



Monkeypox Infections in Animals: Updated Interim Guidance for Persons Who Have Frequent Contact with Animals (Pet Owners, Pet Shop Owners and Employees, Animal Rescuers, Animal Handlers, and Animal Control Officers)

The Centers for Disease Control and Prevention (CDC) has been working closely with other federal agencies and several state and local health departments to investigate cases of monkeypox virus infections among humans who had direct or close contact with ill wild or exotic animals, mainly captive prairie dogs.

Monkeypox is a rare viral disease that typically occurs among animals and people in central and western Africa. In humans, the illness produces a blister-like rash similar to that of smallpox. Time from contact with a sick animal to the beginning of fever in a person is usually about 12 days. During the current outbreak in the United States, most infected persons have had illness that was relatively mild to moderate in severity, and there have been no deaths from monkeypox. However, the disease can be severe, and in Africa about 1% to 10% of human cases are fatal (for additional information, see the monkeypox article in *Emerging Infectious Diseases* at www.cdc.gov/ncidod/eid/vol7no3/hutinG1.htm).

This document provides updated interim guidance for persons who have frequent contact with animals (including pet owners, pet shop owners and employees, animal control officers, animal rescuers, and others). It will be updated as new information becomes available and after consultation with additional public health partners. Veterinarians should refer to veterinary guidance at www.cdc.gov/ncidod/monkeypox/animalguidance.htm.

Spread of Monkeypox

Monkeypox is found mostly in central and western Africa. The illness was first noted in monkeys in 1958, which is why it was named monkeypox. Other animals can get monkeypox too. Humans appear to get monkeypox mainly from direct contact with infected animals. Limited human-to-human spread of monkeypox has been reported among people in rural Africa, most likely as a result of direct contact (i.e., skin-to-skin) or contact with respiratory droplets. How animals become infected is less clear. The virus might be transmitted to animals through droplets entering the nose, mouth, skin cuts, or scrapes or through eating infected animal tissue.

Monkeypox in the United States

In early June 2003, monkeypox was reported among several people in the United States – the first outbreak of its kind in this country. The U.S. residents who developed monkeypox became ill after having contact with pet prairie dogs that were sick. It now appears that these prairie dogs became infected from a shipment of animals from Africa that were imported into the United States on April 9 to be sold as pets. The imported animals include Gambian giant pouched rats, rope squirrels, dormice, and other small mammals (to view images of these types of mammals, see www.cdc.gov/ncidod/monkeypox/animals.htm).

Legal Restrictions on Importation and Distribution of Animals Associated with Monkeypox Outbreak

On June 11, 2003, CDC and the Food and Drug Administration issued a joint order banning the importation into the United States of all rodents from Africa and the transport, sale, distribution, or

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release into the environment within the United States of prairie dogs and six types of African rodents (tree squirrels, rope squirrels, dormice, Gambian giant pouched rats, brush-tailed porcupines, and striped mice). This includes rodents in shipments originating in Africa and rodents in transshipments from Africa through other countries. On November 4, 2003, the joint order was replaced by an interim final rule which maintains the bans on importation of African rodents and the sale, distribution, transport, and release into the environment as previously described.

The ban on prairie dogs and the six types of African rodents includes any transport, sale, offering for sale or distribution, including release into the environment on public or private property, even if the animal is healthy. If you have one of the animals listed above, you can take it to a veterinarian, animal control, or other official if instructed to do so by your state or local health department. People who violate the joint order may be subject to criminal and/or civil penalties.

Symptoms of Monkeypox in Animals

The types of animals that may become ill with monkeypox are currently unknown. Until more information is available, it is best to assume that any mammal, including common household pets (e.g., dogs, cats) and "pocket pets" (e.g., hamsters or gerbils), can get monkeypox if exposed to another animal that is infected. Some animals infected with monkeypox have died and others have recovered. Symptoms of monkeypox in animals that have been observed in this outbreak include the following:

- cough
- discharge from the eyes (appear cloudy or crusty) or the nostrils
- swelling in the limbs from enlarged lymph nodes
- a bumpy or blister-like rash

Animals that have monkeypox also may just appear to be very tired and may not be eating or drinking.

Contact with Sick Animals

Contact with sick animals could lead to monkeypox infection in humans. Animals that are sick should be cared for by trained individuals using the proper precautions. If an animal develops symptoms of monkeypox, the state or local health department should be contacted. The health department may decide to collect the animal.

If the health department recommends that the animal be taken to a veterinarian, follow the steps below:

- Call the veterinary clinic and let staff there know that you have an animal that may have monkeypox so they can then take the proper precautions.
- If the clinic can take the animal, the staff there should make arrangements for the animal to be brought into the clinic safely and minimize time spent in the waiting room.
- Prepare to handle the animal for transport.
 - Wear gloves and protective clothing (e.g., heavy rubber gloves, long sleeve shirt) to help prevent abrasions from biting or scratching and to minimize contact with lesions and the animal's body fluids. If the animal is likely to bite during handling, use the heaviest gloves available (e.g., leather garden gloves, household utility gloves) for protection.
 - Contain the animal in a cage or box (be sure there is enough air) for transport.
 - Limit the number of persons who transport the animal. Avoid involving children whenever possible.
- If the veterinarian suspects monkeypox in the animal, clean and disinfect the area of the vehicle where the animal was kept (see below for cleaning agents.) Also, wash and dry clothing and other washable materials used to handle the animal and use good hand hygiene (e.g., hand

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washing). If you use heavy protective gloves that you do not want to throw away, you can wash them as clothing or soak them with a disinfectant after use.

