



Special Pathogens 101: RESPTC/NETEC, Identify, Isolate, & Inform

APIC Dacotah Plains Chapter Meeting

**Denver Health and Hospital Authority
High-Risk Infection Team
Friday, September 19, 2025**



DENVER HEALTH.

est. 1860

FOR LIFE'S JOURNEY

Agenda

- **Introductions**
- **Special Pathogens Basics**
- **Identify, Isolate, Inform: What an IP should know**
 - **How to prepare**
 - **Resources**
- **Questions**

Special Pathogens 101

Special Pathogens: What's That?

- A **Special Pathogen**: an agent that is highly infectious, highly contagious, and highly hazardous, and is likely to cause an HCID.
- A **high-consequence infectious diseases (HCID)** is acute infectious disease that has a high case-fatality rate, may not have readily available, effective treatment or prevention; and has ability to spread in the community and/or within healthcare settings.
 - HCIDs often require enhanced and coordinated healthcare worker, healthcare system, and public health responses to ensure that it is managed safely and effectively.



Ebola Virus Disease
(EVD)



Severe Acute
Respiratory Syndrome
(SARS)



Middle Eastern
Respiratory Syndrome
(MERS)



Lassa Virus
Hemorrhagic Fever



Marburg Virus Disease
(MVD)



Other emerging special
pathogens

NIAID Emerging Infectious Diseases Pathogens Classification

Category A

Organisms/biological agents that pose the highest risk to national security and public health

- Easily disseminated or transmitted from person to person
- High mortality rates have the potential for major PH impact
- Might cause public panic and social disruption
- Require special action for public health preparedness

Category B

2nd highest priority organisms/biological agents

- Moderately easy to disseminate
- Moderate morbidity rates and low mortality rates
- Require specific enhancements for diagnostic capacity and enhanced disease surveillance

