

MONKEYPOX

Monkeypox 101: What Clinicians Need to Know

John T. Brooks MD

Chief Medical Officer
CDC Monkeypox Response

Council of Medical Specialty Societies

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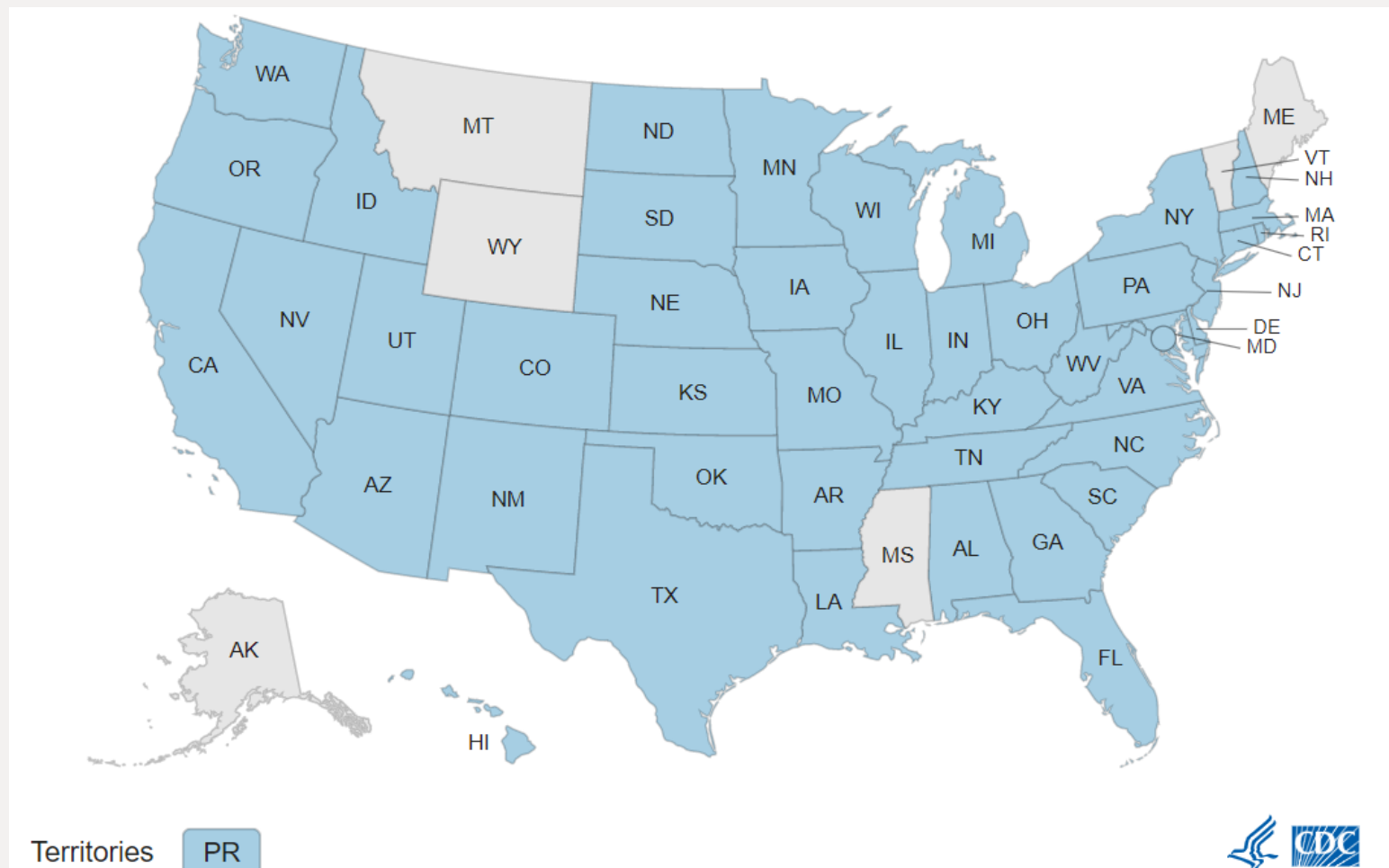
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Monkeypox virus

- Monkeypox is a rare disease caused by infection with monkeypox virus
- *Monkeypox virus* belongs to the *Orthopoxvirus* genus in the family *Poxviridae*
 - *Orthopoxviridae* genus includes *Variola virus* (which causes smallpox), *Vaccinia virus* (used in the smallpox vaccine), and *Cowpox virus*
- First discovered in 1958 following two outbreaks of a pox-like disease in colonies of monkeys kept for research (hence the name ‘monkeypox’)
- Specific animal reservoir unknown, but likely small African mammals

