Adapted from the CDC Health Alert Network
August 7, 2024, 3:15 PM ET

DELAWARE HEALTH ALERT #519: WHO Declares Another Mpox Global Emergency—What Clinicians Should Know

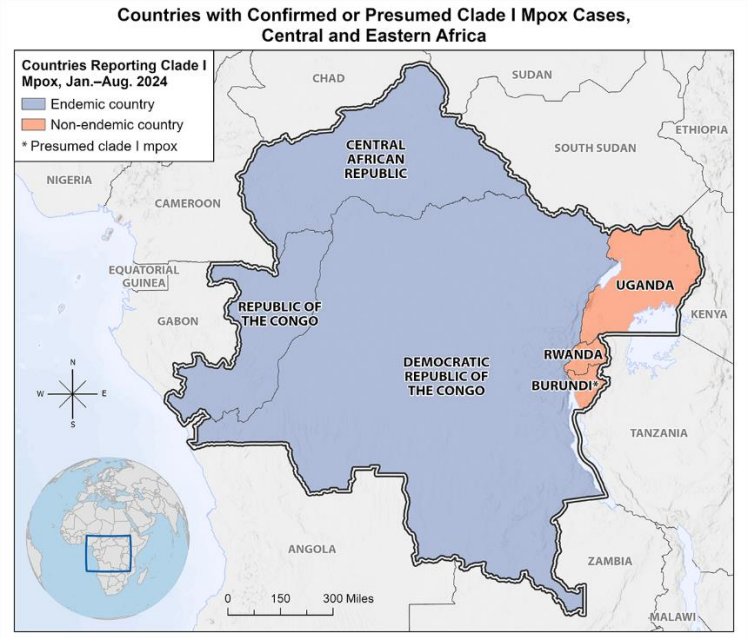
Summary

The Delaware Division of Public Health (DPH) is issuing this health alert to provide information about the ongoing outbreak of mpox (previously called monkeypox) virus (MPXV) in the Democratic Republic of Congo (DRC) and neighboring countries. This outbreak of mpox in the DRC is caused by a different clade (subtype) of mpox than the one causing the global outbreak that began in 2022 and continues to the present time.

Background

Since January 2023, the Democratic Republic of the Congo (DRC) has reported more than 27,000 suspect mpox (previously called monkeypox) cases and more than 1,200 deaths.

MPXV has two distinct genetic clades (subtypes of MPXV)- clades I and II. Clade I MPXV (the cause of the current outbreak centered on the DRC) has previously been observed to be more transmissible and to cause a higher proportion of severe infections than clade II MPXV. Clade II MPXV is the cause of the global MPXV outbreak that began in 2022, and cases of Clade II MPXV continue to be reported worldwide. Clade I mpox is endemic, in DRC, and cases are reported annually. However, since January 2023, there has been a significant increase in the number of cases reported. More than 22,000 suspected cases, with more than 1,200 suspected deaths, have been reported in DRC since January 1, 2023, a substantial increase from the median 3,767 suspect clade I mpox cases reported annually in DRC during 2016–2021. In addition, the current outbreak is more widespread than any previous DRC outbreak, and clade I mpox has spread to some neighboring countries. In late July 2024, Burundi, Rwanda, and Uganda, which sit on the eastern border of DRC, reported confirmed cases of mpox, with some cases having linkages to DRC. Rwanda and Uganda have confirmed these cases are due to clade I MPXV; in Burundi, clade-specific testing is underway, but cases are presumed to be clade I due to DRC's proximity. Unlike DRC, mpox is not known to be endemic in these countries.



On August 14, 2024, the World Health Organization (WHO) declared the outbreak a Public Health Emergency of International Concern (PHEIC). This is the WHO's highest level of global alert, and the decision recognizes the potential threat this virus poses to countries around the world. The declaration focuses international attention on acute public health risks that require coordinated mobilization of extraordinary resources by the international community for prevention and response.

A case of clade I mpox in a Swedish traveler who visited an affected country in Africa was announced August 15. This is the first clade I mpox case to be reported outside of the African continent.