- Persons with a sick animal need to be watchful for signs of human illness that could be monkeypox. If a fever or other signs of illness develop (see human monkeypox case definition at www.cdc.gov/ncidod/monkeypox/casedefinition.htm), a health care provider and the local or state health department should be contacted immediately (www.cdc.gov/other.htm#states).

Cleaning of Household or Facility after Removal of an Animal with Monkeypox

Contact the state or local health department for information regarding local recommendations for cleaning after removal of an animal with monkeypox. In the absence of local recommendations, follow the steps below:

- Standard household detergents should be used first to clean surfaces.
- Follow this cleaning with a disinfectant solution, such as a bleach and water solution of ¼ cup bleach to 1 gallon of water.
- Washable toys, cages, food containers, and other objects used by the infected animal can be cleaned and disinfected by hand or in a dishwasher.
- Animal bedding, pillows, or other washable materials that have been in contact with the infected animal should either be laundered in a household washing machine or discarded after disinfection.
- Materials (such as wood chips) and objects that must be discarded should be thoroughly soaked with a disinfectant (e.g., bleach solution), placed in a plastic bag, and then contained in a covered trashcan for disposal with other household waste.

Quarantine of Exposed Animals

Most animals that have come in contact with another animal known to have monkeypox must be placed under quarantine for 6 weeks from the date of last exposure. (Please refer to the July 11 MMWR article (www.cdc.gov/mmwr/preview/mmwrhtml/mm5227a5.htm) about the multistate outbreak for more information about animals known to have monkeypox.) You may be notified by the health department of this exposure or you may yourself be aware of such contact. Contact includes living in the same house, coming from the same pet store or other pet facility, or being purchased or traded at a “swap meet” where animals were sold. If you believe you have or know of such an animal, contact your local or state health department (www.cdc.gov/other.htm#states) immediately and use the following instructions for dealing with a quarantined animal:

- Put the exposed animal (caged if appropriate) in a room with a closed door and keep it away from all other animals for 6 weeks from the date of exposure or purchase. Be sure that the environment is comfortable for the animal, adequate lighting and air are available, and that basic needs for food, water, cleaning, and removal of waste will be met. Consider having only one person provide care for the animal. Limit the time spent with the animal. After any contact with the animal, wash hands thoroughly with soap and water.
- Protective clothing is not routinely necessary when handling quarantined animals that have no symptoms.
- Watch for signs of illness in the quarantined animal (see animal monkeypox case definition at www.cdc.gov/ncidod/monkeypox/animalcasedefinition.htm). If the animal appears ill, contact your local or state health department (www.cdc.gov/other.htm#states) immediately and follow the instructions listed above regarding contact with sick animals.
- During the quarantine period, persons with an exposed animal need to be watchful for signs of human illness that could be monkeypox. If a fever or other signs of illness develop (see human monkeypox case definition at www.cdc.gov/ncidod/monkeypox/casedefinition.htm), a health

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care provider and the local or state health department (www.cdc.gov/other.htm#states) should be contacted immediately.

- If quarantined animals remain in the home or facility, they should be kept away from persons who are immunocompromised (e.g., persons with HIV, cancer, or other diseases that affect the immune system; pregnant women; people who have had transplants or who are undergoing treatments such as chemotherapy). General information about diseases and pets is available at CDC's Healthy Pets, Healthy People Web site at www.cdc.gov/ncidod/diseases/pets/index.htm.

What to Do with Exposed Animals That Cannot Be Quarantined

If you are unable to care for or keep an animal that has been exposed to monkeypox, you should contact your state or local health department for advice. The health department may recommend the animal be taken to a veterinarian to be cared for during the 6-week quarantine, or they may recommend humane euthanasia of the animal. In some cases, the health department may collect the animal.

Do **not** take the animal to a veterinarian without calling first and explaining that the animal has been exposed to monkeypox (refer back to Contact with Sick Animals section).

Do **not** abandon animals at shelters or release them back into the wild. The animals cannot survive and, if infected, could spread monkeypox to animals in the wild.

If the animal dies, the state or local health department should be contacted for advice on what to do with the body. Do **not** throw the animal's body away in household trash or at a dump or landfill. Do **not** bury the animal's body on your property. Doing this could spread the disease if the animal was infected.

Care of Animals by Humans Infected with Monkeypox

Animals that have had contact with infected humans are considered exposed to monkeypox and must be quarantined. It is unknown whether persons with monkeypox can spread the disease to their animals. Persons with monkeypox should limit their contact with mammalian pets, including cats, dogs, and pocket pets. Pets should not be allowed to share an ill owner's bed and should not be allowed to have contact with clothing and other materials that have come into contact with an infected person's skin lesions. Dressings and bandages should be put in a secure container and kept away from animals. Persons with monkeypox should practice good general hygiene (including hand washing) and may choose to limit contact with animals until the health care provider says it is safe to resume normal activities. For further information about infection control practices in this setting, see CDC's interim guidance at www.cdc.gov/ncidod/monkeypox/infectioncontrol.htm.

Additional Information

For more information, contact the state or local health department or the CDC Emergency Operations Center 770-488-7100. Additional information and recommendations will be released as they become available. Updated information will be available at CDC's monkeypox Web site at www.cdc.gov/ncidod/monkeypox/index.htm.

For more information, visit www.cdc.gov/ncidod/monkeypox or call the CDC public response hotline at (888) 246-2675 (English), (888) 246-2857 (Español), or (866) 874-2646 (TTY)