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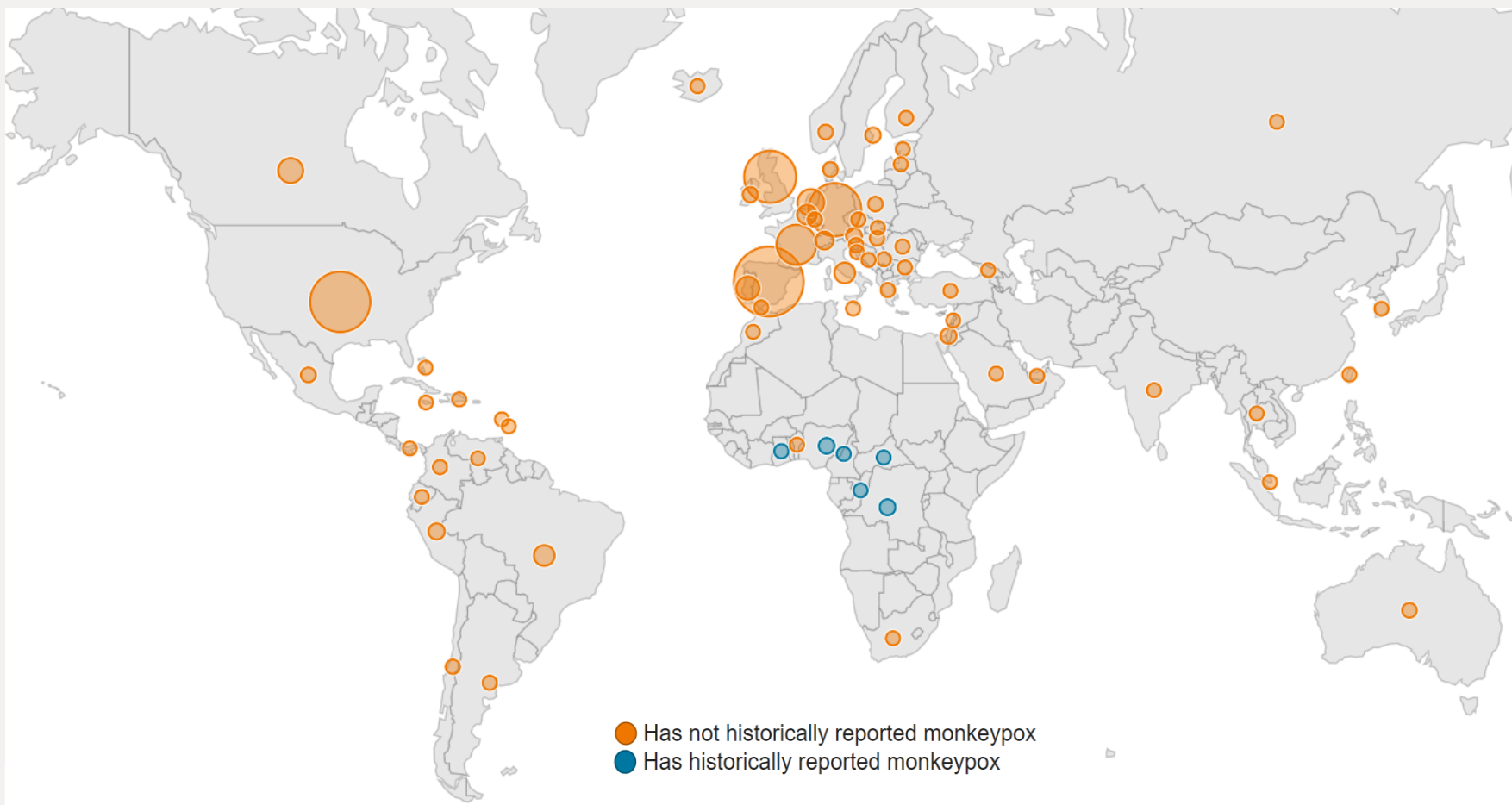
Case Count: 2,593 July 21, 2022



STATE	COUNT
New York	830
California	356
Illinois	230
Florida	226
Georgia	158
District of Columbia	110

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Case Count: 15,848 July 21, 2022