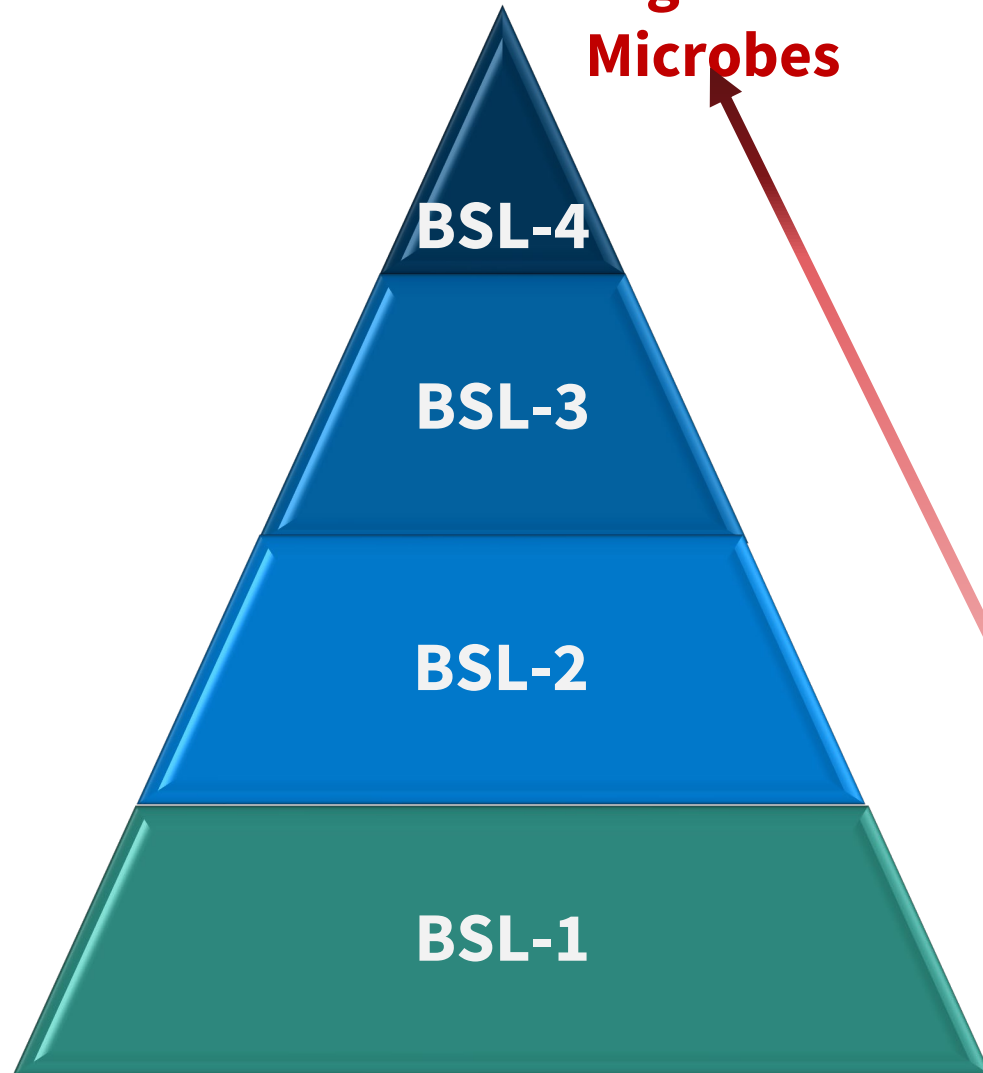
Category C

3rd highest priority, includes emerging pathogens that could be engineered for mass dissemination in the future

- Availability
- Ease of production and dissemination
- Potential for high morbidity and mortality rates and major health impact

Biosafety

**High Risk
Microbes**



**Low Risk
Microbes**

Ebola

**M.
tuberculosis**

S. aureus

Np- E.coli

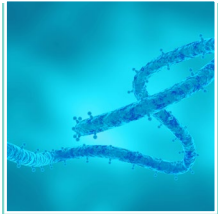


Vectors and Reservoirs



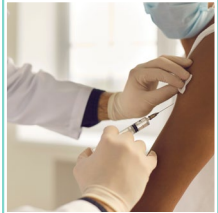
More than 60% of emerging diseases are zoonoses

