

# MONKEYPOX WASTE MANAGEMENT GUIDANCE

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Purpose	To provide guidance and steps on suspected and confirmed monkeypox (Western African clade and Congo Basin clade) or orthopox virus waste handling, storage, treatment and disposal.	
Scope	New York City Health + Hospitals System	
Requirements	<ul style="list-style-type: none"> <li>U.S. Department of Transportation (DOT) Hazardous Materials Regulations (HMR; 49 CFR, Parts 171-180.)</li> <li>Centers for Disease Control and Prevention</li> <li>NYS Department of Health</li> </ul>	
Definitions	Category A waste	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.
	Regulated medical waste (RMW)	Regulated medical waste (RMW), or “Red Bag” waste as it is commonly known, is material generated in research, production, and testing of biologicals or health care, such as Infectious animal waste. Human pathological waste. Human blood and blood products. Needles and syringes (sharps).
Overview	<ul style="list-style-type: none"> <li>In June 2022, the U.S. Department of Transportation (USDOT) released additional guidance on the handling of regulated medical waste (RMW) from suspected or confirmed cases of monkeypox.</li> <li>The previous position of the USDOT was that facilities should hold untreated RMW generated from suspected cases of monkeypox and wait until testing confirms the diagnosis and identifies the clade before disposing of the waste.</li> <li>New guidance from US DOT, in conjunction with other Federal partners, indicates that during the ongoing 2022 multi-national outbreak of West African clade monkeypox, if clinician teams determine that a patient does not have known epidemiological risk for the Congo Basin clade of monkeypox (e.g. history of travel to the Democratic Republic of the Congo, the Republic of Congo, the Central African Republic, Cameroon, Gabon, or South Sudan in the prior 21 days) <b>it is appropriate to manage waste from suspected monkeypox patients as RMW</b>. If the Congo Basin clade of monkeypox is excluded, medical waste does not have to be held pending clade confirmation and medical waste needs to be packaged, transported, and treated as RMW. The waste must be</li> </ul>	

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packaged in accordance with 49 CFR § 173.197, labelled as United Nations (UN) 3291, Regulated medical waste (Monkeypox waste), and treated by incineration or by autoclaving at 121°C/250°F for at least 30 minutes.

- Per CDC “As long as clinical teams can reasonably determine that it holds true for the specific patient they are caring for (i.e., because of disease presentation, epidemiologic linkage to a case known to have West African clade monkeypox, no travel history to a country where Congo Basin clade monkeypox virus is known to circulate), then materials known or suspected to contain only West African clade monkeypox virus can be classified at lower levels (i.e., below Category A) under the Hazardous Materials Regulations (HMR).”

## Summary

Previous studies have defined two distinct Monkeypox clades, West African and Congo Basin, with unique disease manifestations (i.e., how disease presents in people, the severity of its effects, and how readily it spreads). Human disease associated with West African clade monkeypox virus infection is less severe and associated with less human-to-human transmission compared to infections with Congo Basin clade monkeypox virus.<sup>45</sup> Because of this, recommendations for managing waste contaminated with monkeypox virus differ based on the clade of the virus.

