

# Frontline Facility Special Pathogens Training

# Pre-Assessment





# Grant Disclaimer

- This training was supported by the Department of Health and Human Services Office of the Assistant Secretary for Preparedness and Response under the Hospital Preparedness Program (HPP) Ebola Preparedness and Response Activities funding (grant number U3REP150506-01-00). The content is solely the responsibility of the authors and does not necessarily represent the official views of the Department of Health and Human Services Office of the Assistant Secretary for Preparedness and Response.

# Course Agenda

<i>Time</i>	<i>Duration</i>	<i>Topic</i>
8:00 AM	0:10	Welcome and Introductions
8:10 - 9:10 AM	1:00	Module 1: Identify/Isolate/Inform and Infection Control 101
9:10 – 9:20 AM	0:10	Break
9:20 – 10:05 AM	0:45	Module 2: PPE Donning Technique for SP Level 1 PPE Ensemble
10:05 – 10:50 AM	0:45	Clinical Simulation 1: MERS Work Up
10:50 – 11:35 AM	0:45	Module 2: PPE Doffing Technique for SP Level 1 PPE Ensemble
11:35 – 12:20 PM	0:45	Lunch
12:20 – 1:20 PM	1:00	Module 3: PPE Donning Technique for SP Level 2 VHF PPE Ensemble
1:20 – 2:20 PM	1:00	Clinical Simulations 2 & 3: Spill Remediation, Patient Transfer
2:20 – 3:20 PM	1:00	Module 3: PPE Doffing Technique for SP Level 2 VHF PPE Ensemble
3:20 – 3:30 PM	0:10	Break
3:30 – 4:00 PM	0:30	Course Debrief and Evaluations

# Learning Objectives

Upon completion of this program, the learner will:

1. Describe three core strategies employed for appropriately recognizing, isolating, and communicating for a patient presenting with a suspected special pathogen infectious disease
2. Demonstrate the proper skills and techniques for donning and doffing Special Pathogens Levels 1 and 2 personal protective equipment ensembles
3. Understand key healthcare worker safety strategies and techniques for MERS testing and biohazardous spill containment in a suspected highly infectious environment
4. Understand the process for transferring a PUI from a hospital bed to an EMS patient movement device

# Project Background

- 2014 Ebola Virus Disease epidemic
- Health Commissioner's Order
  - Issued October 16, 2014
  - Updated December 18, 2015
- All general hospitals and diagnostic and treatment centers



## Frontline Hospital



Quickly identifies and isolates patients with suspected special pathogen disease



Notifies facility infection control and state and city public health officials



Has enough PPE equipment for 24 hours of care

*Transfers patient to Region 2  
Ebola & Other Special  
Pathogen Treatment Center  
(Bellevue Hospital)*



## Region 2 Ebola & Other Special Pathogen Treatment Center (Bellevue Hospital)



Safely receives and isolates patient(s) with confirmed or suspected special pathogen disease



Cares for patient(s) with special pathogen disease for duration of illness



Has enough PPE for at least 7 days of care (will restock as needed)



Has sustainable staffing plan to manage several weeks of care



## Ambulatory/ Outpatient Facility



Quickly identifies and isolates patients with suspected special pathogen disease



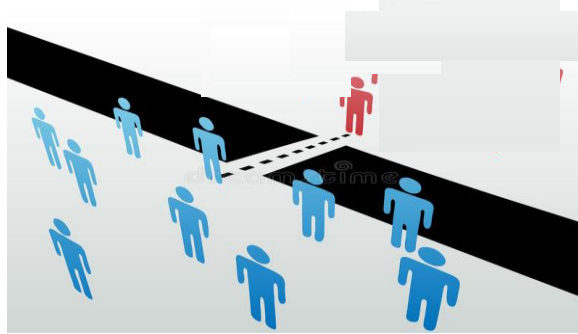
Notifies facility infection control and state and city public health officials



Has enough PPE equipment for <8 hours of care



*Transfers patient to Region  
2 Ebola & Other Special  
Pathogen Treatment Center  
(Bellevue Hospital)*



## Module One

# Identify / Isolate / Inform



# Module Outline

- Rapid identification and isolation of high risk patient through triage
- Importance of early recognition and isolation
- Appropriate internal and external contacts for notification

**Person Under Investigation (PUI)** - PUI is a designation given by the department of health if a person has both consistent signs or symptoms and risk factors (i.e. clinical criteria and epidemiological risk factors) for a specific special pathogens.

# Risk Assessment

- Travel-associated diseases (e.g., vaccine-preventable diseases, malaria, and tuberculosis) and emerging/re-emerging diseases (i.e., Ebola, Lassa fever, and MERS-CoV) can present at any time to any facility, though some are at higher risk than others due to population demographics and proximity to airports
- “PUIs” may present anywhere and at any stage of illness (all facilities must be able to identify isolate, inform) - timely triage, evaluation, HCW safety and clinical management
- Patients do not necessarily walk in “showing disease” – important to apply standard precautions









# Ebola spread in perspective

## How contagious is Ebola?

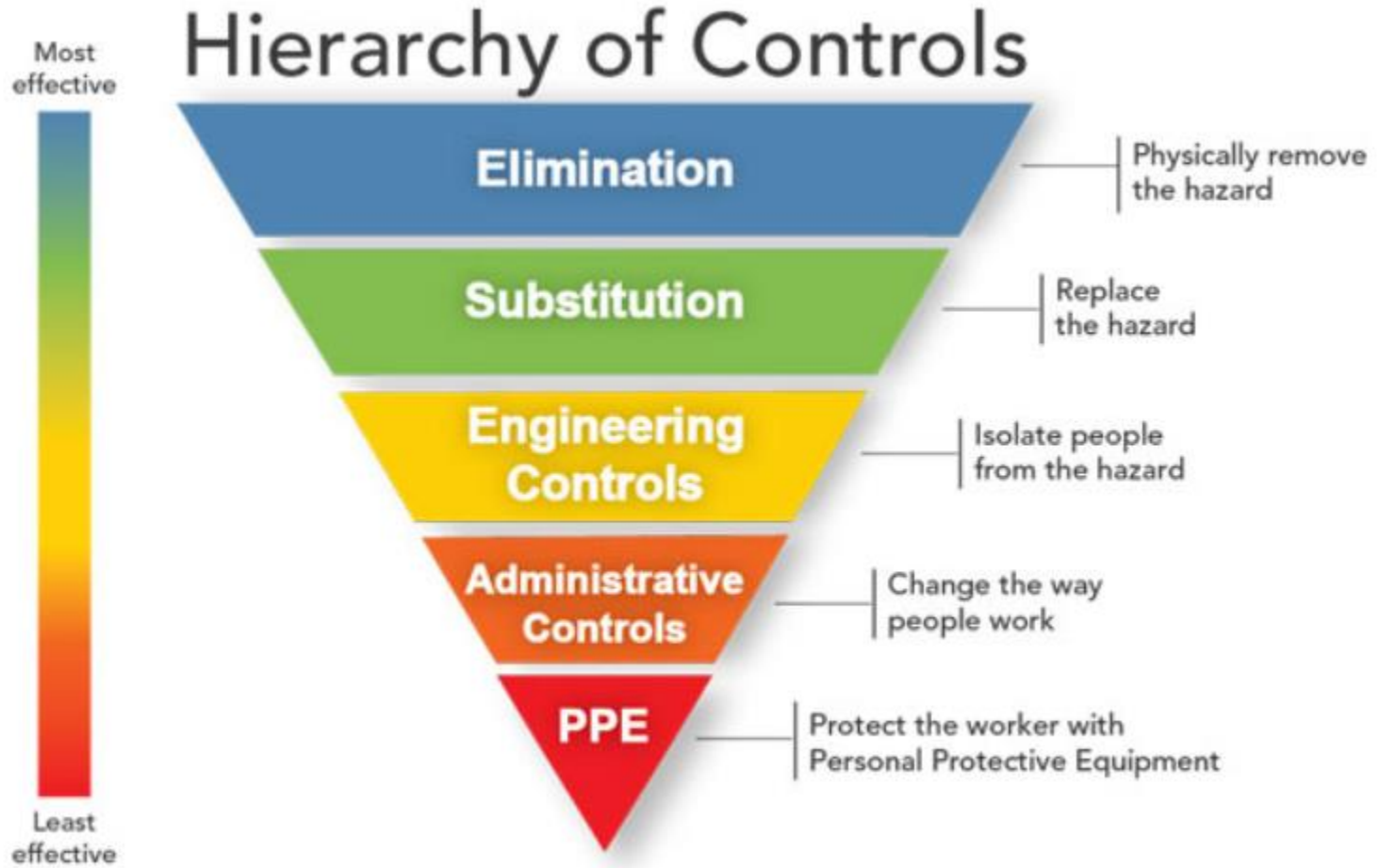
How the Ebola virus compares with other contagious viruses. The reproduction rate or  $R_0$ , calculates the number of people likely to be infected by one person who has a disease.