Viral Hemorrhagic Fevers



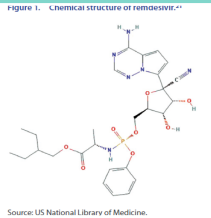
Viruses

Geographic Distribution



Pre-Exposure Prophylaxis

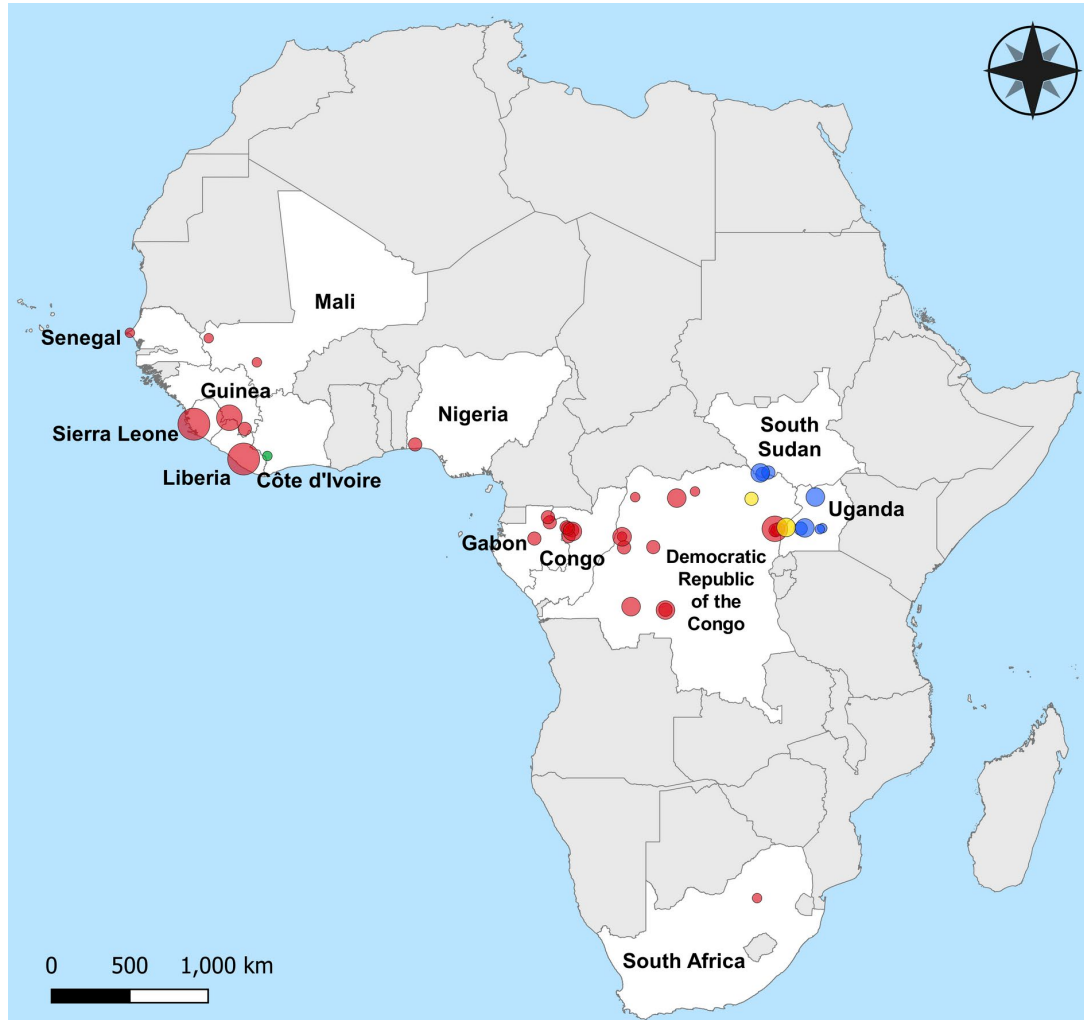
Medical Counter-Measures



Human-to-Human Transmission

Virus	Vector/ Reservoir	Pr-EP	MCM	H2H Tx	CFR
Flaviviruses Dengue Yellow Fever	Mosquitoes	YF vaccine	Non-Approved	NO	<1%
Filoviruses Marburg Ebola	Bats Other mammals	YES *	YES *	YES	>50%
Arenaviruses Lassa SAHF	Rodents	JUNV vaccine	CP Ribavirin *	YES	1-20% 10-40%
Bunyaviruses CCHF Hantaviruses	Ticks, blood of infected animals Rodents	NO *	Ribavirin*	YES Unlikely	5-50% 5-15% HFRS, 40% HCPS

Ebolavirus



Country Reporting Past
Ebola Virus Outbreak

Yes
No

Ebolavirus Species

● Zaire
● Sudan
● Bundibugyo
● Tai Forest

Number of Cases

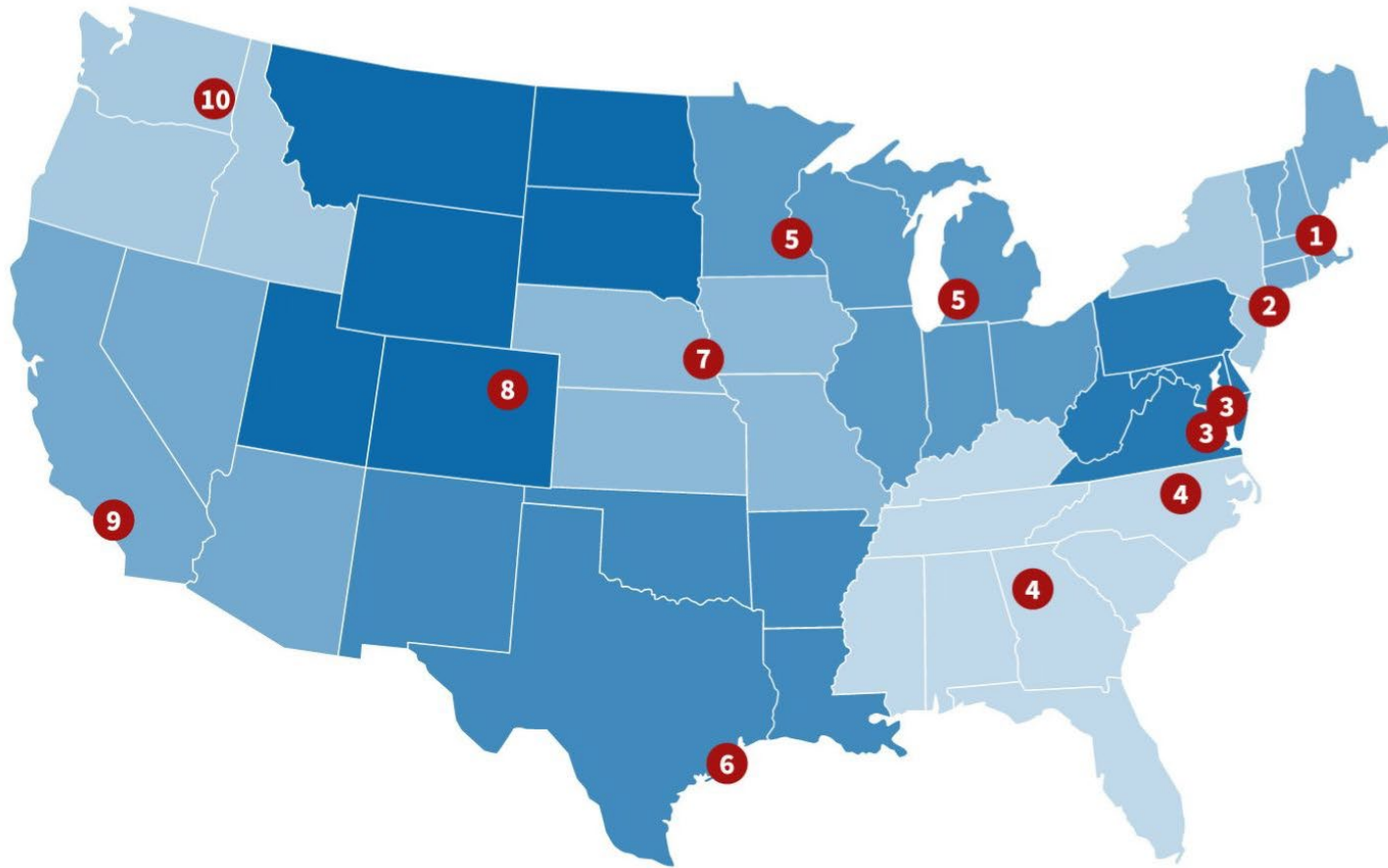
○ 1-10
○ 11-100
○ 101-1,000
○ 1,001-10,000
○ 10,000+

