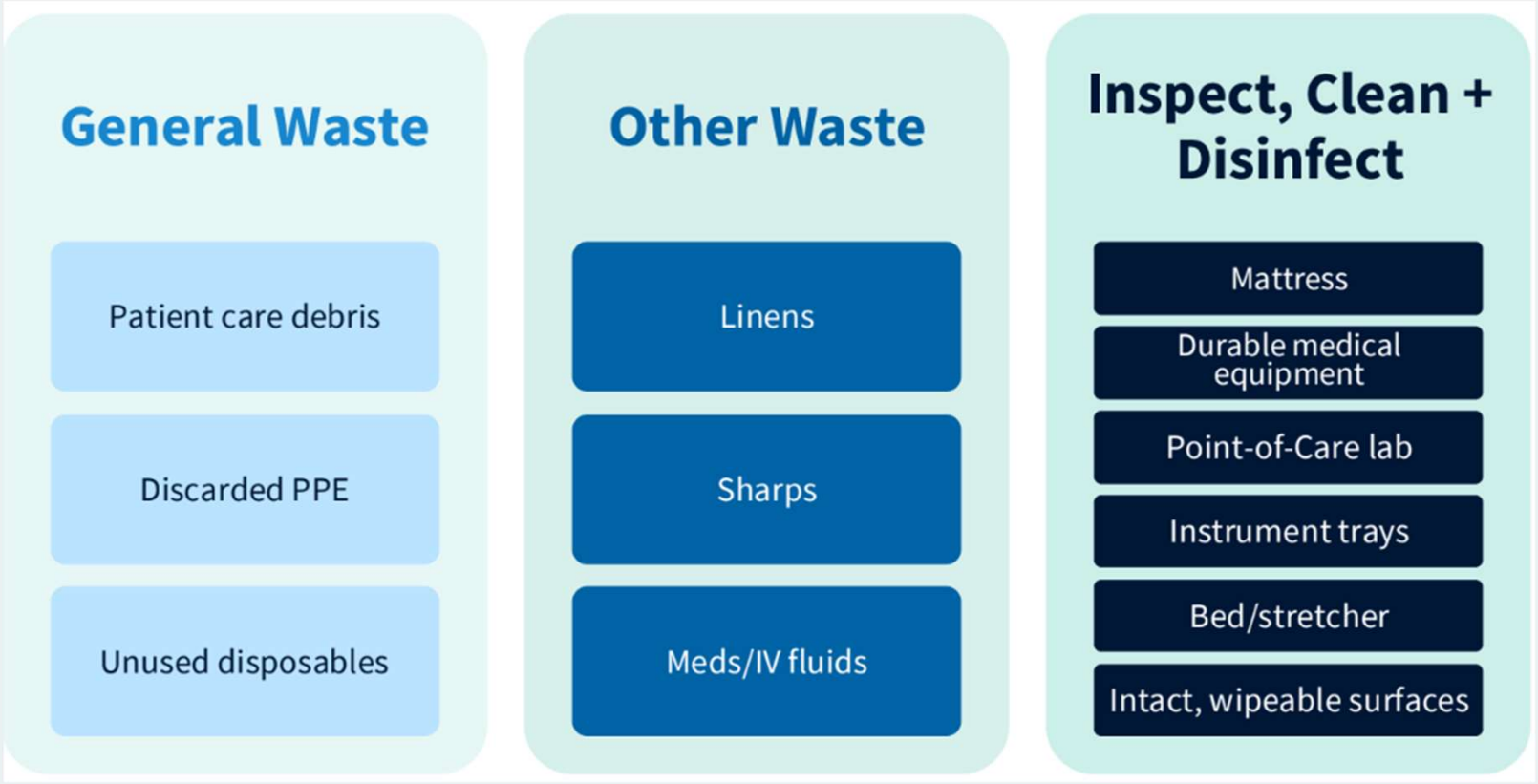
If the results are positive → will be special handling and disposal

Waste Management: Regulatory Requirements

Managing waste from special pathogens requires coordination across several regulatory agencies, including OSHA, the Department of Transportation (DOT)/Pipeline and Hazardous Materials Safety Administration (PHMSA), and the Environmental Protection Agency (EPA). Important considerations include:

- DOT Classification: Infectious substances are classified as Class 6.2 hazardous materials and are further divided into **Category A (high risk)** and **Category B (lower risk)**.
- Special Permits: Disposal of Category A waste typically requires a specific permit—such as DOT Special Permit 16279—for pathogens like Ebola, Lassa fever, and Marburg virus.
- State and Local Regulations: In addition to federal standards, state, local, tribal, or territorial (SLTT) regulations may also apply, making interagency coordination crucial for compliance.

Waste Management



Centers for Disease Control and Prevention. (2023, October 18). *Handle with care: Special pathogen waste management* [Audio podcast episode]. In **Contagion Live**. https://www.cdc.gov/ncezid/dhqp/training.html

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Resources

Region V RESPTC Regional Outreach Program (UMMC in Minneapolis, MN and Corewell Health in Grand Rapids, MI)

- Special Pathogens Support: Intake Form
- Have questions? Email SPU@corewellhealth.org or DEPT-UMMC-SPU@Fairview.org
- RESPTC | Special Pathogen Preparedness | Corewell Health

National Emerging Special pathogens Training and Education Center (NETEC)

- https://netec.org

Thank You!

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