### REPRODUCTION RATE ( $R_0$ )

Initial infected patient ● — Person he or she has infected

								
$R_0$	1 to 4 people	2 to 4	4 to 7	5 to 7	5 to 7	6 to 7	12 to 18	12 to 17
DISEASE	Ebola	SARS	Mumps	Polio	Smallpox	Rubella	Measles	Pertussis (Whooping cough)
HOW IT SPREADS	Bodily fluids	Airborne droplets	Airborne droplets	Fecal-oral route	Airborne droplets	Airborne droplets	Airborne	Airborne droplets

Sources: Michigan Center for Public Health; WHO; Transmission Dynamics and Control of Severe Acute Respiratory Syndrome, Nature; Understanding the Dynamics of Ebola Epidemics, National Institute of Health



# Example of an Administrative Control: Decision Support Tools & Resources



NYC HEALTH+ HOSPITALS | INSIDER

Insider

HOME CENTRAL OFFICE EMPLOYEE RESOURCES CENTER FACILITIES DIRECTORY PROCEDURES FORMS SERVICE DESK CONTACT

- Population Health Dashboard
- Preventive Care Guidelines
- Project Evolve
- Provider Resources
- QuadraMed
- Research Administration (click for list)
- SCORE (Strategic Costing Operational Reporting Engine)
- Special Pathogens Program (Infectious Disease Dashboard)
- Stop Flu
- TDA (Tax Deferred Annuity)
- Transformation
- Unrestricted Websites
- Windows 10
- Zika Information

WebView Tip Sheet



# Infectious Disease Dashboard

Link:

[http://hhcinsider.ny  
chhc.org/corpo  
ffice/s/Special-  
Pathogens/Pages/In  
dex.aspx](http://hhcinsider.ny<br/>chhc.org/corpo<br/>ffice/s/Special-<br/>Pathogens/Pages/In<br/>dex.aspx)

12/3/2016

Special Pathogens Program (Infectious Disease Dashboard)



## SPECIAL PATHOGENS PROGRAM (INFECTIOUS DISEASE DASHBOARD)

The Central Office Special Pathogens Program is a dynamic and constantly evolving program that has allowed for substantial progression in the realm of special pathogens. With the increasing demand for solutions to the City's emerging public health threats, our Special Pathogens Program continues to break new ground and lead the way in establishing guiding principles to set City-wide precedent for response to public health emergencies.

**Retrieve up-to-date information on countries with health advisories and infectious disease outbreaks**



CDC Travel and  
Health Advisories



Georgia DPH Travel  
Clinical Assistant



CDC  
Travelers' Health



NYC DOHMH Reporting  
Diseases and Conditions

**Retrieve up-to-date information on city, state, national and international health alerts**



NYC Health  
Alerts



New York State  
Health & Emergency Alerts



WHO Outbreak  
News



ProMED  
latest feeds

**Emergency Reporting Phone Numbers**

NYC DOHMH Provider Access Line  
Tel. 866-692-3641

Central Office Emergency Management,  
Special Pathogens Program (For H+H Use Only)  
Tel. 646-864-5442

Terrorism Hotline  
Tel. 888-NYC-SAFE  
(888-692-7233)

General Information  
Tel. 311 or 877-692-3647

Poison Control  
Tel. 800-222-1222 or  
Tel. 212-POISONS  
(212-764-7667)

Chief Medical Examiner  
Tel. 212-447-2030

### Announcements & Training

☐ URL

- Frontline Facility Special Pathogens Course
- Standard Donning and Doffing of Personal Protective Equipment
- Ebola Readiness
- Stop Flu

### ProMED-mail alerts on HealthMap





# Initial Patient Screening Algorithm for Infectious Diseases for EDs

IDENTIFY

ISOLATE

INFORM

LOCATION	ROLE	ACTIVITY	NOTES
Registration Desk	Greeter/ Triage RN	<ol style="list-style-type: none"> <li>1. Ask patient: In the past week have you had fever, have you had a cough, have you had a rash?  <div> <div>YES</div> <div>NO</div> </div> <div> <div>Give patient surgical mask and ask to use alcohol-based hand sanitizer</div> <div>Stop screening process, and proceed with patient registration</div> </div> </li> <li>2. Ask patient: have you traveled outside the country within the past 30 days OR had contact with someone that has traveled and is sick within the past 30 days?  <div> <div>YES</div> <div>NO</div> </div> <div> <div>Stop screening process, and proceed with patient registration</div> </div> </li> <li>3. Notify Triage RN to report travel/symptoms</li> </ol>	<p>Instruct patient how to put on mask</p> <p>If patient has yes to any fever, cough or rash escort patient to private room if available and continue patient assessment</p>
Triage/Clinic	RN/ Provider	<ol style="list-style-type: none"> <li>4. Conduct initial assessment and travel history: ask what country(s) patient has traveled to OR had contact with someone that has traveled and is sick in the past 30 days?  <div> <div>YES</div> <div>NO</div> </div> </li> <li>5. Go to Infectious Disease Dashboard (found on special pathogen intranet page). Type disease or country(s) traveled. If positive for travel areas with active highly infectious disease transmission  <div> <div>YES</div> <div>NO</div> </div> </li> <li>6. Escort patient with surgical mask on to isolation room keeping a distance of 3 feet away of patient.</li> <li>7. Post "Screening in Progress" sign on door, place Special Pathogen Cart outside room and, notify provider of travel/symptom(s)  <div> <div>Stop screening process and continue patient assessment per appropriate procedures</div> </div> </li> </ol>	<p>Recommended triage PPE: mask &amp; gloves</p> <p></p> <p>Special Pathogen Intranet page: <a href="http://hhcintrader.nychhc.org/corppolicies/Special-Pathogens/Pages/Index.aspx">http://hhcintrader.nychhc.org/corppolicies/Special-Pathogens/Pages/Index.aspx</a></p> <p>Note: highly infectious diseases may be considered even in the absence of specific travel alerts and consider domestic infectious disease outbreaks.</p> <p>If available, contact your facility infectious disease/ infection control department(s) for guidance.</p> <p>Recommended escort PPE: mask &amp; gloves</p>
Patient Room	Provider	<ol style="list-style-type: none"> <li>8. Provider to put on appropriate PPE ensemble if entering patient's room or perform evaluation remotely</li> <li>9. Conduct patient assessment and determine exposure risk. Is there a concern for a highly infectious disease?  <div> <div>YES</div> <div>NO</div> </div> <div> <div>Stop screening process and continue patient assessment per appropriate procedures</div> </div> </li> <li>10. Notify infection control to discuss case</li> <li>11. Document evaluation in EMR</li> <li>12. Call NYCDOHMH Provider Access Line: 866-692-3641 to discuss case.</li> </ol> <p>After consultation with NYCDOHMH if patient is suspected to have a special pathogen and is classified as a person under investigation (PUI) immediately notify Facility's Medical Director &amp; Central Office Special Pathogens Program: 646-864-5442</p>	<p>Special Pathogen Level 1 PPE: N95, 2 pairs of gloves, impermeable gown, face shield</p> <p>Special Pathogen Level 2 Viral Hemorrhagic Fever (VHF): N95, face shield, coverall, 2 pairs of gloves, hood, shoe cover, apron (level 2 for all VHF suspected cases)</p> <p>Refer to special pathogen intranet page for additional guidance</p> <p></p> <p>Call to NYCDOHMH</p> <p>Be prepared to provide patient demographic information, travel and symptom information (e.g., dates and locations of travel, date of symptom onset), comorbidities, and any additional epidemiological linkages</p>

LOCATION	ROLE	ACTIVITY	NOTES
Registration Desk	Greeter/ Triage RN	<p><b>1.</b> Ask patient: in the past week have you had fever, have you had a cough, have you had a rash?</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><b>YES</b></p> <p>↓</p> <p>Give patient surgical mask and ask to use alcohol-based hand sanitizer</p> <p>↓</p> </div> <div style="text-align: center;"> <p><b>NO</b></p> <p>↓</p> <p>Stop screening process, and proceed with patient registration</p> </div> </div> <p><b>2.</b> Ask patient: have you traveled outside the country within the past 30 days OR had contact with someone that has traveled and is sick within the past 30 days?" ?</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><b>YES</b></p> <p>↓</p> </div> <div style="text-align: center;"> <p><b>NO</b></p> <p>↓</p> <p>Stop screening process, and proceed with patient registration</p> </div> </div> <p><b>3.</b> Notify Triage RN to report travel/symptoms</p>	<p>Instruct patient how to put on mask</p> <p>If patient has yes to any fever, cough or rash escort patient to private room if available and continue patient assessment</p>



Triage/Clinic

RN/  
Provider

4. Conduct initial assessment and travel history: ask what country(s) patient has traveled to OR had contact with someone that has traveled and is sick in the past 30 days?

