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Technical Bulletin

Date: **July 29, 2022**
Topic: **Monkeypox Virus Guidance for Health Care Providers – Tecovirimat Treatment**
Contact: **Melissa Peek-Bullock, State Epidemiologist, Office of State Epidemiology**
To: **Health Care Providers, Hospitals, Laboratories, and Local Health Authorities**

Background

Many people infected with monkeypox virus have a mild, self-limiting disease course in the absence of specific therapy. However, the prognosis for monkeypox depends on multiple factors, such as previous vaccination status, initial health status, concurrent illnesses and comorbidities, among others. Currently there is no treatment approved specifically for monkeypox virus infections. However, antivirals developed for use in patient with smallpox may prove beneficial against monkeypox. Patients who should be considered for treatment include[1]:

- People with severe disease (e.g., hemorrhagic disease, confluent lesions, sepsis, encephalitis or other conditions requiring hospitalization);
- People who may be at high risk of severe disease:
    - People with immunocompromising conditions (e.g., human immunodeficiency virus/acquired immune deficiency syndrome infection, leukemia, lymphoma, generalized malignancy, solid organ transplantation, therapy with alkylating agents, antimetabolites, radiation, tumor necrosis factor inhibitors, high-dose corticosteroids, being a recipient with hematopoietic stem cell transplant <24 months post-transplant or ≥24 months but with graft-versus-host disease or disease relapse, or having autoimmune disease with immunodeficiency as a clinical component);
    - Pediatric populations, particularly patients younger than 8 years of age;
    - People with a history or presence of atopic dermatitis, persons with other active exfoliative skin conditions (e.g., eczema, burns, impetigo, varicella zoster virus infection, herpes simplex virus infection, severe acne, severe diaper dermatitis with extensive areas of denuded skin, psoriasis or Darier disease [keratosis follicularis]);
    - Pregnant or breastfeeding women; or
    - People with one or more complications (e.g., secondary bacterial skin infection; gastroenteritis with severe nausea/vomiting, diarrhea or dehydration; bronchopneumonia; concurrent disease; or other comorbidities).[2]
- People with monkeypox virus aberrant infections that include accidental implantation in eyes, mouth or other anatomical areas where monkeypox virus infection might constitute a special hazard (e.g., the genitals or anus).

Tecovirimat

Tecovirimat (also known as TPOXX or ST-246) is approved by the Food and Drug Administration (FDA) for the treatment of human smallpox disease in adults and children. However, its use for other *Orthopoxvirus* infections, including monkeypox, is not approved by the FDA. Therefore, the Centers for Disease Control and Prevention (CDC) holds a non-research Expanded Access Investigational New Drug (EA-IND) protocol that allows for the use of TPOXX through the

[1] https://www.cdc.gov/poxvirus/monkeypox/clinicians/treatment.html
[2] https://www.cdc.gov/poxvirus/monkeypox/clinicians/Tecovirimat.html

Strategic National Stockpile (SNS) for primary or early empiric treatment of non-variola *Orthopoxvirus* infections, including monkeypox, in adults and children of all ages.

Data are not available on the effectiveness of TPOXX in treating monkeypox infection in people, but studies using a variety of animal species have shown that TPOXX is effective in treating *Orthopoxvirus* diseases. Clinical trials showed the drug was safe and had only minor side effects. TPOXX is available as a pill or an injection. For children who weigh less than 28.6 pounds, the capsule can be opened and medicine mixed with semi-solid food.

TPOXX is not readily available through pharmacies at this time. The Nevada Department of Health and Human Services (DHHS) is working collaboratively with the Nevada Board of Pharmacy (BOP) and the CDC to have TPOXX prepositioned within the state. Currently, only five (5) "ship-to" sites are allowed in each state. In Nevada two locations in Clark County and one location in each of Carson City, Elko and Washoe counties have been secured.

Clinicians with patients who may benefit from treatment for monkeypox infection should contact their local public health authority for coordination (see reporting section, below).

Although some documentation is required as part of the EA-IND, only the informed consent form must be completed prior to initiating treatment. The remaining documentation can be completed and submitted after starting treatment. Please work with your facility's pharmacy if available to complete the documentation process. Only one FDA Form 1572 needs to be completed per facility.