Because there is a risk of additional spread, Centers for Disease Control and Prevention (CDC) recommends clinicians and jurisdictions in the United States maintain a heightened index of suspicion for mpox in patients who have recently been in DRC or to any country sharing a border with DRC (ROC, Angola, Zambia, Rwanda, Burundi, Uganda, South Sudan, Central African Republic) and who present with signs and symptoms consistent with mpox. These can include rash that may be located on the hands, feet, chest, face, mouth, or near the genitals; fever; chills; swollen lymph nodes; fatigue; myalgia (muscle aches and backache); headache; and respiratory symptoms like sore throat, nasal congestion, and cough.

It is expected that people in the United States who have already had mpox or who are fully vaccinated against mpox should also have protection against the subtype of mpox spreading in DRC and neighboring countries.

Mpox needs close or intimate contact to spread, so casual contact like you might have during travel is not likely to cause the disease to spread. The best protection against either subtype of mpox is two doses of the JYNNEOS vaccine for those who are eligible. People can also protect themselves by:

- Avoiding close contact (including sexual contact) with people who are sick with signs and symptoms of mpox, including those with skin lesions or genital lesions.
- Avoiding contact with wild animals (alive or dead) in areas where mpox is endemic.

- Avoiding contact with contaminated materials used by people who are sick (such as clothing, bedding, or materials used in health care settings)
- Avoiding eating or preparing meat from wild animals (bushmeat) or using products (creams, lotions, powders) derived from wild animals.

Due to the limited number of travelers and lack of direct commercial flights from DRC or its neighboring countries to the United States, the risk of clade I mpox importation to the United States is considered to be very low.

The United States has robust mpox testing capacity in state public health laboratories and several commercial laboratories CDC is helping communities monitor the presence of both clades of MPXV in wastewater samples, including from select airports. Data from samples can provide an early warning of mpox activity and spread in communities.

Recommendations for Clinicians

Evaluation and Diagnosis

- Follow CDC guidance on infection prevention and control for mpox to minimize transmission risk when evaluating and providing care to patients with suspected mpox.
- Consider mpox as a possible diagnosis in patients with epidemiologic characteristics and lesions or other clinical signs and symptoms consistent with mpox. This includes persons who have been in DRC or, due to the demonstrated risks of regional spread, any of its neighboring countries (ROC, CAR, Rwanda, Burundi, Uganda, Zambia, Angola, Tanzania, and South Sudan) in the previous 21 days.
- Ask patients with signs and symptoms of mpox but no recent travel whether they have had contact with people who had recently been in any of the above countries and who were symptomatic for mpox.
- Consider mpox as a possible diagnosis if a clinically consistent presentation occurs, even in people vaccinated for or previously diagnosed with mpox.
- Advise all patients suspected of having mpox to isolate themselves from others.
- Evaluate all suspected cases related to DRC or its neighboring countries with laboratory testing (rather than clinical diagnosis alone). In most situations, specimens should be sent to the appropriate state public health laboratory or a commercial laboratory for initial testing.
- Follow specimen collection guidelines (including collecting two swabs per ~2-3 lesions) to ensure specimen availability for clade-specific testing. This testing will help distinguish between cases that are part of the ongoing clade II mpox global outbreak and those associated with this clade I outbreak.

- Avoid unroofing or aspiration of lesions or otherwise using sharp instruments for mpox testing to minimize the risk of a sharps injury.
- Clinicians sending a potential poxvirus specimen to the Delaware Public Health Laboratory for testing, should complete the attached Poxvirus Risk Assessment and send it with the specimen and laboratory requisition form. View the attached Evaluating Patients for Smallpox poster.