4 known to cause human disease

- **Zaire ebolavirus (50-90%)**
 - 1976-1977 DRC
 - 1994 Gabon
 - 1995 DRC
 - 2014-16 West Africa- 28k
 - 2018-2020 DRC
- **Sudan ebolavirus (50-60%)**
 - 1976, 1979 Sudan
 - 2022 Uganda
- **Tai Forest ebolavirus (0%)**
 - 1994 Cote d'Ivoire
- **Bundibugyo ebolavirus (25%)**
 - 2007 Uganda
- Reston ebolavirus (NHP)
- Bombali ebolavirus
(free-tailed bats - Sierra Leone)

Who We Are

Regional Emerging Special Pathogens Treatment Centers



- 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](#)

Locate your regional contacts, including physician, nursing, pediatric, and operations leadership, as well as local and state health partners.

Our Network

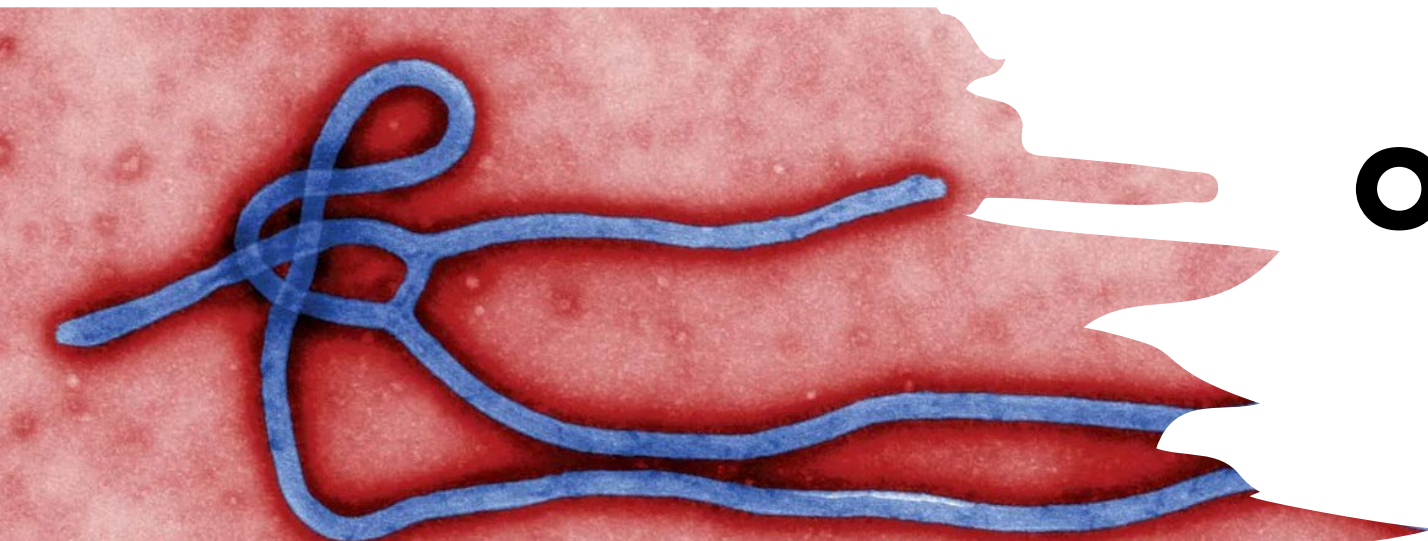
- **NETEC:** National Emerging Special Pathogen Training and Education Center
- **NSPS:** National Special Pathogen System
- **RESPTC:** Regional Emerging Special Pathogen Treatment Center-Denver Health and Hospital Authority
 - One of 13 RESPTCs in the US
 - Provide services and collaborate with partners in Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming
 - Activated three times since 2015
 - Twice for suspected Ebola
 - Once for suspected Mpox