YES



5. Go to Infectious Disease Dashboard (found on special pathogen intranet page). Type disease or country(s) traveled. If positive for travel areas with active highly infectious disease transmission

YES



6. Escort patient with surgical mask on to isolation room keeping a distance of 3 feet away of patient.

7. Post "Screening in Progress" sign on door, place Special Pathogen Cart outside room and, notify provider of travel/symptom(s)

NO

NO



Stop screening process and continue patient assessment per appropriate procedures

Recommended triage PPE:  
mask & gloves



Special Pathogen Intranet page:  
<http://hhcinsider.nychhc.org/corpoftices/Special-Pathogens/Pages/Index.aspx>

Note: highly infectious diseases may be considered even in the absence of specific travel alerts and consider domestic infectious disease outbreaks.

If available, contact your facility infectious disease/ infection control department(s) for guidance.

Recommended escort PPE:  
mask & gloves

# Patient Isolation

- The patient in a private room or separate enclosed area
  - Toilet or bedside commode available
  - If not in an AIIR room ensure patient is wearing a mask if exhibiting respiratory symptoms
- Dedicated equipment, supplies
- Minimize transmission risk
  - Essential personnel
  - Exposure logs
  - All entering are wearing appropriate PPE



Patient Room

Provider

8. Provider to put on appropriate PPE ensemble if entering patient's room or perform evaluation remotely
9. Conduct patient assessment and determine exposure risk. Is there a concern for a highly infectious disease?

YES

NO

Stop screening process and continue patient assessment per appropriate procedures

10. Notify infection control to discuss case

11. Document evaluation in EMR

12. Call NYCDOHMH Provider Access Line: 866-692-3641 to discuss case.

After consultation with NYCDOHMH if patient is suspected to have a special pathogen and is classified as a person under investigation (PUI) immediately notify Facility's Medical Director & Central Office Special Pathogens Program: 646-864-5442

**Special Pathogen Level 1 PPE:**  
N95, 2 pairs of gloves, impermeable gown, face shield

**Special Pathogen Level 2 Viral Hemorrhagic Fever (VHF) :**  
N95, face shield, coverall, 2 pairs of gloves, hood, shoe cover, apron (level 2 for all VHF suspected cases)

Refer to special pathogen intranet page for additional guidance



#### Call to NYCDOHMH

Be prepared to provide patient demographic information, travel and symptom information (e.g., dates and locations of travel, date of symptom onset), comorbidities, and any additional epidemiological linkages

# Whom to Notify

- Internal Contacts
  - Medical, Nursing, Infection Control, Administration
- External Contacts
  - NYC DOHMH Provider Access Line
- HICS Activation / EOP / IRG
  - If high index case and PUI classification by DOHMH

# Special Pathogens Response Matrix

NYC Health + Hospitals Special Pathogens Response Matrix

Disease	Causative Agent	Initial Signs/Symptoms	Isolation Precautions	Personal Protective Equipment (PPE)	Notification to Hospital AOD/Attending/ Med. Director	Notification to local Department of Health Provider Across Line: 866-692-3641	Notification to Central Office Special Pathogens	Activation of Hospital Incident Command System	Transfer to Specialty Hospital	POC Testing	Altered Lab Practices	Packaging & Shipping of Specimens	Division 6.2 Infectious Substances Category: A or B
Ebola	<i>Ebola virus (filovirus)</i>	Fever, Severe headache, Muscle pain, Weakness, Fatigue, Diarrhea, Vomiting, Abdominal (stomach) pain, unexplained hemorrhage	Standard, Contact, and Airborne	SP Level 2 VHF	Yes	Yes	Yes	Yes	Yes	Consult PAC, ID-on call and NYC DOHMH	Yes	Packaged by certified staff. Specimen packaged in basic triple packaging system; Sent to NYC DOHMH	Category A
Lassa Fever	<i>Lassa fever virus (arenavirus)</i>	Slight fever, general malaise and weakness, and headache	Standard, Contact, and Airborne	SP Level 2 VHF	Yes	Yes	Yes	Yes	Yes	Consult PAC, ID-on call and NYC DOHMH	Yes	Packaged by certified staff. Specimen packaged in basic triple packaging system; Sent to NYC DOHMH	Category A
Marburg	<i>Marburg virus (filovirus)</i>	Fever, chills, headache, and myalgia	Standard, Contact, and Airborne	SP Level 2 VHF	Yes	Yes	Yes	Yes	Yes	Consult PAC, ID-on call and NYC DOHMH	Yes	Packaged by certified staff. Specimen packaged in basic triple packaging system; Sent to NYC DOHMH	Category A
Crimson-Congo Hemorrhagic Fever	<i>Burtonvirus</i>	headache, high fever, back pain, joint pain, stomach pain, vomiting, red eyes, flushed face, red throat, petechiae (red spots) on the palate	Standard, Contact, and Airborne	SP Level 2 VHF	Yes	Yes	Yes	Yes	Yes	Consult PAC, ID-on call and NYC DOHMH	Yes	Packaged by certified staff. Specimen packaged in basic triple packaging system; Sent to NYC DOHMH	Category A
Lassa Hemorrhagic Fever (South Africa)	<i>Egbo virus (arenavirus)</i>	a morbilliform rash of the face and trunk, face and neck swelling, pharyngitis (sore throat), diarrhea	Standard, Contact, and Airborne	SP Level 2 VHF	Yes	Yes	Yes	Yes	Yes	Consult PAC, ID-on call and NYC DOHMH	Yes	Packaged by certified staff. Specimen packaged in basic triple packaging system; Sent to NYC DOHMH	Category A
S. American Hemorrhagic Fever's (Machupo, Junin)	<i>Machupo virus, Junin virus</i>	fever, headache, fatigue, myalgia, arthralgia	Standard, Contact, and Airborne	SP Level 2 VHF	Yes	Yes	Yes	Yes	Yes	Consult PAC, ID-on call and NYC DOHMH	Yes	Packaged by certified staff. Specimen packaged in basic triple packaging system; Sent to NYC DOHMH	Category A
Smallpox	<i>Varicella virus</i>	fever, head and body aches, malaise, and rash	Standard, Contact, and Airborne	SP Level 1	Yes	Yes	Yes	Yes	Yes	Consult PAC, ID-on call and NYC DOHMH	Yes	Packaged by certified staff. Specimen packaged in basic triple packaging system; Sent to NYC DOHMH	Category A
SARS-CoV	<i>Corona virus</i>	fever, headache, fatigue, cough	Standard, Contact, and Airborne	SP Level 1	Yes	Yes	Yes	Yes	Yes	Consult PAC, ID-on call and NYC DOHMH	Yes	Packaged by certified staff. Specimen packaged in basic triple packaging system; Sent to NYC DOHMH	Category B
Monkeypox	<i>monkeypox virus</i>	Fever, Headache, Muscle aches, Backache, Swollen lymph nodes, Chills, Exhaustion, rash	Standard, Contact, and Airborne	SP Level 1	Yes	Yes	Yes	Yes	case-by-case basis	Consult PAC, ID-on call and NYC DOHMH	No	Packaged by certified staff. Specimen packaged in basic triple packaging system; Sent to NYC DOHMH	Category A
MERS-CoV	<i>Corona virus</i>	fever, cough, shortness of breath	Standard, Contact, and Airborne	SP Level 1	Yes	Yes	Yes	Yes	case-by-case basis	Consult PAC, ID-on call and NYC DOHMH	No	Packaged by certified staff. Specimen packaged in basic triple packaging system; Sent to NYC DOHMH	Category B
Plague (pneumonic)	<i>Yersinia Pestis</i>	Fever, headache, weakness, rapidly developing pneumonia, chest pain, shortness of breath	Standard and Droplet	SP Level 1	Yes	Yes	Yes	Yes	case-by-case basis	Consult PAC, ID-on call and NYC DOHMH	No	Packaged by certified staff. Specimen packaged in basic triple packaging system; Sent to NYC DOHMH	Category A (cultures only)
Hantavirus (hemorrhagic)	<i>Hantavirus</i>	Headache, back and abdominal pain, fever, chills, nausea, blurred vision	Standard	SP Level 1	Yes	Yes	Yes	Yes	case-by-case basis	Consult PAC, ID-on call and NYC DOHMH	No	Packaged by certified staff. Specimen packaged in basic triple packaging system; Sent to NYC DOHMH	Category A
Novel influenza with pandemic potential (e.g., H5N1, H7N9, H5N1)	<i>influenza virus</i>	—	Standard, Contact and Airborne	SP Level 1	Yes	Yes	Yes	Yes	case-by-case basis	Consult PAC, ID-on call and NYC DOHMH	No	Packaged by certified staff. Specimen packaged in basic triple packaging system; Sent to NYC DOHMH	—
Unknown Illness of Public Health Concern	—	—	Standard, Contact, and Airborne	SP Level 1 or SP Level 2 VHF	Yes	Yes	Yes	Yes	case-by-case basis	Consult PAC, ID-on call and NYC DOHMH	—	Packaged by certified staff. Specimen packaged in basic triple packaging system; Sent to NYC DOHMH	—