Treatment and Prevention

- Recommend mpox vaccine to people exposed to MPXV to help prevent the spread of mpox.
- Offer mpox vaccination to people ≥18 years of age with risk factors for mpox, following ACIP Recommendations for vaccination before an exposure with two doses of the JYNNEOS vaccine, 28 days apart.
    - Two doses of JYNNEOS vaccine offer substantial protection against mpox, and is expected to offer protection regardless of clade.
    - Additional JYNNEOS vaccine doses ("boosters," more than two doses) are not currently recommended.
- Consider vaccinating patients eligible for mpox vaccination and planning travel to affected countries, with two doses of JYNNEOS vaccine. Eligible patients who received one dose of the JYNNEOS vaccine more than 28 days ago should receive the second dose as soon as possible.
- There is no vaccination recommendation for travelers who do not meet current vaccine eligibility.
- Consult with the DPH Office of Infectious Disease Epidemiology (see number below) or CDC (poxvirus@cdc.gov) promptly about any mpox cases, particularly those for which severe manifestations might occur (e.g., those with advanced HIV infection).
- Treatments (e.g., tecovirimat, brincidofovir, and vaccinia immune globulin intravenous) used during the ongoing clade II mpox outbreak are expected to be effective for clade I MPXV infections.
- Inform all patients with mpox, including those with mild disease, about the STOMP Trial and recommend that they enroll. Oral tecovirimat (TPOXX) is available through the STOMP Trial. To enroll in STOMP, call 1-855-876-9997.
- Clinicians should counsel patients about what to do if they are sick to prevent household transmission, if they have mpox symptoms; staying away from other people and not sharing things they have touched with others; and cleaning and disinfecting the spaces they occupy regularly to limit household contamination.

Reporting

Health care providers who suspect mpox infection in a patient should immediately notify the **Office of Infectious Disease Epidemiology (OIDE)** at **302-744-4990** or the 24/7 emergency contact number at **1-888-295-5156**, and the **Delaware Public Health Laboratory (DPHL)** at **302-802-5000** if you plan to send to the state laboratory for testing. DPH will assist with coordination of clade I specific testing through the DPHL and CDC.

For More Information

For clinicians and laboratory staff

- Mpox Clinical Recognition and Vaccine Information for Healthcare Providers: Information For Healthcare Professionals | Mpox | Poxvirus | CDC
- Biosafety and Select Agent Considerations: Laboratory Procedures | Mpox | Poxvirus | CDC
- Diagnostic Specimen Packaging and Shipping: Transporting Infectious Substances Safely.pdf (dot.gov)
- Health Alert Network: Mpox Caused by Human-to-Human Transmission of Monkeypox Virus with Geographic Spread in the Democratic Republic of the Congo
- Updated Travel Health Notice to Democratic Republic of the Congo, August 2024
- About Mpox
- How it Spreads
- Signs and Symptoms
- Mpox Vaccine Recommendations
- Information for Healthcare Professionals
- Information For Laboratory Personnel

For the public

- About Mpox: Discover, History, and Virus Types: About Mpox | Mpox | Poxvirus | CDC
- Mpox Information for the Public: Your Health | Mpox | Poxvirus | CDC
- August 2024 Travel Health Notice: Mpox in DRC and Neighboring Countries.

References

- Dalton AF, Diallo AO, Chard AN, et al. Estimated Effectiveness of JYNNEOS Vaccine in Preventing Mpox: A Multijurisdictional Case-Control Study — United States, August 19, 2022–March 31, 2023. *MMWR Morb Mortal Wkly Rep.* 2023;72:553–558. DOI: http://dx.doi.org/10.15585/mmwr.mm7220a3

- Kibungu EM, Vakaniaki EH, Kinganda-Lusamaki E, et al. Clade I-Associated Mpox Cases Associated with Sexual Contact, the Democratic Republic of the Congo. *Emerg Infect Dis*. Published online November 29, 2023. doi:10.3201/eid3001.231164

DELAWARE HEALTH AND SOCIAL SERVICES
Division of Public Health
Laboratory

Generalized Rash Illness Risk Assessment

This form **must** accompany **all** specimens to the Delaware Public Health Laboratory (DPHL) for orthopox testing, contact the Office of Infectious Disease Epidemiology (OIDE) with any questions or concerns at 1-888-295-5156 (24/7). If suspicion of Smallpox or highly virulent orthopoxvirus, please contact OIDE as soon as possible for additional guidance and approval.

Determine the patient's risk of smallpox using the MAJOR and MINOR criteria.