What does a RESPTC do?

Training, education, consultation, and expertise within the following domains:

- Training and Exercise
- Environment and Infection Control
- Physical Infrastructure
- Treatment and Care
- Personal Protective Equipment (PPE)
- Emergency Management
- Pre-hospital
- Intake and Internal Transport
- Personnel Management
- **Laboratory: The secured unit also houses a Biosafety Level 3 lab for comprehensive testing. Once fully donned in our PPE, we operate as a BSL 4.**
- Waste Management
- Decedent Management
- Research
- **Direct patient care: EMS, nurses, physicians, RTs**



Our Unit



NETEC: A Partnership for Preparedness

Setting the gold standard for special pathogen preparedness and response across health systems in the U.S. with the goals of driving best practices, closing knowledge gaps, and developing innovative resources.

Areas of Focus



CONSULTATION & ASSESSMENT

Empower hospitals to gauge their readiness using **self-assessment**

Provide direct feedback to hospitals via **on-site assessment**

Provide **on-site and remote guidance**

Provide **emergency on-call mobilization**

EDUCATION & TRAINING

Deliver didactic and hands-on simulation training via **in-person courses**

Provide self-paced education through **online trainings**

Compile an **online repository** of tools and resources

Develop customizable **exercise templates** based on the HSEEP model

RESEARCH NETWORK

Build a **central IRB process** for rapid implementation of clinical research protocols

Develop **policies, procedures, and data capture tools** to facilitate research

Create the infrastructure for a **specimen biorepository**

INTERNATIONAL PARTNERSHIPS

Organize, plan, and implement **strategic international collaborations**

Strengthen **relationships** with global special pathogens programs

Establish mechanisms to **facilitate sharing of best practices** and knowledge among special pathogens programs

← *Cross cutting, supportive activities* →

Current Outbreaks

- **** Will add closer to presentation date

What should an IP know? How to prepare?

Regulatory Requirements

Identify, Isolate, and Inform

Know your facility and partner resources



DENVER HEALTH

est. 1860

FOR LIFE'S JOURNEY

Why should an IP care?

Keep patients and staff safe!

- **Prevent infections within the healthcare setting**
- **Regulatory requirements**
- **Community safety & security**
- **Trust**

Regulatory Requirements

The Joint Commission

- **Updated standards on Special Pathogens (Hospital)**
 - High Consequence Infectious Disease Preparedness IC.07.01.01
 - Elements of Performance 1& 2

Reportable Conditions

- **CDPHE Reportable Conditions:**
 - [Report a disease | Colorado Department of Public Health and Environment](#)

Know your Resources

Quality team at your institution!



DENVER HEALTH.

est. 1860
FOR LIFE'S JOURNEY

Joint Commission Standards

Requirement Standard IC.07.01.01 The hospital implements processes to support preparedness for high-consequence infectious diseases or special pathogens.

- Released December 20, 2023, Effective July 1, 2024

Rationale for the new standard:

- The preparedness of hospitals is highly variable, and there are no mandatory requirements for hospitals to implement training or competency assessment on special pathogens.
- A standardized approach to preparedness for high-consequence infectious diseases and special pathogens, grounded in hierarchy of controls, will strengthen basic infection control protocols and processes for all infectious threats.

Elements of Performance (1&2)

- The hospital develops and implements protocols for high-consequence infectious diseases or special pathogens.
- The hospital develops and implements education and training and assesses competencies for the staff who will implement protocols for high-consequence infectious diseases or special pathogens.