**Legend:**

Special Pathogen Level 1 N95 mask, 2 pairs of extended cuff gloves, surgical gown, face shield

Special Pathogen Level 2 VHF N95 mask, 2 pairs of gloves, coverall, apron, face shield, booties, hood

Adhere to airborne precautions for any aerosol generating procedure

Point-of-Care (POC) Testing - Avoid performing diagnostic tests or invasive procedures except in emergency situations in patients with low likelihood of Infectious Substance Category A special pathogens (as determined by the IP, ID-on call and NYC DOHMH)

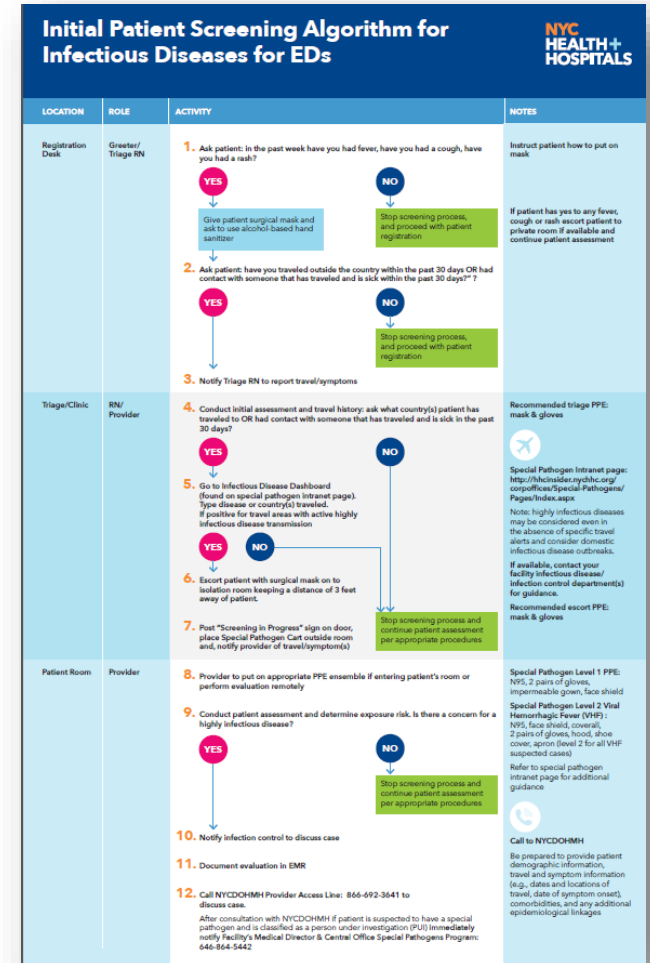
\* Applicable for collecting and sending specimens / Packaging checklists <https://www.cdc.gov/coronavirus/2019-nCoV/downloads/lab/SAC-1-Pak-packaging-checklist.pdf> and [https://hastematerials.pharma.doi.gov/revview/publication\\_documents/Transporting%20Infectious%20Substances%20Safety.pdf](https://hastematerials.pharma.doi.gov/revview/publication_documents/Transporting%20Infectious%20Substances%20Safety.pdf)

CATEGORY A: An infectious substance in a form capable of causing permanent disability or life-threatening or fatal disease in otherwise healthy humans or animals when exposure to it occurs. An exposure occurs when an infectious substance is released outside of its protective packaging, resulting in physical contact with humans or animals. Classification must be based on the basis

CATEGORY B: An infectious substance not in a form generally capable of causing permanent disability or life-threatening or fatal disease in otherwise healthy humans or animals when exposure to it occurs. This includes Category B infectious substances transported for diagnostic or investigational purposes

# Identify, Isolate, Inform

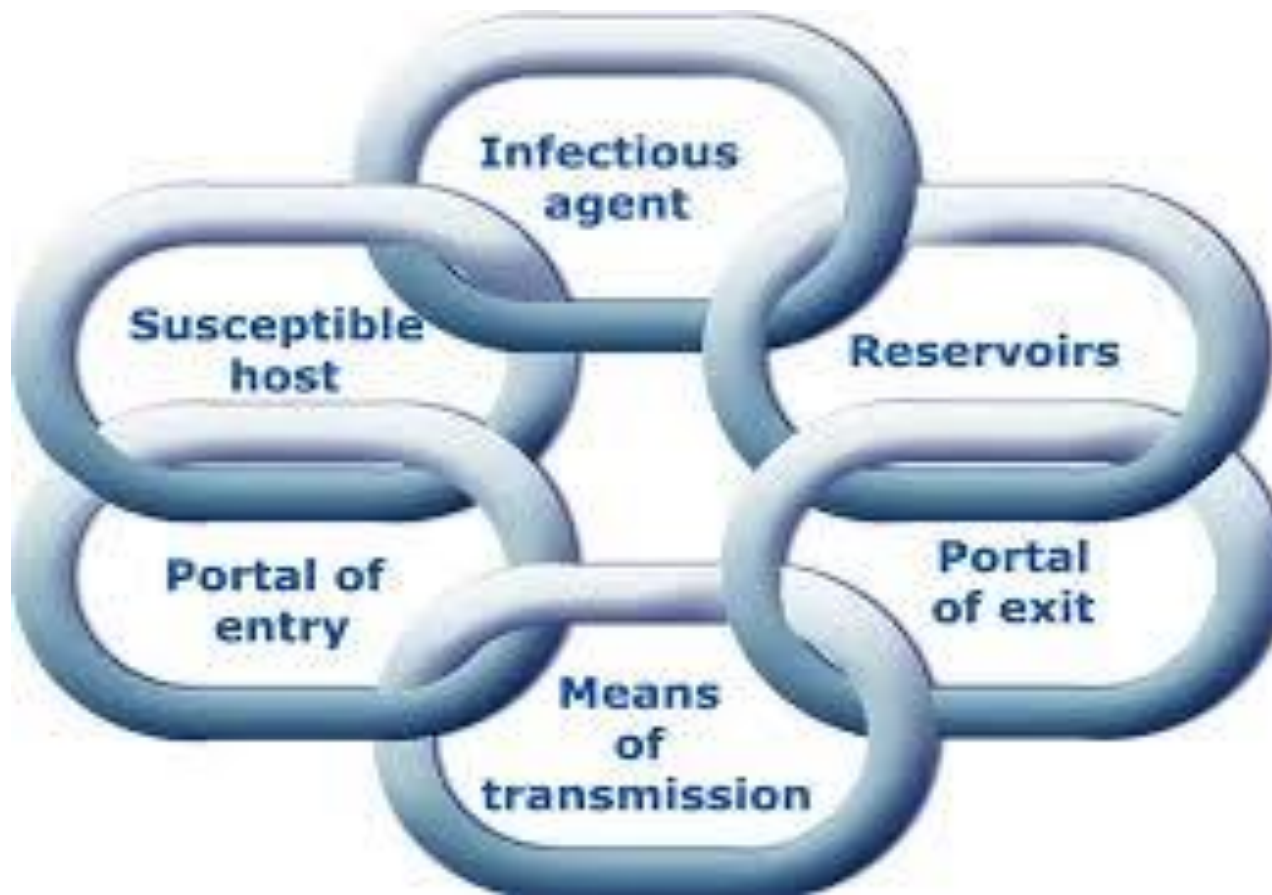
- Practical considerations
  - Scenario 1: Fever and rash
  - Scenario 2: Fever and travel to an outbreak area
  - Scenario 3: Fever and respiratory symptoms with epidemiologic risk factors



# Infection Control 101: The Basics Reviewed

- Infection control key points
  - Reservoirs
  - Portals of exit
  - Host susceptibility
  - Infectious agents
    - Bacteria
    - Viruses
    - Fungi

# Breaking the Chain of Infection





# Stages of Infection

- Incubation period
- Prodromal stage
- Full stage of illness (Acute)
- Convalescent period

# Transmission

- Direct transmission
- Indirect transmissions
- Standard precautions
- Transmission-based precautions

# Direct and Indirect Transmission

- Direct
  - Direct body surface-to-body surface contact
  - Physical transfer of microorganisms between a susceptible host and an infected or colonized person
- Indirect
  - Contact of a susceptible host with a contaminated intermediate object, such as contaminated instruments, needles, or dressings, or contaminated hands or gloves

# Standard Precautions

- Use with ALL patients to prevent exposure to blood, body fluids, non-intact skin and mucous membranes
- Not just hand hygiene!
- Very under-utilized