Yes	No	MAJOR criteria: (Check Yes or No)
		Febrile prodrome: Fever of ≥101°F, 1–4 days prior to rash onset with at least prostration, headache, backache, chills, vomiting or severe abdominal pain
		Classic smallpox lesions: Deep-seated, firm/hard, round well-circumscribed vesicles or pustules; lesions may umbilicate or become confluent
		Lesions in same stage of development: On any one part of the body all lesions in same stage of development
Yes	No	**MINOR criteria: (Check Yes or No)**
		Centrifugal distribution of lesions
		First lesions on the oral mucosal palate, face, or forearms
		Patient appears toxic or moribund
		Slow evolution of lesions from macule to papule, to vesicle (1-2 days each stage)
		Lesions on the palms and soles

Interpretation		Action
	HIGH RISK OF SMALLPOX • Febrile prodrome **AND** • Classic smallpox lesions **AND** • Lesions in same stage development	**HIGH RISK** Quarantine patient and send specimen to CDC Contact OIDE immediately at 888-295-5156
	MODERATE RISK OF SMALLPOX • Febrile prodrome **AND** one other MAJOR smallpox criterion **OR** • Febrile prodrome **AND** ≥4 MINOR criteria	**Moderate or Low Risk** Screening for VZV is recommended prior to sending to DPHL for Orthopox and Non-variola Orthopox PCR. Orthopox PCR detects Vaccinia, Mpox, Cowpox, Variola, Camelpox, ectromelia and Gerbilpox DNA.
	LOW RISK OF SMALLPOX • No febrile prodrome **OR** • Febrile prodrome **AND** <4 MINOR criteria	

Overall Risk Determination: LOW MODERATE HIGH (circle one)

Healthcare System:_____

Patient Name and DOB: _____

Travel History: _____

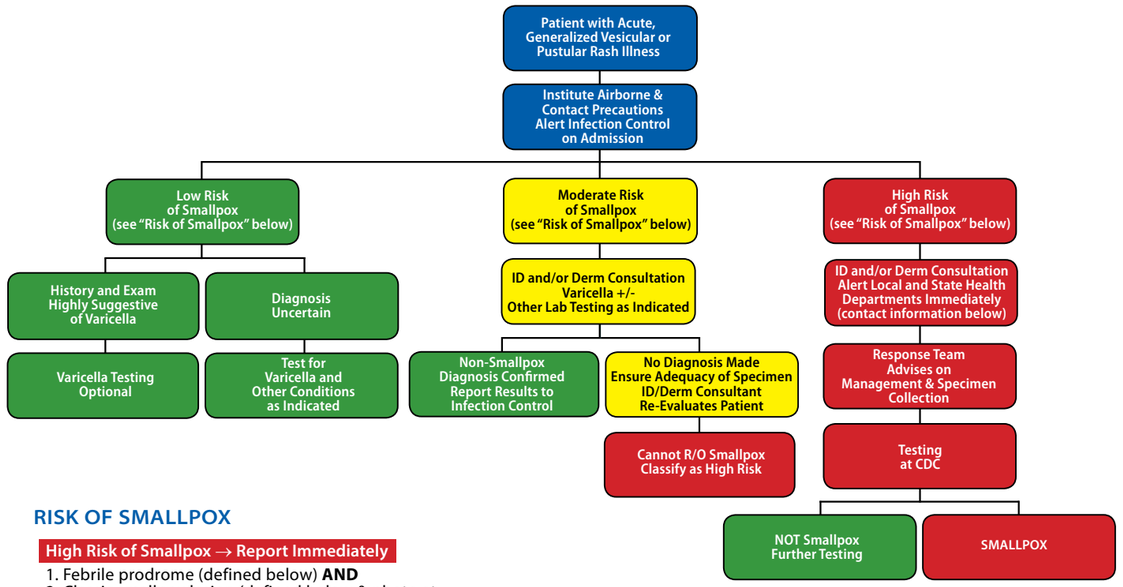
Risk Factors: _____

Submitting Clinician (print/sign) and Date:_____

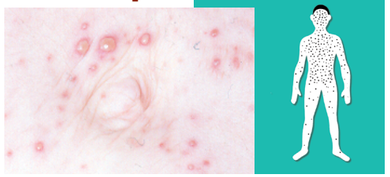
Revised: 01/31/2024

Evaluating Patients For Smallpox

Acute, Generalized Vesicular or Pustular Rash Illness Protocol



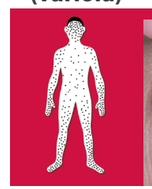
Chickenpox (varicella)



