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Popular Article

## Feline Zoonotic Diseases

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The term “Zoonoses” is derived from the Greek word “Zoon”, which means animal, and “nosos”, which means illness. According to the World Health Organization (WHO), any disease or infection that is naturally transmissible from vertebrate animals to humans or from humans to animals is classified as a zoonosis (1). Among the human pathogens, about 61% are zoonotic in nature (2). Zoonoses is a great public health concern and a direct human health hazard that may even lead to death.

This document provides information on various diseases that can be passed from cats to humans. Often these diseases do not make the animal appear sick but can cause serious illness in humans. Persons with specific medical conditions such as a chronic illness, immunodeficiency and pregnancy may be at higher risk of developing disease or complications from a zoonotic disease and should consult with their physician before working with animals.

The zoonotic diseases associated with cats include rabies, capnocytophagosis, pasteurellosis, cat scratch disease, ringworm, sporothrichosis, tularemia, plague, Q fever, and external parasites, campylobacteriosis, salmonellosis, infections with pathogenic *E. coli*, cryptosporidiosis, giardiasis, toxoplasmosis, and MRSA.

**Rabies** is a viral disease that causes inflammation of the brain in humans and other mammals. Early symptoms can include fever and tingling at the site of exposure. These symptoms are followed by one or more of the following symptoms: nausea, vomiting, violent movements, uncontrolled excitement, fear of water, an inability to move parts of the body, confusion, and loss of consciousness. Once symptoms appear, the result is virtually always death, regardless of treatment. The time period between contracting the disease and the start of symptoms is usually one to three



months but can vary from less than one week to more than one year. The time depends on the distance the virus must travel along peripheral nerves to reach the central nervous system(3)

Rabies is caused by lyssaviruses, including the rabies virus and Australian bat lyssavirus. It is spread when an infected animal bites or scratches a human or other animals. Saliva from an infected animal can also transmit rabies if the saliva comes into contact with the eyes, mouth, or nose. Globally, dogs are the most common animal involved. Cats are the most frequently reported domestic animal diagnosed with rabies in North America. Free roaming outdoor cats may acquire rabies from bats, raccoons, skunks and other wildlife. Infected animals often exhibit neurological symptoms and unusual behavior before death. There is an effective vaccine available for people and most domestic animals including cats. If a person is bitten or scratched by a suspect animal, they should report the incident and seek post-exposure rabies prophylaxis immediately from a medical professional. Persons who routinely work in high-risk activities should be vaccinated against rabies.

Free roaming cats and cats that hunt are at risk for developing tularemia and plague. Tularemia is a bacterial infection of wild rodents and rabbits that occasionally infects cats that hunt or drink contaminated water. Plague caused by *Yersinia pestis* is endemic in wild rodents in the Southwest America and some parts of India. Cats acquire the infection by flea bites and hunting infected rodents. Cats may develop septicemic and pneumonic plague (4) which can be transmitted to people by inhalation, contact with the mouth, tissues and body fluids of an infected cat as well as flea bites. Disease in people can be severe and requires prompt medical diagnosis and treatment. Symptoms can include high fever and chills, headache, malaise, and swollen lymph nodes.

Dermatophytosis is a fungal skin infection commonly known as “ringworm” and is seen in both animals and people as scaly round areas of hair loss but can affect the nails as well (5). Transmission of ringworm is by direct skin-to-skin contact with an infected cat or from the environment. Young cats and kittens are more likely to carry the disease and infect people.

Q fever caused by *Coxiella burnetti* can cause abortion & reproductive disease in pregnant cats. There is an especially high concentration at the time that an infected cat gives birth, so particular care needs to be used in handling newborn kittens, placental tissues, and other products of conception. These agents can be acquired by exposure to placental membranes and fetuses from infected cats and by aerosol. Immunocompromised persons are at higher risk of developing severe disease and complications from Q fever.

Salmonellosis, campylobacteriosis, cryptosporidiosis, giardiasis and infections with pathogenic *E. coli* are acquired by contact and accidental ingestion of fecal material from infected cats. Animals infected with these bacterial and protozoal diseases often have diarrhea, but some animals may show no symptoms of disease. Any animal with diarrhea should be suspect of having a zoonotic disease. Symptoms in people include diarrhea, vomiting, and abdominal cramps.



Toxoplasmosis is an intestinal protozoal infection in cats. Cats typically do not exhibit any disease symptoms but shed infectious oocysts in their feces. Humans are infected by accidental ingestion of oocysts in cat feces or ingestion of tissue cysts in undercooked meat. Toxoplasma infection during pregnancy can result in birth defects including mental retardation and blindness. Avoid direct contact with cat feces and urine and use gloves and handwashing to avoid accidental ingestion of animal waste.

Methicillin-resistant *Staphylococcus aureus* (MRSA) are bacteria that have acquired resistance to certain antibiotics. They can be found on the skin of healthy animals (6) and people, where they can opportunistically cause infections. Cats normally do not have signs of disease, but they can have infections in the skin, and respiratory and urinary tracts. People can get infected after direct contact with animals carrying these bacteria. If people are not treated, the infection can progress to septicemia and affect other organs including the lungs.

We can protect ourselves from most diseases by using the following procedures:

- Handle animals appropriately and safely to avoid bites and scratches.
- Thoroughly wash any bite or scratch wounds and report bite and scratch injuries.
- Do not eat, drink, apply cosmetics or use tobacco products while handling animals or in animal housing areas.
- Wear gloves when handling animals, animal tissues, body fluids and waste and wash hands after contact.
- Wear dedicated protective clothing such as a lab coat or coveralls when handling animals. Launder the soiled clothing separate from your personal clothes and preferably at the animal facility.
- Wear respiratory protection when appropriate.
- Keep animal areas clean and disinfect equipment after using it on animals or in animal areas.
- Report ill animals so that they can receive veterinary care.

Most importantly, familiarize yourself about the animals that you will be working with and the potential zoonotic diseases associated with each species. If at any time, you suspect that you have acquired a zoonotic disease, informed your supervisor and sought medical care.

## References

1. World Health Organization WHO Health Topic Page: Zoonoses. [(accessed on 20 July 2020)]; Available online: <https://www.who.int/topics/zoonoses/en/> [Ref list]
2. Taylor L.H., Latham S.M., Woolhouse M.E. Risk factors for human disease emergence. *Philos. Trans. R. Soc. Lond. B Biol. Sci.* 2001; 356:983–989.
3. Cotran RS, Kumar V, Fausto N (2005). *Robbins and Cotran Pathologic Basis of Disease* (7th ed.). Elsevier/Saunders. p. 1375. ISBN 978-0-7216-0187-8



doi: 10.1098/rstb.2001.0888.

4. Gage, K. L.; Dennis, D. T.; Orloski, K. A.; Ettestad, P.; Brown, T. L.; Reynolds, P. J.; Pape, W. J.; Fritz, C. L.; Carter, L. G.; Stein, J. D. (2000). "[Cases of Cat-Associated Human Plague in the Western US, 1977-1998](#)". *Clinical Infectious Diseases*. **30** (6): 893–900. doi:[10.1086/313804](#). ISSN 1058-4838. PMID [10852811](#).
5. McPhee, Stephen (2012). *Current medical diagnosis & treatment 2012*. New York: McGraw-Hill Medical. p. 110. ISBN 9780071763721.