Monkeypox virus		
Clade	Any clade(s) except West African <sup>45</sup>	West African clade <sup>45</sup>
<b>Classification</b>	Category A, always (until inactivated)	Regulated Medical Waste (RMW)
<b>DOT Special Permit (SP) issued?</b>	None issued as of publication of this document. See PHMSA's Infectious Substance Special Permit website for status: <a href="https://www.phmsa.dot.gov/transporting-infectious-substances/infectious-substance-special-permits">https://www.phmsa.dot.gov/transporting-infectious-substances/infectious-substance-special-permits</a>	No, not required unless using a packaging not currently authorized by the HMR.
<b>Packaging</b>	Package in accordance with requirements for Category A infectious substances found in 49 CFR § 173.196.	Package in accordance with applicable regulations for RMW found in 49 CFR § 173.197.
<b>Shipping Name</b>	United Nations (UN) 2814, Infectious substances, affecting humans (Monkeypox waste)	United Nations (UN) 3291, Regulated medical waste (Monkeypox waste)
<b>Inactivation methods (must be validated)</b>	Autoclaving, incineration, chemical	Treat and/or dispose of such waste in accordance with applicable SLTT laws and regulations for RMW.
<i>Autoclaving</i>	Validated cycle that reaches ≥121°C/250°F for ≥30 minutes; time and temperature depend on type, state, and volume of material	
<i>Incineration</i>	Cycle must reduce materials to ash	
<i>Chemical</i>	When required by operational considerations outside of fixed facilities; support effectiveness with objective data	
<b>Disinfectant(s)</b>	U.S. Environmental Protection Agency (EPA)-registered hospital disinfectant with <a href="#">an emerging viral pathogen label claim</a> or any product on <a href="#">List Q</a> with an <a href="#">emerging pathogen label claim</a> , whenever EPA's <a href="#">Emerging Viral Pathogens Policy</a> is active for monkeypox virus	

Retrieved from: [Managing Solid Waste Contaminated with a Category A Infectious Substance \(dot.gov\)](#)



Process for  
Western African  
Clade for facilities  
and EVS

#### Western African Clade:

Waste generated during patient care activities of a suspected or confirmed monkeypox patient (including specimen collection) can be handled as **regulated medical waste (RMW)** if Congo Basin clade is not suspected based on travel history.

##### I. Patient Room Generated Waste and Holding Area

- Required patient room cleaning and disinfecting will occur by facility Environmental Services (EVS) as per standard terminal cleaning of an isolation room. Standard cleaning and disinfection procedures will be performed using an EPA-registered hospital-grade disinfectant with an emerging viral pathogen claim. See "Cleaning and Disinfection" section below.

##### II. Sharps

- Sharps shall be discarded into a dedicated, rigid, leak-resistant, puncture-resistant and closeable container.

##### III. Laboratory Waste

- Any waste generated during laboratory workup or specimen collection will be handled as RMW.

##### IV. Cleaning and Disinfecting

- For disinfecting environmental surfaces contaminated with monkeypox virus, regardless of clade, EVS to use an EPA-registered hospital disinfectant with an emerging viral pathogen claim or any product on List Q with an emerging pathogen claim. EVS to follow the manufacturer's directions for concentration, contact time, and care and handling.
- Activities that could resuspend dried material from lesions, e.g., use of portable fans, dry dusting, sweeping, or vacuuming should be avoided. Wet cleaning methods are preferred.

##### V. Packaging Regulated Medical Waste

- Western African Clade will be managed as regulated medical waste - the same way other waste from healthcare facilities is routinely managed.
- Regulated medical waste packaging = A primary leakproof bag and a rigid outer package. (Single Bagged in disposable waste box)
- DOT Shipping Name: UN3291, Regulated medical waste, n.o.s. (biomedical waste), 6.2

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Under the HMR, shipping papers for waste contaminated with monkeypox virus of all clades must include:

- UN identification number and proper shipping name for the applicable waste stream:
  - For Category A infectious substances (i.e., waste contaminated with monkeypox virus of any clade except West African), include “UN 2814, Infectious substances, affecting humans (Monkeypox waste).”
  - For RMW (i.e., waste contaminated with West African clade monkeypox virus), include “UN3291, Regulated medical waste (Monkeypox waste).”
- Hazard class: Division 6.2 (infectious substance);
- Packing group:
  - For Category A infectious substances (i.e., waste contaminated with monkeypox virus of any clade except West African): does not apply;
  - For RMW (i.e., waste contaminated with West African clade monkeypox virus):
- Type and quantity of packaging; and Emergency response information (e.g., telephone number)
- Pack and mark waste contaminated with West African clade monkeypox virus (and not another clade of monkeypox virus) as RMW.