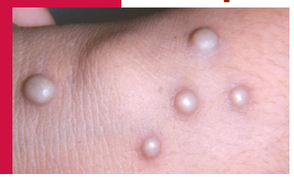
Classic chickenpox lesions

Typical chickenpox rash distribution

Smallpox (variola)

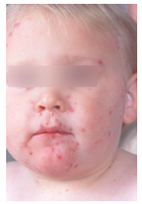


Typical smallpox rash distribution

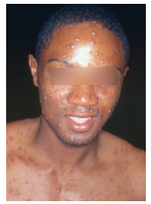


Classic smallpox lesions

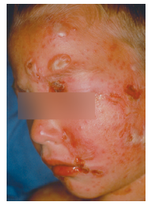
Images of Chickenpox (Varicella)



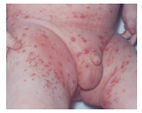
Healthy child with varicella



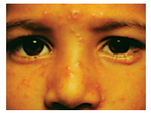
Healthy adult with varicella



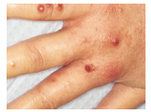
Bacterial superinfection of varicella lesions



Note centripetal distribution of rash



Day 3 of rash



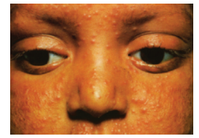
Lesions are in different stages of development (back of hand)

Healthy adult with varicella

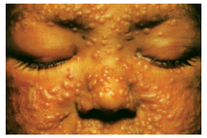
Healthy adult with varicella

Pregnant woman with varicella

Images of Smallpox

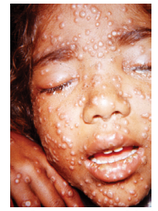


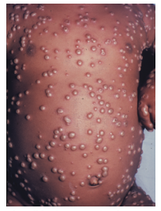
Day 3 of rash

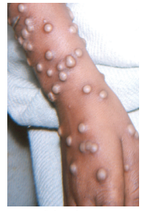


Day 5 of rash

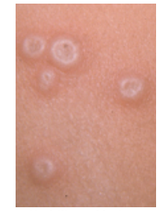
Day 7 of rash



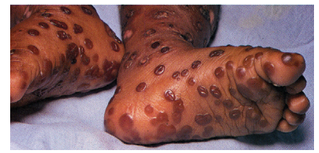


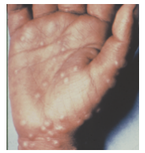


On any one part of the body, all lesions are in the same stage of development

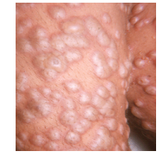


Umbilicated lesions





Most patients with smallpox have lesions on the palms or soles



Confluent lesions

Risk of Smallpox

High Risk of Smallpox → Report Immediately

1. Febrile prodrome (defined below) **AND**
2. Classic smallpox lesion (defined below & photo at top right) **AND**
3. Lesions in same stage of development (defined below)

Moderate Risk of Smallpox → Urgent Evaluation

1. Febrile prodrome (defined below) **AND**
2. One other **MAJOR** smallpox criterion (defined below)

OR

1. Febrile prodrome (defined below) **AND**
2. ≥4 **MINOR** smallpox criteria (defined below)

Low Risk of Smallpox → Manage as Clinically Indicated

1. No febrile prodrome

OR

1. Febrile prodrome **AND**
2. <4 **MINOR** smallpox criteria (defined below)

There have been no naturally occurring cases of smallpox anywhere in the world since 1977. A high risk case of smallpox is a public health and medical emergency.