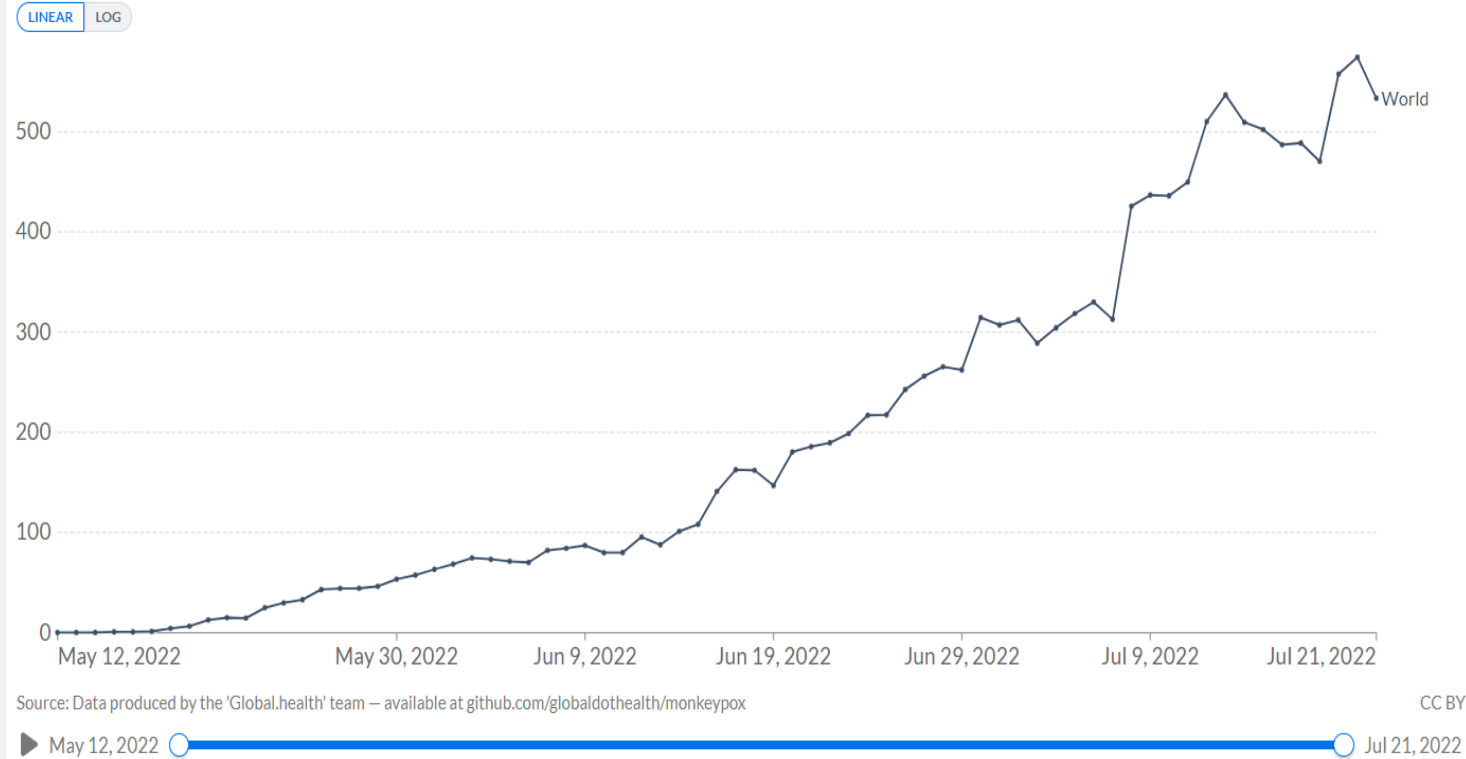
COUNTRY	COUNT
Spain	3,125
United States	2,592
Germany	2,191
United Kingdom	2,137
France	1,453
Netherlands	712

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Worldwide Trend in Cases

Monkeypox: Daily confirmed cases

7-day rolling average



Our World
in Data

Selected epidemiological metrics from enhanced surveillance questionnaires in confirmed monkeypox cases in England as of 6 July 2022 (N=445)

Metric	N (%)
Gay, bisexual, or men who have sex with men	427 (96.2%)
Travel abroad prior to symptom onset (21 days)	136 (30.6%)
Age under 30 years	86 (21.5%)
History of STI in the last year	233 (53.7%)
One or no sexual partners in last 3 months	67 (15.7%)
10+ sexual partners in last 3 months	134 (31.3%)
Living with HIV	123 (29.5%)
On HIV treatment (among living with HIV)	121 (99.2%)
Ever used PrEP (among HIV negative)	222 (79.3%)