Joint Commission Elements of Performance



Identify

- Screening at points of entry (POE)
- Emergency Departments, Urgent care clinics
- Must include respiratory s/s, fever rash, and travel history



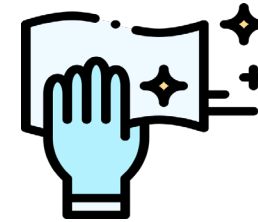
Isolate

- Procedures for transmission-based precautions
- PPE and don/doff techniques
- Safe space, equipped to support person under investigation of HCID



Inform

- Procedures for informing key hospital staff
- Public health notifications / processes



Infection Control Procedures

- Reduce exposure to staff, patients, visitors using hierarchy of controls
- Support care staff while in isolation
- Waste management, cleaning/disinfecting care spaces, equipment and surfaces



Education & Training

- Develop and implement education and training
- Assess competencies for staff who will implement protocols for HCID's

Identify, Isolate, and Inform

Remember: As soon as a special pathogen is suspected, initiate precautions

Identify



Early suspicion (symptoms, exposure, travel) and recognition help protect everyone.

Isolate



Choose PPE in conjunction with engineering and administrative controls; consider the potential infectious agent, patient condition, your level of interaction, and tasks to be performed. www.cdc.gov/niosh/topics/hierarchy/default.html

Inform



Promptly notify appropriate internal and external stakeholders, including your infection prevention and public health professionals.

Your role as an IP

- **Support patient care team**
- **Provide actionable guidance to keep staff and patients safe**
- **Escalate to leadership for notification needs**
- **Notify local and state health department**



Trash Talk: Category A Waste Management

- **Guiding Document:**

[Planning Guidance for Handling
Category A Solid Waste | PHMSA](#)

- **Category A infectious substance:
(Ebola, Marburg virus, Lassa Fever)**

Material that is contaminated with a substance that if exposure occurs during transportation is capable of causing permanent disability, life-threatening or fatal disease in otherwise healthy humans/animals.



Trash Talk: Category A Waste Management

Make a plan!

- Know how to package potentially infectious waste
 - Do you have the supplies on hand?
- Identify a holding area to sequester waste until lab results are known
 - Do you have the ability to separate and lock the door?
- Engage with your vendor for a transport plan (do they have special requirements?)
 - Ask for help!



Lab Specimen Collection & Testing

- **Main Points**

- Identify what clinical lab testing can be done safely at your facility
 - Conduct a risk assessment with lab leadership
- Communicate that clinical testing menu to your ED providers
- Testing approval for HCIDs is coordinated through public health