# Transmission-Based Precautions

- The second tier of basic infection control precautions
- Are to be used in addition to Standard Precautions
- For patients who may be infected or colonized with certain infectious agents for which additional precautions are needed to prevent infection transmission

# Transmission-Based Precautions

- Contact precautions
- Airborne precautions
- Droplet precautions

# Contact Precautions

- Infections spread by direct or indirect contact with patients or patient-care environment – VRE, C. difficile, MRSA
- Limit patient movement
- Private room or cohort with patients with same infection
- Wear disposable gown and gloves when entering the patient room
- Remove and discard used disposable gown and gloves inside the patient room
- Wash hands immediately after leaving the patient room
- Clean patient room daily using a hospital disinfectant, with attention to frequently touched surfaces
  - bed rails, bedside tables, lavatory surfaces, blood pressure cuff, equipment surfaces
- Use dedicated equipment if possible (e.g., stethoscope)



# Droplet Precautions

- Reduce the risk of transmission by large particle droplets (larger than 5  $\mu\text{m}$  in size)
- Requires close contact between the source person and the recipient
- Droplets usually travel 3 feet due to:
  - coughing
  - sneezing
  - talking
  - procedures such as suctioning or bronchoscopy
- Transmission via conjunctivae, nasal mucosa, or mouth
- Influenza, Rubella, Parvovirus B19, H. influenzae, and N. meningitidis



# Airborne Precautions

- Small-particle residue {5 $\mu$ m or smaller} of evaporated droplets containing microorganisms
- Suspended in the air for long periods of time
- Dispersed by air currents
- Inhaled by a susceptible host within the same room or over a longer distance



Break



# Special Considerations

# Topical Outline

- Special considerations to behavioral support
- Special considerations for pediatric patients
- Special considerations for geriatric patients



# Behavioral Support

# Mental Health Triage

- Identification of those at risk for adverse mental health outcomes
  - Known diagnosis
    - e.g., depression, anxiety, psychosis
  - Anticipatory reactions

# Mental Health Triage: Identification of Signs and Symptoms

- Jumpiness or startling easily
- Behavior problems
  - Oppositional
  - Argumentative
  - Disorientation and confusion
    - Walking aimlessly
    - Immobile (frozen)
  - Combative

# Acute Stress Reactions: Fight or Flight Response

- Fear, anxiety, hysterics
- Isolation, potential or confirmed diagnosis
- Unknown outcome; disability / death
- Finances
- Relationships



# Chronic Stress Reactions: Common Markers (1)

- Persistent fears
- Sleep disturbances
- Loss of concentration and irritability
- Jumpiness or startling easily
- Hypervigilance
- Regressive behavior

## Chronic Stress Reactions: Common Markers (2)

- Unexplained physical complaints
- Withdrawal and depression
  - Sadness
  - Listless
  - Decreased activity
  - Pre-occupation with situational events

# Treatment

- Immediate and continuous psychological support
  - Allocation of psychiatric resources and personnel
  - Specialized practitioners
  - Therapeutic milieu use
  - Crisis intervention communication



# Pediatric Patients

# Pediatric Triage and Separation

- Pre-hospitalization
- Emergency Department triage
- Allocation of Resources
- Methods of pediatric identification and monitoring
- Cognitive development and developmental stage of the pediatric patient
- Separation of families and children from legal guardians
  - Ethics and legal considerations

# Pediatric Care Considerations

- Reunification Considerations
- Social Service Considerations
  - Disparate effect on households and families
- Key components of effective social support system
  - Coordination of services
    - Cooperation with public, non-profit, and governmental entities
  - Flexibility
    - Ability to expand or contract the scope of social services being delivered
  - Capacity
    - Ability to marshal additional resources from various areas throughout the region
  - Duration



# Geriatric Patients

# Geriatric Considerations

- Observation and awareness
  - Potential for self-harm
- Alert for co-morbidities
  - Diabetes, cardiovascular, respiratory, dementia
- Poly-pharmacy



## Pre-existing or Condition Status

- Confusion
- Fear
- Hopelessness
- Sleeplessness
- Anxiety
- Grief
- Shock
- Guilt
- Shame
- Loss of confidence in themselves and others

## Core Actions

- Contact and engagement
- Safety and comfort
- Stabilization
- Information gathering; current needs and concerns
- Practical assistance
- Connection with social supports
- Information on coping
- Linkage with collaborative services



## Module Two

# PPE Donning Technique for Special Pathogens Level 1 Ensemble

# Module Outline

- Identify the proper personal protective equipment (PPE) in Special Pathogen Level 1 PPE Ensemble
- Donning of SP Level 1 PPE using the checklist
- Hand signal communication in PPE
- Managing a PPE failure and serious soiling
- Doffing of SP Level 1 PPE using the checklist
- Proper PPE disposal and hand hygiene after doffing PPE

# SP Level 1 PPE Ensemble

PPE Type	Description
N95 Respirator	Fit-tested NIOSH-certified disposable N95 filtering facepiece
Face Shield	Disposable full face shield
Surgical Gown	Disposable surgical gown (smartgown)
Gloves (2 pairs)	2s pair of extended-cuff gloves

# Effects of PPE use on Human Performance

- Properly fitted PPE can:
  - Restrict otherwise full range of motion
  - Narrow visual field
  - Create heat build up and retention while wearing
- Poorly fitted PPE can:
  - Create tripping / slipping hazard
  - Force poor body mechanics to compensate
  - Create gaps at critical junctions leading to contamination
  - Increased mental stress and lead to critical performance errors

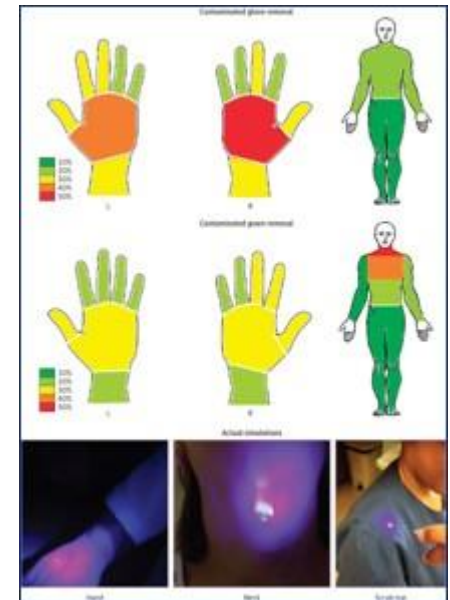


# Healthcare Worker Safety During PPE Use

- PPE must:
  - Have safe design and construction for work performed
  - Protect against the hazard
  - Protect the route of entry
  - Be maintained in a safe and sanitary condition
  - Be used properly

# PPE Breach and Soiling

- Improper storage of PPE can lead to degradation of material and produce failure during use
- Breaches and soiling can be immediately obvious or occult
- Breaches can occur even with proper fitting PPE
- Invasive procedures, clinical sampling increases potential of soiling





# Management of breaches and soiling

- Identify situation, alert staff
- Remove from contamination source
- Gross contamination: blot with absorbent wipe, swipe into receptacle
- Apply EPA-registered disinfection wipe(s) for initial disinfection per directions
- Self-decontamination, shower as appropriate
- Medical follow-up, surveillance



# Checklist for Donning Special Pathogen Level 1 PPE

<b>Level 1 DONNING CHECKLIST</b>			
Step #	Task	Criteria	Completed
1.	Gather PPE in proper sizes	<ul style="list-style-type: none"> <li>Surgical gown</li> <li>N95 respirator mask</li> <li>Nitrile gloves, extended cuff (2 pr.)</li> <li>Face shield</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
2.	Prepare to don PPE	<ul style="list-style-type: none"> <li>Trained observer present with checklist</li> <li>OUTSIDE of the patient's room</li> <li>Remove watches, jewelry, and dangling items that could interfere with integrity of PPE</li> <li>Secure eyeglasses with a tie</li> <li>Hydrate and attend to personal hygiene</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
3.	Inspect PPE	<ul style="list-style-type: none"> <li>Inspect PPE for serviceability (e.g., not torn or ripped) and proper size</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
4.	Perform hand hygiene	<ul style="list-style-type: none"> <li>Perform hand hygiene with alcohol-based hand sanitizer</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
5.	Don nitrile gloves (inner)	<ul style="list-style-type: none"> <li>Don nitrile inner gloves</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
6.	Don surgical gown	<ul style="list-style-type: none"> <li>Fully covers torso from neck to knees; arms to end of wrists</li> <li>Fastens at the back of neck; ties at waist</li> <li>Do not tie inside ties</li> <li>Ensures no trip hazard exists</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
7.	Don N95 respirator	<ul style="list-style-type: none"> <li>Don N95 mask and check for seal</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
8.	Don nitrile gloves (outer)	<ul style="list-style-type: none"> <li>Extends to cover the sleeves or cuffs of the isolation gown</li> <li>Tuck excess material at sleeve into cuff</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
9.	Don face shield	<ul style="list-style-type: none"> <li>Positions shield above eyebrows and mid-forehead to cover eyes</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
10.	Inspection	<ul style="list-style-type: none"> <li>Extends arms and verifies integrity of PPE with observer:               <ul style="list-style-type: none"> <li>Bends at waist</li> <li>Squats and returns to standing position</li> <li>Slowly turns in circle for final inspection</li> </ul> </li> <li>Observer to mark suit with wearer's name and time donned</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No

