

EXOTIC PET ZONOOSES

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With more than 30 million "specialty" pets now in North American homes¹, the potential of disease transmission to the human family members is very real. Exotic pet-associated diseases, including psittacosis, rat bite fever, tularemia, salmonellosis, ringworm, and monkeypox, have been reported in Wisconsin during the past 10 years. Veterinarians should refer pet owners to their M.D. physician with questions about human illness. Physicians, however, expect veterinarians to be responsible for educating veterinary hospital staff and pet owners about zoonotic diseases. The attached table provides an outline of important information about specific zoonotic diseases that affect "exotic" pet species. Note that dogs and cats are included if the disease can affect them, but the table is not an comprehensive list of dog and cat zoonoses. The Centers for Disease Control and Prevention at <http://www.cdc.gov> is an outstanding Internet source for current information about zoonotic diseases.

Facts at a Glance

Avian influenza is not a health concern because it has not been reported in any American wild or domestic animals to date.

Campylobacter is a minor concern. Most people get campylobacteriosis from contaminated food, but people can become infected via feces that are contaminated with *Campylobacter*. Farm animals, cats, dogs, ferrets, guinea pigs, hamsters, turtles, lizards, snakes, and birds can transmit *Campylobacter* to humans whether or not the animals are showing clinical signs of illness.

Tapeworms (cestodes) can be transmitted from dogs, cats, and rodents if people accidentally eat intermediate hosts such as fleas or beetles. People should avoid biting their fingernails, especially after attempting to kill an insect with their bare hands.

Dermatophytosis (ringworm) is a common problems that can be transmitted to people from dogs, cats, farm animals, ferrets, rabbits, rodents, guinea pigs, and hedgehogs.

Lymphocytic choriomeningitis (LCMV) is a viral disease that can be transmitted to people via rodent urine, feces, saliva, or nesting material if it contacts broken skin or mucus membranes of a person. Most cases of LCMV in people are directly from wild mice, but on rare occasion, pet mice, hamsters, or guinea pigs may become infected after contact with wild rodents and then transmit it to humans.

Mycobacteriosis is the term for all diseases caused by *Mycobacterium* spp. including *M. tuberculosis*. These bacteria occur in all mammals, birds, reptiles, amphibians, and fish, and can cause an array of clinical signs including dermal ulceration, infiltrative enteritis, and focal granulomatous disease in any organ. People can become infected by direct contact with infectious material into open wounds, mucous membranes, ingestion, or inhalation.

Mycobacteria other than *M. tuberculosis* are a concern only for immunocompromised people.

Pasteurella spp. can be transmitted to people via bite wounds or by direct contact with farm animals, dogs, cats, rabbits, rodents, and guinea pigs. *Pasteurella* spp. bacteria can be normal flora in many animals, but can also cause respiratory disease, abscesses, or septicemia under appropriate conditions.

Psittacosis, or *Chlamydophila* infection, is carried by birds and is uncommonly reported to public health officials, even though it can cause serious illness in people. Infected birds may have conjunctivitis, sinusitis, diarrhea, hepatopathy, or non-specific illness. *Chlamydophila* is

transmitted to people via inhalation of wet or dry saliva, tears, vomitus, feces, or urine of an infected bird.

Plague is caused by *Yersinia pestis* and can be carried by cats, ferrets, and rodents and is usually transmitted by fleas. Plague is not endemic to Wisconsin, but can be contracted by animals that have traveled to southwestern states.

Rabies is a virus that can infect any mammal and is usually transmitted by a bite.

Rat bite fever is a minor health concern caused by *Streptobacillus moniliformis*. It does not usually cause clinical signs of illness in rodents, and is transmitted to people via bite wounds or direct contact with wild rats. Companion rodents may become infected and could serve as a source for infection in people.

Salmonellosis is a particular public health concern. Dogs, cats, horses, birds, and farm animals can pass *Salmonella* in their feces, and reptiles, baby chicks, and ducklings are especially likely to transmit this infection to people because they can carry it without clinical signs of illness.

Tularemia is a potentially serious public health concern caused by *Francisella tularensis*, a bacteria that can infect dogs, cats, horses, sheep, rabbits, guinea pigs, hamsters, gerbils, and other mammals. It is transmitted to people by direct contact with carcasses, via biting insects, by eating contaminated food, by drinking contaminated water, or by inhalation. It can cause granulomatous disease and death in animals.

West Nile Virus is a mosquito-borne encephalitis virus that can infect numerous different animals. Companion animals are not an important source of infection for people.

Guidelines to avoid contracting zoonotic diseases

The following are some guidelines for the general public to avoid contracting a zoonotic disease.

- Children and immunocompromised adults should carefully weigh the risks and benefits of contact with any animal, but especially animals showing clinical signs of illness.
- Reptiles should not be kept in a home with immunocompromised people or around children under the age of 5 years.
- Everyone should avoid contact with wild animals, whether apparently healthy, sick, or dead.
- Everyone should wash their hands with soap and running water after contact with animal feces, reptiles, or fowl.
- When people see their medical doctor for illness, they should report all recent contact with animals to help their physician address any possible zoonotic illness.

Points for establishing veterinary hospital zoonosis protocols

These points can be used for protocols to protect staff/pet owners in the veterinary hospital.

- Any animal *suspected* of having a zoonotic disease (i.e., you have submitted a titre or test) should be managed with your zoonosis protocol.
- Knowledge of the route of spread of disease (e.g., urine, feces, respiratory discharge, saliva), how long they are contagious, and any special precautions for each particular zoonotic disease is vital to establishing an effective protocol.
- Proper protective outer wear (e.g., cap, gown, gloves, mask, eye goggles) should be worn by staff or owners when handling the animal or any of the pet's excrements or samples for testing while in your hospital.
- Careful guidelines for managing the pet at home should be provided to the owners.

¹ AVMA Survey of Companion Animal Ownership in US Pet-Ownning Households, 2006.