Process for Congo Basin Clade for facilities and EVS

## Congo Basin Clade:

If Congo Basin clade is suspected based on epidemiological risk for the Congo Basin clade of monkeypox, such as history of travel to the Democratic Republic of the Congo, the Republic of Congo, the Central African Republic, Cameroon, Gabon, or South Sudan (where Congo Basin clade has been detected) in the prior 21 days, medical waste generated during patient care activities must be handled as **Category A** until clade identification.

### I. Patient Room Generated Waste and Holding Area

- Any waste generated during the care of a patient with suspected or confirmed Congo Basin clade of monkeypox will be held in patient room. This may include any disposable supplies or equipment (e.g., PPE, patient dressings, disposable stethoscopes, specimen collection waste, etc.).
- Equipment and supplies that are not disposable will remain in patients’ room for required cleaning.



- EVS must be notified as stated in “Notification” section below.

**VI. Sharps**

- Sharps shall be discarded into a dedicated, rigid, leak-resistant, puncture-resistant and closeable container and left in patient’s room.

**VII. Laboratory Waste**

- Any waste generated during laboratory workup or specimen collection will be held in room or place of waste generation.
- Environmental Services (EVS) will be notified as stated in “Notification Section” below.

**VIII. Cleaning and Disinfecting**

- For disinfecting environmental surfaces contaminated with monkeypox virus, regardless of clade, EVS to use an EPA-registered hospital disinfectant with an emerging viral pathogen claim or any product on List Q with an emerging pathogen claim. EVS to follow the manufacturer’s directions for concentration, contact time, and care and handling.
- Activities that could resuspend dried material from lesions, e.g., use of portable fans, dry dusting, sweeping, or vacuuming should be avoided. Wet cleaning methods are preferred.

**IX. Notification**

- Facility leadership will immediately notify their respective facility EVS/Crothall Director on suspected or confirmed patient with Congo Basin clade of monkeypox. (See Appendix A for site-specific EVS/Crothall Directors)
- EVS Director will notify Approved Co. leadership.

**X. Removal of Waste**

- Waste generated during care of suspected or confirmed patient with Congo Basin clade of monkeypox will be removed from place of generation (e.g., patient room) by EVS personnel within 24 hours after point of generation using appropriate protocol (See Appendix B)
- Containment and storage of untreated waste generated from suspect case of Congo Basin Clade will be managed as Category A and must be separated from other waste as soon as practicable at the point of generation prior to stored, labeled, treatment and disposal.

- Facility will hold waste generated from suspected case of Congo Basin Clade and wait until testing confirms the diagnosis and identifies the clade.

#### **XI. Secure Storage Area**

- Storage area holding untreated waste generated from suspected cases of Congo Basin Clade of monkeypox will display prominently signage indicating the space is used to store untreated Category A medical waste.
- Secure access.
- Hold waste at a temperature that prevents rapid decomposition and resultant odor generation
- Appropriately ventilated.
- Be of sufficient size to allow clear separation of untreated Category A medical waste generated from suspect case of Congo Basin clade of monkeypox from any other medical waste stored in the same area.

#### **XII. Additional Considerations**

- Untreated Category A medical waste generated from suspect case of Congo Basin clade of monkeypox shall not be stored for a period exceeding thirty (30) days.
- Untreated Category A medical waste will NOT be transferred from one container to another.
- Reusable sharps container shall not be opened for consolidation purposes.
- Once containers are sealed, they shall not be opened for consolidation.