Module Two

# **MERS Specimen Collection**

## *Clinical Simulation One*

## Module Outline

- Understand MERS testing requirements and specimen collection process
- Orientation to the mannikins
- Nasopharyngeal / oropharyngeal swab sampling demonstration
- Blood drawing demonstration

# Laboratory Workup

- Laboratory testing critical to patient management will be performed in accordance with facility policy and procedure and in coordination with city/state health department
- Patients who meet the criteria for suspected special pathogens (classified as PUI) as deemed by city/state health department may undergo specific testing per differential diagnosis

# Key Steps for MERS Case Screening

1. Confirm that case meets CURRENT CASE DEFINITION for a Patient Under Investigation (PUI)
2. Implement INFECTION CONTROL precautions
3. Notify appropriate internal & external contacts
  - CALL NYC DOHMH Provider Access Line to ascertain risk: 1-866-692-3614
4. If advised by NYC DOHMH, proceed with COLLECTION OF CLINICAL SPECIMENS for diagnostic testing and transport to Public Health Laboratory for testing

# CDC Case Definition for MERS PUI

Based on the [CDC Case Definition for a MERS PUI](#) (case definition updated July 2016), cases should meet the following clinical and epidemiologic criteria to be considered for investigation:

Clinical Features		Epidemiologic Risk
<b>Severe illness</b> Fever <sup>1</sup> <i>and</i> pneumonia or acute respiratory distress syndrome (based on clinical or radiological evidence)	and	A history of travel from countries in or near the Arabian Peninsula <sup>2</sup> within 14 days before symptom onset, <i>or</i> close contact <sup>3</sup> with a symptomatic traveler who developed fever <sup>1</sup> and acute respiratory illness (not necessarily pneumonia) within 14 days after traveling from countries in or near the Arabian Peninsula <sup>2</sup> .  – <i>or</i> –  A member of a cluster of patients with severe acute respiratory illness (e.g., fever <sup>1</sup> and pneumonia requiring hospitalization) of unknown etiology in which MERS-CoV is being evaluated, in consultation with state and local health departments in the US.
<b>Milder illness</b> Fever <sup>1</sup> <i>and</i> symptoms of respiratory illness (not necessarily pneumonia; e.g., cough, shortness of breath)	and	A history of being in a healthcare facility (as a patient, worker, or visitor) within 14 days before symptom onset in a country or territory in or near the Arabian Peninsula <sup>2</sup> in which recent healthcare-associated cases of MERS have been identified.
Fever <sup>1</sup> <i>or</i> symptoms of respiratory illness (not necessarily pneumonia; e.g., cough, shortness of breath)	and	Close contact <sup>3</sup> with a confirmed MERS case while the case was ill.

# Healthcare Worker Safety During Specimen Collection

- Maintain proper infection control practices when collecting specimens
- Use approved collection methods and equipment when collecting specimens
- Handle, store, and ship specimens following appropriate protocols



MERS Specimen Collection CHECKLIST

	Task	Criteria	Completed																												
1.	Patient preparation																														
2.	Approval and orders																														
3.	Specimens to be taken	<table border="1"> <thead> <tr> <th></th> <th>Task</th> <th>Criteria</th> <th>Completed</th> </tr> </thead> <tbody> <tr> <td>6.</td> <td>Respiratory Specimen Collection</td> <td> <p>A. Bronchoalveolar lavage, tracheal aspirate, pleural fluid: 1. Collect 2-3 mL into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container.</p> </td> <td></td> </tr> <tr> <td>8.</td> <td>Packaging</td> <td> <ul style="list-style-type: none"> <li>Place the specimen vial into a labeled biohazard bag</li> </ul> </td> <td> <input type="checkbox"/> Yes  <input type="checkbox"/> No </td> </tr> <tr> <td>9.</td> <td>Cleanup</td> <td> <ul style="list-style-type: none"> <li>Dispose of remaining waste into appropriate receptacles</li> </ul> </td> <td> <input type="checkbox"/> Yes  <input type="checkbox"/> No </td> </tr> <tr> <td>10.</td> <td>Documentation</td> <td> <ul style="list-style-type: none"> <li>Label all specimens with the patient's first and last name, date of birth, type of specimen, and date and time of collection</li> <li>Complete one Public Health Laboratory (PHL) Test Request Form<sup>1</sup> for EACH specimen</li> </ul> </td> <td> <input type="checkbox"/> Yes  <input type="checkbox"/> No </td> </tr> <tr> <td>11.</td> <td>Delivery to Central Accessioning Room/Lab</td> <td> <ul style="list-style-type: none"> <li>Hand-deliver the specimen to the lab including PHL forms; do not send through the pneumatic tube system</li> </ul> </td> <td> <input type="checkbox"/> Yes  <input type="checkbox"/> No </td> </tr> <tr> <td>12.</td> <td>Facility's Central Accessioning Room/Lab</td> <td> <ul style="list-style-type: none"> <li>Central Accessioning Room/Lab staff to centrifuge the serum sample and parafilm the top to secure the cap</li> <li>Specimens will be packaged as follows: <ul style="list-style-type: none"> <li>1. Individually bagged tubed samples will be placed into bio-hazard bags and placed in bubble wrap</li> <li>2. The leak-proof lower respiratory contained will be placed into a bio-hazard bag</li> <li>3. All bagged specimens to be placed into individual Tyvek envelopes.</li> <li>4. Tyvek Envelops to be placed into a UN3373 Cat B Biological Substance container</li> </ul> </li> <li>Once packaged, contact NYCDOHMH Provider Access Line at 1-866-692-3641 to arrange for delivery</li> </ul> <p>If samples are unable to be shipped within 72 hours of collection, they should be stored at -70°C and shipped on dry ice.</p> </td> <td></td> </tr> </tbody> </table>		Task	Criteria	Completed	6.	Respiratory Specimen Collection	<p>A. Bronchoalveolar lavage, tracheal aspirate, pleural fluid: 1. Collect 2-3 mL into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container.</p>		8.	Packaging	<ul style="list-style-type: none"> <li>Place the specimen vial into a labeled biohazard bag</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	9.	Cleanup	<ul style="list-style-type: none"> <li>Dispose of remaining waste into appropriate receptacles</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	10.	Documentation	<ul style="list-style-type: none"> <li>Label all specimens with the patient's first and last name, date of birth, type of specimen, and date and time of collection</li> <li>Complete one Public Health Laboratory (PHL) Test Request Form<sup>1</sup> for EACH specimen</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	11.	Delivery to Central Accessioning Room/Lab	<ul style="list-style-type: none"> <li>Hand-deliver the specimen to the lab including PHL forms; do not send through the pneumatic tube system</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	12.	Facility's Central Accessioning Room/Lab	<ul style="list-style-type: none"> <li>Central Accessioning Room/Lab staff to centrifuge the serum sample and parafilm the top to secure the cap</li> <li>Specimens will be packaged as follows: <ul style="list-style-type: none"> <li>1. Individually bagged tubed samples will be placed into bio-hazard bags and placed in bubble wrap</li> <li>2. The leak-proof lower respiratory contained will be placed into a bio-hazard bag</li> <li>3. All bagged specimens to be placed into individual Tyvek envelopes.</li> <li>4. Tyvek Envelops to be placed into a UN3373 Cat B Biological Substance container</li> </ul> </li> <li>Once packaged, contact NYCDOHMH Provider Access Line at 1-866-692-3641 to arrange for delivery</li> </ul> <p>If samples are unable to be shipped within 72 hours of collection, they should be stored at -70°C and shipped on dry ice.</p>		
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4.	Specimen Collection Materials	7. Blood Component Specimen Collection																													
5.	Staff PPE																														

## Module Two

# PPE **Doffing** Technique for Special Pathogens Level 1 Ensemble

**Level 1 DOFFING CHECKLIST**

Level 1 DOFFING CHECKLIST			
Step #	Task	Criteria	Completed
1.	Trained Observer	<ul style="list-style-type: none"> <li>Engage the trained observer outside patient room with the checklist</li> <li>Determine contact time requirement for disinfectant wipe per product label</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
2.	Inspect PPE	<ul style="list-style-type: none"> <li></li> <li></li> </ul>	
3.	Perform hand hygiene	<ul style="list-style-type: none"> <li></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
4.	Doff gloves	<ol style="list-style-type: none"> <li></li> <li></li> <li></li> <li></li> </ol>	<input type="checkbox"/> Yes <input type="checkbox"/> No
5.	Hand hygiene	<ul style="list-style-type: none"> <li></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
6.	Don nitrile gloves	<ul style="list-style-type: none"> <li></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
7.	Doff face shield	<ul style="list-style-type: none"> <li></li> <li></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
8.	Hand hygiene	<ul style="list-style-type: none"> <li></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
9.	Doff isolation gown	<ul style="list-style-type: none"> <li></li> <li></li> <li></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No