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Clinical Illness: 'Classic'

- **Incubation period:** 5–13 days on average (range 4–17 days)
- **Prodrome:** fever, malaise, headache, weakness, and lymphadenopathy that may be generalized or localized to several areas (e.g., neck and armpit)
- **Rash: appears shortly *after* prodrome starts**
 - Typically lesions develop simultaneously and evolve together on any given part of the body
 - Four stages – macular, papular, vesicular, to pustular – before scabbing over and resolving
 - Well-circumscribed, deep seated with umbilication, painful
 - When disseminated tend to be centrifugal: more on arms, legs, hands, feet
 - Can involve palms and soles
- **Illness duration is typically 2–4 weeks**

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Clinical Illness: 'Classic' Lesions



**Lesions observed during
2003 U.S. monkeypox outbreak**



**Lesions observed in
endemic countries**

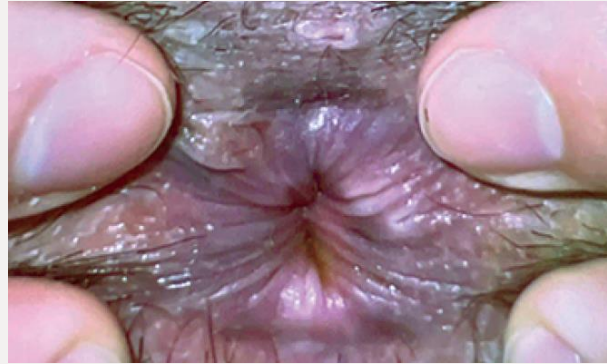
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Clinical Illness: '2022' Lesions

- Pattern: **scattered or localized** to a body site rather than diffuse
- **Rash often starts in mucosal areas** (e.g., genital, perianal, oral mucosa) and may not develop simultaneously in all body areas
 - **Proctitis:** anorectal pain, tenesmus, and rectal bleeding; associated with visible perianal vesicular, pustular, or ulcerative skin lesions and proctitis
 - **Oropharyngitis:** complicated by tonsillar swelling and abscess
- “Prodromal” symptoms can be absent follow rash onset

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Clinical Illness: '2022' Lesions



Sources: Basgoz 2022, [N Eng J Med](#); Jang 2020, [J Korean Med Sci](#). Others courtesy of BW Furness with patient consent.

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Transmission

- **Spread person-to-person through:**
 - **Direct contact** with the infectious rash, scabs, or body fluids
 - **Respiratory secretions** during prolonged, face-to-face contact, or during intimate physical contact, such as kissing, cuddling, or sex
 - **Touching items (such as clothing or linens)** that previously touched the infectious rash or body fluids
 - **Through placenta** in an infected pregnant person to their fetus
- **Patients are infectious once symptoms begin (whether prodromal or rash symptoms) and remain infectious until lesions form scabs, scabs fall off, and a fresh layer of skin forms**

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Examination and Diagnosis

- **Collect a complete sexual and travel history for past 21 days**
 - Consider possibility of foreign or domestic animal or animal product contact
- **Perform a thorough skin and mucosal examination** (e.g., genital, anal, oral) in a room with *good lighting*
- **If rash present, consider a broad differential** (e.g., syphilis, varicella zoster, herpes simplex, molluscum contagiosum), especially if the person has epidemiologic risk factors for monkeypox infection in the current outbreak
- **Evaluate for STIs per the 2021 CDC STI Treatment Guidelines**
 - Persons with monkeypox have had STIs including acute HIV

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If you suspect you have a case...

- **Obtain specimens**
 - <https://www.cdc.gov/poxvirus/monkeypox/clinicians/prep-collection-specimens.html>
 - NB: testing in population with low prevalence more likely to have falsely positive results
- **Notify health department and your facility's infection control team**
 - Can be helpful with contact tracing and identifying person eligible for post-exposure prophylaxis
- **Consider consultation for treatment (contact health department)**
 - Antivirals (tecovirimat, cidofovir, brincidofovir)
 - Vaccinia immune globulin



For more information, contact CDC

1-800-CDC-INFO (232-4636)

TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions of this report represent the opinion of the author and do not necessarily represent the official position of the Centers for Disease Control and Prevention