#### **XIII. Packaging Category A Waste**

- Category A Waste - The HMR classifies an infectious substance (and solid waste containing it) as "Category A" if it is in a form (e.g., untreated) capable of causing permanent disability or life-threatening or fatal disease in otherwise healthy humans or animals upon exposure to the substance.
- Packaging Category A Waste = Triple package includes Step 1: a primary leakproof package - a red bag; Step 2: a rigid leakproof secondary package; Step 3: a rigid leakproof outer package; and an adsorbent material for liquids. In some cases, such as Ebola, additional over-packing may be required.
- DOT Shipping Name: UN2814, Infectious Substance, affecting humans, 6.2



**XIV. PPE for EVS Personnel**

- All EVS personnel will have documented successful training and demonstration of competency prior to performing tasks including but not limited to:
  - Use of required PPE
  - OSHA Blood Borne Pathogen
  - US Department of Transportation Hazardous Materials Training
- PPE ensemble: Gown, Gloves, Eye protection (i.e., goggles or a face shield that covers the front and sides of the face), NIOSH-approved N95 filtering facepiece or equivalent, or higher-level respirator.

**XV. Responsibilities**

- Crothall
  - Untreated Category A medical waste packaging, labeling, handling, and storage
- Approved Storage & Waste Hauling, Inc.
  - Untreated Category A medical waste transport, subsequent treatment, disposal of waste and documentation and manifest

References

Infection Control: Healthcare Settings | Monkeypox | Poxvirus | CDC - <https://www.cdc.gov/poxvirus/monkeypox/clinicians/infection-control-healthcare.html>

Cat A Waste Planning Guidance\_Final\_2022\_06.pdf:  
[https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2022-06/Cat%20A%20Waste%20Planning%20Guidance\\_Final\\_2022\\_06.pdf](https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2022-06/Cat%20A%20Waste%20Planning%20Guidance_Final_2022_06.pdf)

Disinfectants for Emerging Viral Pathogens (EVPs): List Q  
<https://www.epa.gov/pesticide-registration/disinfectants-emerging-viral-pathogens-evps-list-q>

Lab Advisory: Interagency Partners Update Planning Guidance for Disposal and Shipment of Material Suspected to Contain Monkeypox Virus (cdc.gov)  
[www.cdc.gov/csels/dls/locs/2022/06-21-2022-lab-advisory-interagency\\_partners\\_update\\_planning\\_guidance\\_disposal\\_shipment\\_material\\_suspected\\_contain\\_monkeypox\\_virus.html](http://www.cdc.gov/csels/dls/locs/2022/06-21-2022-lab-advisory-interagency_partners_update_planning_guidance_disposal_shipment_material_suspected_contain_monkeypox_virus.html)

	<p>New York State Department of Health (NYSDOH) Bureaus of Communicable Disease Control (BCDC) and Healthcare Associated Infections (BHAi) (July 8) <a href="https://apps.health.ny.gov/pub/ctrldocs/alrtview/postings/MPox_HAN_7_July_2022_1657314861737_0.pdf">https://apps.health.ny.gov/pub/ctrldocs/alrtview/postings/MPox_HAN_7_July_2022_1657314861737_0.pdf</a></p> <p>The USDOT June 2022 guidance: <a href="https://www.phmsa.dot.gov/transporting-infectioussubstances/planning-guidance-handling-category-solid-waste">https://www.phmsa.dot.gov/transporting-infectioussubstances/planning-guidance-handling-category-solid-waste</a>.</p>
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Syra Madad/*Syra Madad*, DHSc, MSc Sr. Director System Special Pathogens Program 7/18/22

Prepared by: Mercedes Redwood/*Mercedes Redwood* AVP, Supply Chain 7/18/22

Name/Signature	Title	Date
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Approved by:

<i>Machelle Allen, as</i>	<i>Machelle Allen CMO/SVP</i>	<i>7/18/22</i>
Name/Signature	Title	Date

## Reviewed and Readopted Without Change

Signature	Title	Date
Machelle Allen, SVP	Category B Waste Management	5/27/2022
Machelle Allen, SVP	Monkeypox Waste Management	7/5/2022

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## Appendix A: NYC Health + Hospitals EVS Management Team