- **Actionable Items**

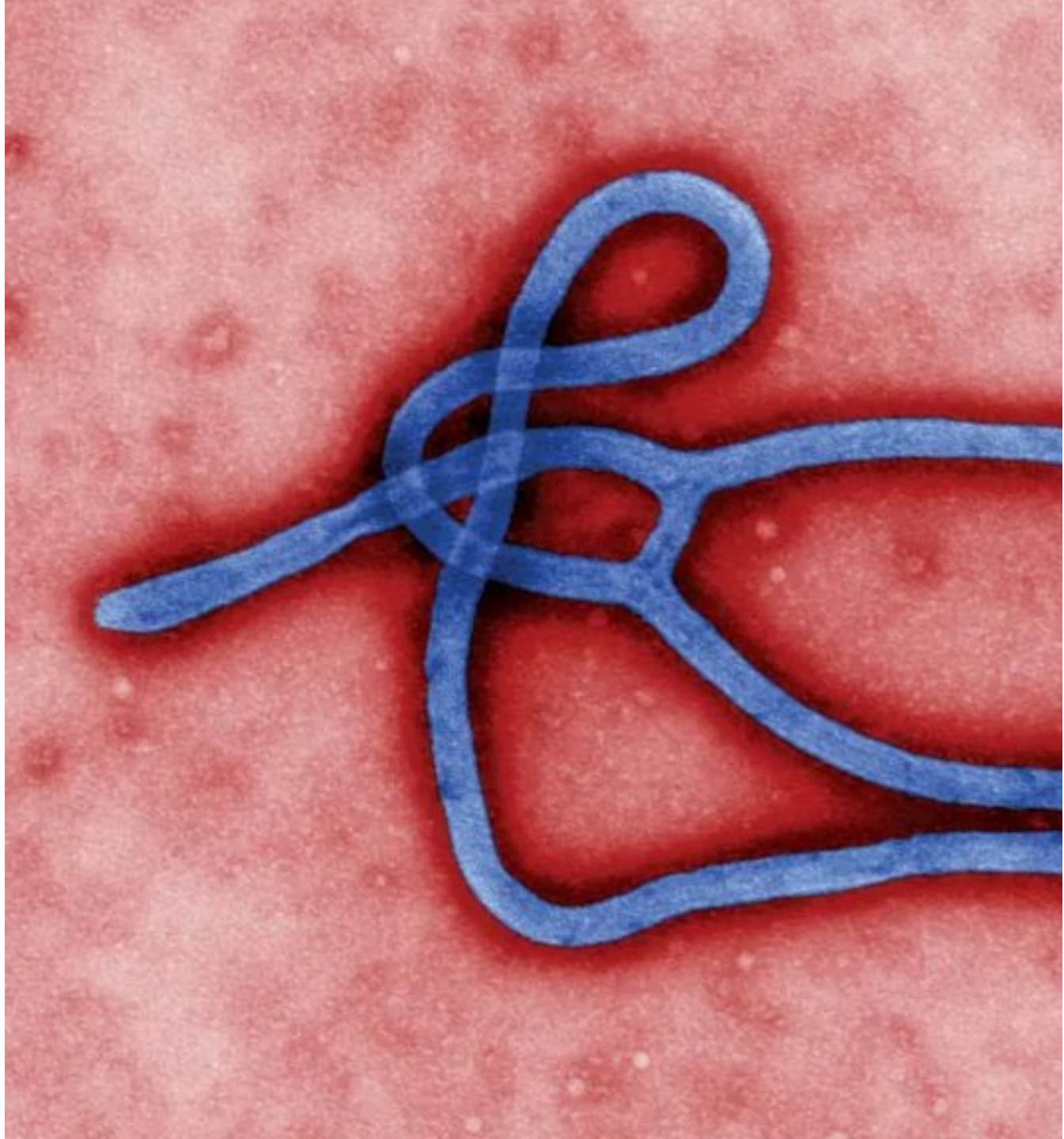
- Partner with your lab leaders to determine what testing you can perform at your facility
- Engage with your local public health partners to validate communication/coordination processes
- Know who your public health lab is and if you have an identified courier that can transport suspect Category A specimens



DENVER HEALTH

est. 1860

FOR LIFE'S JOURNEY



Training and Education

What Is PPE & Why It Matters

- PPE protects workers from injuries and illnesses.
- OSHA requires training on when, what, how, limits, and care/disposal of PPE

Current PPE Gaps in Healthcare

- PPE is used daily-but often not at PAPR level, not consistently, not correctly, and not confidently

Choosing & Using PPE Safely

- Selection factors: transmission type, expert guidance, staff comfort, supply chain, standardization, and care area layout
- Safe donning/doffing requirements

Who Needs It

- Includes all clinical staff (ED, ICU, lab, triage), support services (EVS, transport), and facility teams (maintenance, radiology) .

Considerations to Meet Accreditation Standards

Training & Competency Requirements

- RESPTC staff: quarterly + just-in-time (JIT within 72 hours).

NSPS System of Care Minimum Capabilities

- Considerations to Meet Accreditation Standards
 - **Defines the training competency** and frequency for all appropriate personnel
 - Implements training for **HCID protocols and PPE donning/doffing based on your organization's definition** and includes all appropriate personnel

Considerations to Advance Readiness

- Identifies **just-in-time training resources** (e.g., PPE donning and doffing checklists)
 - May include leveraging resources from RESPTC and/or NETEC
- Conducts training for PPE donning/doffing and other patient care skills for appropriate personnel **at least annually** (or as proficiency requires)
 - May be accomplished by integrating into skills fairs or other annual training
- Conducts training for **environmental services personnel**

Donning and Doffing Tips and Tricks

HITeam@dhha.org



THE
HITTEAM
at Denver Health



**THE
HITeam**
at Denver Health

Key Principles: Donning

- Have a dedicated space for Donning
- Use a trained observer/Buddy
- Check that you have the right PPE for the suspected or confirmed disease
- Inspect PPE for defects prior to putting it on
- Use a step-by-step list for the donning process



Key Principles: Doffing

- Ensure dedicated space is adequate for Doffing
 - Distance from patient
 - Can perform all doffing steps without restriction in the space that doffing is taken place
- Use trained observer
- Use a step-by-step guide for the doffing processes
- When in doubt = Hand hygiene, remove gloves, hand hygiene, new gloves
- Apply mitigating actions based on exposure risks
 - If PPE visually contaminated, cleanse area with EPA registered wipes upon discovery and again prior to start of doffing PPE