Level 1 DOFFING CHECKLIST			
Step #	Task	Criteria	Completed
10.	Perform hand hygiene	<ul style="list-style-type: none"> <li>Perform hand hygiene by using an EPA-registered disinfectant wipe (allow contact time per product label) or with alcohol-based hand sanitizer</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
11.	Doff gloves	<ol style="list-style-type: none"> <li>Using gloved hand, grasp the palm area of the other gloved hand and peel off first glove</li> <li>Hold the removed glove in the opposite, gloved hand</li> <li>Slide fingers of the ungloved hand under the remaining glove at the wrist and peel off the remaining outer glove over the first glove</li> <li>Discard both outer gloves in the infectious waste container</li> </ol>	<input type="checkbox"/> Yes <input type="checkbox"/> No
12.	Hand hygiene	<ul style="list-style-type: none"> <li>Clean hands with alcohol-based hand sanitizer</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
13.	Don nitrile gloves	<ul style="list-style-type: none"> <li>Don a new pair of nitrile gloves</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
14.	Relocate	<ul style="list-style-type: none"> <li>Move to designated doffing area</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
15.	Remove N95 respirator	<ul style="list-style-type: none"> <li>Remove N95 respirator from the back to front and discard in the infectious waste container</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
16.	Doff final gloves	<ul style="list-style-type: none"> <li>Remove gloves using same procedure as first two pairs</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
17.	Hand Hygiene	<ul style="list-style-type: none"> <li>Wash or clean hands with an alcohol-based hand sanitizer; hands completely dry before exiting the area</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
18.	Inspect	<ul style="list-style-type: none"> <li>Inspect for any contamination of the clothing worn under the PPE. If there is contamination, shower immediately.</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
19.	Follow Up	<ul style="list-style-type: none"> <li>Perform staff rehab, medical monitoring, documentation, and behavioral wellness check as indicated</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No



Lunch



## Module Three

# PPE Donning Technique for Special Pathogens Level 2 VHF PPE Ensemble

# Module Outline

- Identify the proper personal protective equipment (PPE) in Special Pathogen Level 2 VHF PPE Ensemble
- Donning of SP Level 2 VHF PPE using the checklist
- Doffing of SP Level 2 VHF PPE using the checklist
- Hand signal communication in PPE
- Managing a PPE failure and serious soiling
- Proper PPE disposal and hand hygiene after doffing PPE

# SP Level 2 VHF PPE Ensemble

PPE Type	Description
N95 Respirator	Fit-tested NIOSH-certified disposable N95 filtering facepiece
Face Shield	Disposable full face shield
Gloves - Inner	Inner gloves - extended cuff
Gloves - Outer	Outer gloves - extended cuff
Hood	Surgical hood extending to shoulders
Impervious shoe cover	Extend to at least mid-calf
Waterproof Apron	Covers the torso to the level of the mid-calf
Coverall	Worn underneath Level 2 PPE

# Checklist for Donning Special Pathogen Level 2 VHF PPE

SP Level 2 VHF DONNING CHECKLIST			
Step #	Task	Criteria	Completed
1.	Gather PPE in proper sizes	<ul style="list-style-type: none"> <li>N95 respirator mask</li> <li>Face shield</li> <li>Impervious coverall</li> <li>Surgical gown</li> <li>Nitrile gloves, non-extended cuff</li> <li>Nitrile gloves, extended cuff, non-extended (outer)</li> <li>Surgical hood</li> <li>Impervious high-top shoe cover</li> <li>Waterproof apron</li> </ul>	
2.	Prepare to don PPE	<ul style="list-style-type: none"> <li>Trained observer present with clipboard</li> <li>OUTSIDE of the patient's room</li> <li>Remove watches, jewelry and devices that could interfere with integrity</li> <li>Secure eyeglasses with a tie</li> <li>Hydrate and attend to personal hygiene</li> </ul>	
3.	Inspect PPE	<ul style="list-style-type: none"> <li>Inspect PPE for serviceability (e.g., ripped) and proper size</li> </ul>	
4.	Perform hand hygiene	<ul style="list-style-type: none"> <li>Perform hand hygiene with alcohol hand sanitizer</li> </ul>	
5.	Don gloves	<ul style="list-style-type: none"> <li>Don non-extended cuff nitrile inner gloves</li> </ul>	
6.	Don impervious coverall	<ul style="list-style-type: none"> <li>Ensure coverall is large enough to allow unrestricted freedom of movement</li> <li>Ensure cuffs of inner gloves are tucked into the sleeve of the coverall</li> </ul>	
7.	Don impervious boot covers	<ul style="list-style-type: none"> <li>Sit down and pull on impervious boot covers</li> </ul>	
8.	Don surgical gown	<ul style="list-style-type: none"> <li>Fully covers torso from neck to knees and ends of wrists</li> <li>Fastens at the back of neck; ties are not tied in front</li> <li>Do not tie inside ties</li> <li>Ensures no trip hazard exists</li> </ul>	
9.	Don N95 respirator	<ul style="list-style-type: none"> <li>Don N95 mask and check for seal</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No

SP Level 2 VHF DONNING CHECKLIST			
Step #	Task	Criteria	Completed
10.	Don surgical hood	<ul style="list-style-type: none"> <li>Ensure that the hood covers all the hair and ears</li> <li>Place hood over the mask and secure appropriately</li> <li>Recheck that eyeglasses are secured</li> <li>Recheck N95 mask for seal</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
11.	Don outer nitrile gloves	<ul style="list-style-type: none"> <li>Extends to cover the sleeves or cuffs of the isolation gown</li> <li>Tuck excess material at sleeve into cuff</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
12.	Don waterproof apron	<ul style="list-style-type: none"> <li>Don waterproof apron over hood</li> <li>Secure apron ties as necessary</li> </ul>	
13.	Don face shield	<ul style="list-style-type: none"> <li>Positions shield above eyebrows and mid-forehead to cover eyes</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
14.	Inspection	<ul style="list-style-type: none"> <li>Extends arms and verifies integrity of PPE with observer               <ul style="list-style-type: none"> <li>Bends at waist</li> <li>Squats and returns to standing position</li> <li>Slowly turns in circle for final inspection</li> </ul> </li> <li>Observer to mark suit with wearer's name and time donned</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
15.	Reminder	<ul style="list-style-type: none"> <li>Hands are to be kept away from all mucous membranes</li> <li>Review hand signals</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No





## Module Three

# Spill Containment

## *Clinical Simulation Two*

# Bodily Fluid Containment

- Bodily fluid containment demonstration
- Orientation to skills stations
- Skills practice

# Waste Management

- There are two classifications when transporting infectious substances
  - Category A
  - Category B
- Medical waste contaminated or suspected to be contaminated with a Category A infectious substance is regulated as a hazardous material
  - Safe, secured storage space during patient rule in/out period
- Facilities should have a waste management plan and protocols in place to:
  - Inactivate contaminated waste onsite or have it transported offsite for inactivation, or
  - Package and transport any waste in accordance with DOT regulations

## ***Immediate Remediation of Bodily Fluid<sup>1</sup> Spill CHECKLIST***

Step #	Task	Criteria	Completed
1.	Materials preparation	<ul style="list-style-type: none"> <li>• Appropriate personal protective equipment (PPE)</li> <li>• Solidifier</li> <li>• Impermeable pads</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
2.	Safety measures	<ul style="list-style-type: none"> <li>• Assess the need to call for further assistance with the cleanup</li> <li>• Inspect PPE for any possible contamination</li> <li>• If in Special Pathogens Level 1 PPE, don a disposable plastic apron over the PPE ensemble already in use</li> <li>• Clean hands with alcohol-based hand sanitizer</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
3.	Don nitrile gloves	<ul style="list-style-type: none"> <li>• Don nitrile extended cuff outer gloves</li> <li>• Cuffs extend to cover the sleeves or cuffs of the isolation gown</li> <li>• Tuck excess material at sleeve into cuff</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
4.	Immediate actions	<ul style="list-style-type: none"> <li>• For diffuse or watery spills, sprinkle the solidifier over the liquid until the spill solidifies into a gel (about two minutes)</li> <li>• Contain spill with impermeable pad, impermeable side out</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
5.	Product disposal	<ul style="list-style-type: none"> <li>• Notify Environmental Services (EVS) of spill for product clean up and disposal</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
6.	Hand hygiene	<ul style="list-style-type: none"> <li>• If hands become soiled, perform hand hygiene using alcohol-based hand sanitizer</li> <li>• Remove outer gloves, perform hand hygiene using alcohol-based hand sanitizer</li> <li>• Don a clean pair of outer gloves</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
7.	Documentation	<ul style="list-style-type: none"> <li>• Document the spill/incident in the patient record and event unusual occurrence/exposure log (as needed)</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No