NYC Health and Hospital Environmental Services Management Team Table of Organization Updated 5.24.22		
<b>Marissa Janneire- Bellevue Hospital - HC 48975</b>		
(HK) Resident Regional Director	Adelso Suarez	
(HK) Day Assistant Director I	Keth Rice	
(HK) Day Operations Manager	Patrina Henry	
(HK) Evening Assistant Director I	Erwin Canady	Going to CIH
(HK) Evening Operations Mgr	Sedrick Pringle	
(HK) Overnight Operations Mgr	Mark Germany	
<b>Ed Stewart- Coney Island - HC - 48755</b>		
(HK) Unit Director I	Lisa McCrimmons	
(HK) Eve Operations Mgr	Yesenia Lopez	
(HK) Day Operations Mgr Temp	Marvin Thomas	new building
<b>Ed Stewart- Cumberland - HC - 48047 / East NY - HC - 48659</b>		
(HK) Unit Director	Marita StJohn	Roy Chester covering during LOA
<b>Marissa Janneire-Elmhurst - HC - 49167</b>		
(HK) Resident Regional Director	Keith Robinson	
(HK) Day Assistant Director I	Brianni Rodney	
(HK) Eve Operations Manager	Imelda Miguel	
(HK) Night Operations Manager	Desmarie Weir	
<b>Marissa Janneire- Gouverneur - HC - 48693</b>		
(HK) Unit Director I	Fitz Batard	
(HK) Evening Operations Mgr	Paola Melendez	
<b>Marissa Janneire- Kings County - HC - 48967</b>		
(HK) Resident Regional Director	Antionette Williamson	
(HK) Unit Director I	Geraldo Acevedo	
(HK) Eve Operations Manager	Terri McDonald	
(HK) Eve Operations Manager	Ronald Stokes	
(HK) Day Operations Manager	Dennis Taveras	
<b>Marissa Janneire- McKinney - HC - 49060</b>		
(HK) Unit Director I	Wayne Griffith	
<b>Ed Stewart- Queens Hospital - HC 49204</b>		
(HK) Unit Director I	Robert Cepeda	
(HK) Assistant Director I	Michael Colon- LOA	
(HK) Evening Operations Manager	Shawn Morales	
(HK) Night Operations Manager	Donna Marie Ali	
<b>Marissa Janneire- Seaview - 48972 (Vanderbilt)</b>		
(HK) Unit Director I	Christine O'Neill	
<b>Marissa Janneire- Woodhull - HC - 49159</b>		
(HK) Resident Regional Director	Michelle Perez	
(HK) Day Assistant Director 1	Luther McClain	
(HK) Evening Operations Manager	Mateo	
<b>HHC Standardization Support</b>		
Patient Experience System Mgr	Estefania Osorio	
(HK) Unit Director III	Paul Fratta	
<b>Brendan Scott- Henry J. Carter - HC - 48591</b>		
(HK) Unit Director I	Barry Watkins	
(HK) Assistant Director I	Shurlan Clarke	
(HK) Operations Manager	Alon Johnson	
<b>Marissa Janneire- Coler - HC - 49228</b>		
(HK) Unit Director I	Ronald Russo	
(HK) Assistant Director	Fransico Berrios	
(HK) Operations Manager	Avalon Smith	
<b>Ed Stewart- Harlem - HC - 49007</b>		
(HK) Unit Senior Director I	Robin Allen	
(HK) Director	Terrence Faison	
(HK) Day Operations Manager	Kenneth Williamson	
(HK) Evening Operations Manager	Richard Johnson	
(HK) Patient Experience Mgr.	Leslie Richards	
(HK) Overnight Operations Manager	Dennis Buchanan	
<b>Brendan Scott- Jacobi - HC - 48192</b>		
(HK) Resident Regional Mgr. I	Jose Medrano	
(HK) Assistant Director I	Eremias Isayas	LOA
(HK) Day Operations Manager	Anthony Flores	
(HK) Day Operations Manager	John Moccia	
(HK) Evening Operations Manager	Mariele Roche	
(HK) Night Operations Manager	William Santiago	
(HK) Operations Manager	Alfred Anderson	
<b>Brendan Scott- Lincoln - HC - 48698</b>		
(HK) Resident Regional Mgr I	Noel Liccardi	
(HK) Assistant Director II	David Collazo	
(HK) Operations Manager	Juan Rojas	
(HK) Evening Operations Manager	Adrian Reed	
(HK) Night Operations Manager	Amauris Arias	
<b>Brendan Scott- North Central Bronx - HC - 48856</b>		
(HK) Unit Director I	Eliceo Rivera	
(HK) Assistant Director I	Celia Cruz	
(HK) Operations Manager	Aiquan Jones	
(HK) Evening Operations Manager	George DeThomas	
<b>Brendan Scott- HHC Bronx Gotham Clinics - 48671</b>		
(HK) Unit Director I	Kenneth Morales	
<b>Brendan Scott- Metropolitan- HC - 48600</b>		
(HK) Unit Director I	Kimani Thomas	
(HK) Assistant Director I	Kian Montalvo	
(HK) Day Operations Manager	Kimberly Anderson	
(HK) Evening Operations Manager	Kevin Bracey	
(HK) Evening Operations Manager	Raphael Rivera	
<b>Marissa Janneire- Covid Hotels 48464</b>		
(HK) Assistant Director I	Ruben Gonzalez	
<b>Marissa Janneire- Testing Sites 48464</b>		
RJR Maintenance Group		