Report all HIGH RISK CASES immediately (without waiting for lab results) to:

1. Hospital Infection Control _____ ( ) _____ - _____
   _____ ( ) _____ - _____
2. _____ health department ( ) _____ - _____
   ( ) _____ - _____
3. _____ health department ( ) _____ - _____
   ( ) _____ - _____

Differentiating Chickenpox from Smallpox

Chickenpox (varicella) is the most likely condition to be confused with smallpox.

In chickenpox:

- No or mild prodrome
- Lesions are superficial vesicles: "dewdrop on a rose petal" (see photo at top)
- Lesions appear in crops: on any one part of the body there are lesions in different stages (papules, vesicles, crusts)
- Centripetal distribution: greatest concentration of lesions on the trunk, fewest lesions on distal extremities. May involve the face/scalp. Occasionally entire body equally affected.
- First lesions appear on the face or trunk
- Patients rarely toxic or moribund
- Rapid evolution: lesions evolve from macules → papules → vesicles → crusts quickly (<24 hours)
- Palms and soles rarely involved
- Patient lacks reliable history of varicella or varicella vaccination
- 50-80% recall an exposure to chickenpox or shingles 10-21 days before rash onset

Major Smallpox Criteria

- **FEBRILE PRODROME:** occurring 1-4 days before rash onset: fever ≥101°F **and** at least one of the following: prostration, headache, backache, chills, vomiting or severe abdominal pain
- **CLASSIC SMALLPOX LESIONS:** deep-seated, firm/hard, round well-circumscribed vesicles or pustules; as they evolve, lesions may become umbilicated or confluent
- **LESIONS IN SAME STAGE OF DEVELOPMENT:** on any one part of the body (e.g., the face, or arm) all the lesions are in the same stage of development (i.e., all are vesicles, or all are pustules)

Minor Smallpox Criteria

- Centrifugal distribution: greatest concentration of lesions on face and distal extremities
- First lesions on the oral mucosa/palate, face, or forearms
- Patient appears toxic or moribund
- Slow evolution: lesions evolve from macules to papules → pustules over days (each stage lasts 1-2 days)
- Lesions on the palms and soles

Common Conditions That Might Be Confused with Smallpox

CONDITION	CLINICAL CLUES
Varicella (primary infection with varicella-zoster virus)	Most common in children <10 years; children usually do not have a viral prodrome
Disseminated herpes zoster	Immunocompromised or elderly persons; rash looks like varicella, usually begins in dermatomal distribution
Impetigo (*Streptococcus pyogenes, Staphylococcus aureus*)	Honey-colored crusted plaques with bullae are classic but may begin as vesicles; regional not disseminated rash; patients generally not ill
Drug eruptions	Exposure to medications; rash often generalized
Contact dermatitis	Itching; contact with possible allergens; rash often localized in pattern suggesting external contact
Erythema multiforme minor	Target, "bull's eye," or iris lesions; often follows recurrent herpes simplex virus infections; may involve hands & feet (including palms & soles)
Erythema multiforme (incl. Stevens-Johnson Syndrome)	Major form involves mucous membranes & conjunctivae; may be target lesions or vesicles
Enteroviral infection esp. Hand, Foot and Mouth disease	Summer & fall; fever & mild pharyngitis 1-2 days before rash onset; lesions initially maculopapular but evolve into whitish-grey tender, flat often oval vesicles; peripheral distribution (hands, feet, mouth, or disseminated)
Disseminated herpes simplex	Lesions indistinguishable from varicella; immunocompromised host
Scabies; insect bites (incl. fleas)	Itching is a major symptom; patient is not febrile & is otherwise well
Molluscum contagiosum	May disseminate in immunosuppressed persons

For more information, please go to the CDC website www.cdc.gov/smallpox

Photo Credits: Dr. Thomas Mack, Dr. Barbara Watson, Dr. Scott A. Norton, Dr. Patrick Alguire, World Health Organization, American Academy of Pediatrics, American Academy of Dermatology

Centers for Disease Control and Prevention
National Center for Emerging and Zoonotic Infectious Diseases

CS265116-A