Module Three

# Patient Transfer

## *Clinical Simulation Three*

## Module Outline

- Demonstrate proper body mechanics when moving and transferring PUI while in PPE
- Demonstrate appropriate patient packaging for transfer to Emergency Medical Service (EMS)
- Understand the New York City Fire Department (FDNY) EMS transfer process

# Proper Body Mechanics

- The reasons for using proper body mechanics are to avoid:
  - Musculoskeletal strain
  - Injury to the patient
  - Overheating and fatigue while wearing PPE
  - Inadvertent contamination



# Body Mechanics – Ambulatory Patient

- Clear path of obstructions and non-protected staff before walking PUI
- Move slowly and with purpose in PPE
- Be ready to guide patient to ground if patient becomes weak





## Body Mechanics - Wheelchair

- Bed to Wheelchair
- Chair to Wheelchair
- Back injury hazards
- Potential for PPE soiling / contamination with proper body mechanics
- LOCK wheelchair wheels before moving patient



## Body Mechanics – EMS Stair Chair

- 1 Person operation on flat surface
- 2 Person operation on stairs
- Requires both restraint straps to secure patient
- Movement requires tilting patient back
- Assist EMS at their request



## Body Mechanics - EMS Stretcher

- Make a movement plan with the EMS Haz-Tac members ***before*** starting
- Be ready to assist with movement
- Always follow direction before moving or operating EMS stretcher

**TEAM WORK**



# Body Mechanics - EMS Stretcher

- 400 lb. weight limit
- High center of gravity
- Position and movement controls different from hospital stretchers
- EMS will direct
- Be ready to assist EMS



# Patient Transfer Safety

- Consider EMS as team lead for patient movement
- Make a plan before moving the patient
- PPE can affect your perception of space, dexterity and footing
  - Always execute proper body mechanics with purpose and caution
- Always prepare for contamination
  - Look before touching anything or placing your hand out of view (e.g., into body void)
  - Use protective barriers as practical (chux, sheets, towels)
- Ensure transfer devices are in working order and secure
  - Wheels locked
  - Patient safety straps fully extended and ready



**Patient Movement CHECKLIST**

<b>Patient Movement CHECKLIST</b>			
Step #	Task	Criteria	Completed
1.	Immediate Actions	<ul style="list-style-type: none"> <li>Person Under Investigation (PUI) isolated</li> <li>Staff in appropriate Special Pathogens Level 1 PPE</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
2.	Notification	<ul style="list-style-type: none"> <li>Site <i>Emergency Operations Plan</i> (EOP)/Hospital Incident Command System (HICS) activation</li> <li>Facility leadership notified</li> <li>Local health department/public safety/emergency management activation / coordination</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
3.	Gather equipment	<ul style="list-style-type: none"> <li>PPE (per <i>Special Pathogens Donning Checklist</i>)</li> <li>Movement team leader and members</li> <li>Wheelchair or stretcher</li> <li>Building Information Card (BIC)</li> <li>Spill Kit</li> <li>Blankets</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
4.	Site Safety	<ul style="list-style-type: none"> <li>Staff don/doff location secured</li> <li>Egress route identified</li> <li>Facility stretcher / wheelchair designated for patient use</li> <li>Identify movement team (Staff in appropriate PPE)</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
5.	Operations	<ul style="list-style-type: none"> <li>Movement team leader coordinates with EMS on PUI movement operation</li> <li>Movement team leader decides on hospital staff roles and positions</li> <li>EMS determines patient movement device(s)</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
6.	Isolation Room	<ul style="list-style-type: none"> <li>Place patient on portable devices (oxygen, cardiac monitor, etc.) as needed</li> <li>Movement leader directs movement (bed to stretcher, bed to wheelchair, wheelchair to stair chair)</li> <li>Team ensures movement device is locked before moving patient</li> <li>Patient moved using proper body mechanics and with care to avoid soiling and cross-contamination from patient's bodily fluids</li> <li>Team awaits confirmation that egress route is clear</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
7.	Egress	<ul style="list-style-type: none"> <li>Egress route is cleared and secured from intrusion</li> <li>EMS moves PUI to ambulance. Staff may assist at request of EMS.</li> <li>EMS loads PUI and departs location for designated treatment center or appropriate 911 Receiving Hospital</li> <li>Leadership notifies receiving center on departure</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
8.	Site Remediation	<ul style="list-style-type: none"> <li>Affected areas and equipment isolated for disinfection</li> <li>Staff doffs PPE and rehabs per protocol</li> <li>EVS notification</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
9.	Documentation	<ul style="list-style-type: none"> <li>Document the incident in the patient record and event unusual occurrence/exposure log</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No

Module Three

**PPE Doffing** Technique for  
**Special Pathogens Level 2 VHF PPE**  
**Ensemble**

# Checklist for Doffing Special Pathogen Level 2 VHF PPE

S		S		SP Level 2 VHF DOFFING CHECKLIST			
Step #	Task	Step #	Task	Step #	Task	Criteria	Completed
1.	Trained Observer			12.	Doff gown	<ul style="list-style-type: none"> <li>Front and sleeves are considered contaminated</li> <li>Pull the gown away from the body until the ties break</li> <li>Remove gown by pulling the gown away from the neck and shoulders, touching the inside only</li> <li>As the gown is rolled away from the body it is turned inside out, folded or rolled into a bundle and discarded in the infectious waste container</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
2.	Inspect PPE			13.	Perform hand hygiene	<ul style="list-style-type: none"> <li>Disinfect inner-gloved hands with alcohol-based hand sanitizer</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
3.	Perform hand hygiene			14.	Doff impervious coverall and shoe covers	<ul style="list-style-type: none"> <li>Unzip coverall by pulling sideways from shoulders, roll off shoulders, and pull down to ankles handling inside the suit only</li> <li>Avoid contact of scrubs during removal, touching</li> <li>Sitting on a clean and st patient's room and the doff, coverall and shoe c time</li> <li>As the coverall and shoe foot should be placed in</li> </ul>	
4.	Doff apron					<ul style="list-style-type: none"> <li>Remove N95 respirator</li> <li>Perform hand hygiene and doff final gloves</li> </ul>	<ul style="list-style-type: none"> <li>Remove N95 respirator from the back to front and discard in the infectious waste container</li> </ul> <input type="checkbox"/> Yes <input type="checkbox"/> No
5.	Inspect PPE					<ul style="list-style-type: none"> <li>Disinfect gloved hands with alcohol-based hand sanitizer</li> <li>Remove gloves using same procedure as first two pairs</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
6.	Doff outer gloves	8.	Doff face shield	15.	Perform hand hygiene	<ul style="list-style-type: none"> <li>Disinfect inner-gloved h sanitizer</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
		9.	Perform hand hygiene	16.	Doff inner gloves	<ul style="list-style-type: none"> <li>Using gloved hand, gras gloved hand and peel of</li> <li>Hold the removed glove</li> <li>Slide fingers of the ungloved glove at the wrist and pe over the first glove</li> <li>Discard both inner glove container</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
		10.	Doff hood	17.	Perform hand hygiene	<ul style="list-style-type: none"> <li>Perform hand hygiene and disinfect inner-gloved hands with alcohol-based hand sanitizer</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
7.	Disinfect inner glove:	11.	Perform hand hygiene	18.	Don new pair of gloves	<ul style="list-style-type: none"> <li>Clean bare hands with alcohol-based hand sanitizer</li> <li>Cover cleaned hands with clean gloves</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
				19.	Remove N95 respirator	<ul style="list-style-type: none"> <li>Remove N95 respirator from the back to front and discard in the infectious waste container</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
				20.	Perform hand hygiene and doff final gloves	<ul style="list-style-type: none"> <li>Disinfect gloved hands with alcohol-based hand sanitizer</li> <li>Remove gloves using same procedure as first two pairs</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
				21.	Perform hand hygiene	<ul style="list-style-type: none"> <li>Clean bare hands with alcohol-based hand sanitizer</li> <li>Ensure hands are completely dry before exiting the area</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
				22.	Inspect	<ul style="list-style-type: none"> <li>Perform a final inspection for contamination of the surgical scrubs or disposable garments</li> <li>If contamination is identified, carefully remove the garments and shower immediately</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No
				23.	Follow Up	<ul style="list-style-type: none"> <li>Perform staff rehab, medical monitoring, documentation, and behavioral wellness check as indicated</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No



# Post-Assessment & Course Evaluation



# For additional information...

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