Tips

- Doff respirator last
- One wipe per swipe
- Can use EPA registered wipes on gown or coveralls to cool down
- View second layer of gloves as "your bare hand"
- Breach in PPE = stay calm, notify team, initiate doffing processes ASAP, do not clean over the breach rather clean around the breach starting from closest to tear and working outward (like a central line dressing change)

Know Your PPE

PPE Components and Ensembles for Special Pathogen Patient Care



Head,
neck, eye

Masks &
respirators

Gloves

Body/torso
protection

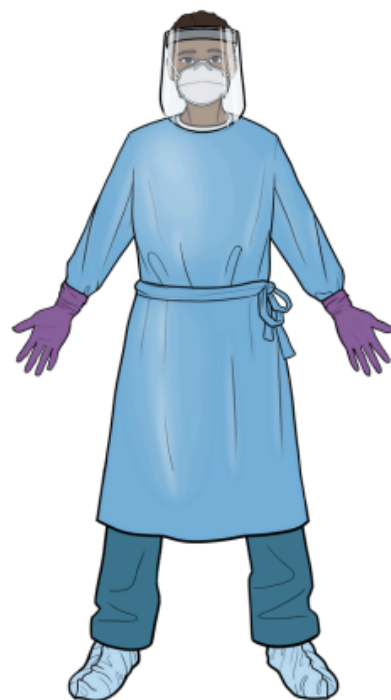
Shoe and
boot covers

Ensembles

Appendix

Description

Personal Protective Equipment (PPE) used in healthcare settings, particularly when caring for patients diagnosed with special pathogens, is designed to create a barrier between healthcare workers (HCW) and potential infectious agents, thereby minimizing the risk of transmission. This guide covers the PPE pieces and ensembles used in the care of patients who have, or may have, a high-consequence infectious disease (HCID). This group of "special pathogens" are those infectious agents that can cause serious illness and do not have readily available treatments, vaccines, or countermeasures. We will use "HCID" when referencing patients and illnesses, and "special pathogens" when referring to infectious agents.



Resources



DENVER HEALTH™

est. 1860

FOR LIFE'S JOURNEY

Resources



Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

Search Q

Diseases & Conditions ▾

Healthy Living ▾

Travelers' Health ▾

More ▾



2019 Novel Coronavirus (2019-nCoV)

CDC is closely monitoring an outbreak caused by a novel (new) coronavirus in Wuhan City, China.



Administration for Strategic
Preparedness & Response



Health Topics ▾

Countries ▾

Newsroom ▾

Emergencies ▾

About Us ▾

Emergencies preparedness, response

Home

Alert and response operations

Diseases

Biorisk reduction

Disease outbreak news

Disease Outbreak News (DONs)

Latest DONs

Novel Coronavirus – Japan (ex-China)
17 January 2020

Novel Coronavirus – Japan (ex-China)
16 January 2020

Ebola virus disease – Democratic Republic of the Congo
48 January 2020

Related links

[Ebola virus disease - website](#)

[Avian influenza A\(H7N9\) virus](#)

[Middle East respiratory syndrome coronavirus \(MERS-CoV\)](#)

[Pandemic \(H1N1\) 2009](#)

[Influenza at the Human-Animal Interface](#)



ProMED
INTERNATIONAL SOCIETY
FOR INFECTIOUS DISEASES

NETEC Support & Services



REQUEST A TSS

Submit a request [online](#) or email info@netec.org.

START THE SPORSA

Submit a request [online](#) to receive a link to start the SPORSA.

CONTACT US

Send us an email at info@netec.org or fill out the [Contact Us](#) form.

ONLINE EDUCATION & TRAINING

Sign up for a free [online course](#) for continuing education credit.

Browse our [YouTube](#) channel for webinar recordings and just-in-time training videos.

Listen to [NETEC's podcast](#), "Transmission Interrupted."

ADDITIONAL ONLINE RESOURCES

Browse our [Resource Library](#) to find tools, resources, and research related to all stages of preparedness and response.

Read the [NETEC blog](#) for the latest news and updates.

STAY IN TOUCH

Sign up for our [e-newsletter](#) to be the first to know about upcoming trainings, webinars, and new courses for continuing education credit.

Follow NETEC on social media:



Questions?

Contact the Denver
Health HITeam:
HITeam@dhha.org

Region 8 Emerging Special Pathogens Treatment Center



THE
HITTEAM
at Denver Health