The EA-IND provides an umbrella regulatory coverage so that clinicians and facilities do not need to request and obtain their own INDs. The EA-IND also provides liability protection under the PREP Act for health care providers prescribing, administering or dispending the drug, and the ability for patients to seek compensation if they are seriously injured by the medication through the Countermeasures Injury Compensation Program (CICP). In the largest safety study of 359 healthy adult volunteers, other than local site reactions, the most common adverse reactions among those receiving TPOXX were headache (12%) and nausea (5%) [LABEL (fda.gov)]. The safety of TPOXX has not yet been studied in people with *Orthopoxvirus* disease.[3]

How to Obtain Tecovirimat

Since TPOXX is not readily available through pharmacies at this time, all clinicians and care facility pharmacists requesting TPOXX should contact their state/territorial health department. For urgent clinical situations after hours, providers may contact CDC's Emergency Operations Center (770-488-7100) to discuss the case with a clinician, but pre-positioned TPOXX may be the fastest route to obtain the therapeutic. Treatment with TPOXX can begin upon receiving the medication and after obtaining informed consent. No pre-registration is required for clinicians or facilities to begin treatment. Forms requested under the EA-IND can all be returned to CDC ***after*** treatment begins.

TPOXX Expanded Access Investigational New Drug Protocol (IND 116,039/Protocol 6402)

CDC, in partnership with FDA, has made it easier for health care providers to provide TPOXX treatment to patients with monkeypox under the EA-IND protocol. The streamlined process reduces the number of required patient treatment forms from six (21 pages) to two (7 pages); decreases patient visits to three visits that can all be conducted via telemedicine; and makes collecting blood, lesion samples and lesion photos optional.

Health care providers should perform the following:

1. Obtain informed consent prior to treatment.
2. Conduct a baseline assessment and complete the Patient Intake Form. If feasible, give the patient the diary form to complete at home and encourage the patient to return it directly to CDC. The top of the diary form provides the patient with instructions on how to return it to CDC.

[3] https://emergency.cdc.gov/han/2022/han00471.asp

3. Sign the FDA Form 1572. One signed Form 1572 per facility suffices for all (including future) TPOXX treatments administered under the EA-IND at the same facility.
4. Document progress during and after treatment on the Clinical Outcome Form.
5. Report life-threatening or serious adverse events associated with TPOXX by completing a PDF MedWatch Form [226KB, 3 pages] and returning it to CDC via email (regaffairs@cdc.gov) or uploading to ShareFile within 72 hours of awareness or sooner, if possible.
6. Comply with FDA requirements for IRB review described here: Information for Healthcare Providers on Obtaining and Using TPOXX (Tecovirimat) for Treatment of Monkeypox | Monkeypox | Poxvirus | CDC.

It is important to note that clinicians can start the patient's treatment upon obtaining informed consent. All forms can be completed and submitted after treatment initiation to facilitate timely care of the patient. Timely return of patient intake and clinical outcome forms by providers and health care facilities enables CDC to monitor clinically appropriate and safe use of TPOXX.[4]

Other Treatment Options

Additional treatment options include Vaccinia Immune Globulin Intravenous (VIGIV), Brincidofovir and Cidofovir. These therapies are not widely recommended due to potential for increased risk of side effects. Use of these therapies should be decided on a case-by-case basis through CDC clinical consultation. Information on these treatment options can be found at https://www.cdc.gov/poxvirus/monkeypox/clinicians/treatment.html.

Reporting of Possible Cases

Patients that may have monkeypox or who might have been exposed to someone with monkeypox should be reported to public health authorities. Contact the appropriate health authority to report potential cases of monkeypox or for clinical consultation.

Health Department	County	Phone Number to Report
Southern Nevada Health District (SNHD)	Clark	(702) 759-1300 (24 hours)
Washoe County Health District (WCHD)	Washoe	(775) 328-2447 (24 hours)
Carson City Health and Human Services (CCHHS)	Carson City, Douglas, Lyon and Storey	(775) 887-2190 (24 hours)
Nevada Division of Public and Behavioral Health (DPBH)	All other counties	(775) 684-5911 (M-F 8 am to 5 pm) (775) 400-0333 (after hours)

Questions:
For updated guidance, visit the DPBH Technical Bulletin website. Email stateepi@health.nv.gov for other questions regarding monkeypox.

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[4] https://emergency.cdc.gov/han/2022/han00471.asp