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**NYC**  
**HEALTH+**  
**HOSPITALS**

### Appendix B: EVS Procedure for Category A (Congo Basin Clade of Monkeypox)

#### Packaging/Disposing **MONKEYPOX CONGO BASIN CLADE MEDICAL WASTE:**

- All waste should be disposed of in red regulated medical waste (RMW) bags.
- Any staff carrying out the steps outlined below must wear the following **PPE: gloves, gown, eye protection (face shield or goggles), and respirator (fit tested NIOSH-approved N95 or CAPR) when packaging untreated RMW.**
- Waste packaging will be conducted by trained Medical Waste Technicians and/or Crothall Managers.
- RMW bags should be tied using a balloon knot **when the RMW bag is ½ full.**

1. Bring impervious barrel (blue barrel) on appropriate dolly to patient care area.
2. Prepare the impervious barrel (blue barrel).
  - Place a chux at the bottom of the 55 gal. barrel.
  - Use one RMW (red) bag to line the barrel.

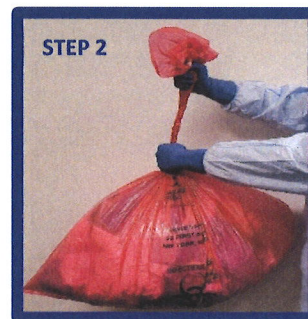


**The barrel is the outer most packaging. It must remain outside the patient care area to prevent contamination.**

3. Sign into the staff log prior to going into the patient care room.
4. Don appropriate PPE.
5. When RMW bag is ½ full close the bag by using a balloon knot. This knot will seal and prevent the bag from leaking.



Place all waste into appropriately marked bag. Do not fill the bag more than half way full.




Gather and twist the top of the red bag.



Twist bag closed and tie with single hand/balloon knot.

6. Place the properly sealed bag(s) and/or sharps container in the **red bag-lined impervious barrel (blue)** (maximum of 3 bags of waste per barrel).

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7. Doff PPE per SP-Level 1 checklist and place used PPE in blue barrel (on top of waste bags).  
Perform hand hygiene and don new pair of gloves.
8. Touching only the outside of the red bag liner, close the red bag liner with a zip-tie or knot.
9. Place the plastic lid onto the top of the barrel to seal it.
10. Sanitize the outside of the barrel and lid using bleach disposable wipes.
11. Secure the lid on the barrel with the metal ring.
12. Transport the barrel(s) to designated storage area.
  - **Note: No PPE required to transport the waste.** Precautions have been taken to ensure that the outer most packaging (i.e. the outside of the barrel) is not contaminated.