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A Guide to Pet Care for the Immunocompromised

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There are many benefits of having a companion animal and these benefits often outweigh the risks of pet ownership. The infections that are shared by people and animals are termed zoonoses. These zoonoses can be serious in immunocompromised people. The risks of contracting an infection can be minimized by following some basic preventative measures. In some of these diseases, the sources of infection can be pets. Therefore, education on disease transmission and prevention are important to minimize the risk of infection from all possible sources.

Who is immunocomprimised?

Immunocompromised people are more susceptible to acquiring infectious diseases and include individuals undergoing chemotherapy for cancer, organ transplant recipients, and bone marrow recipients. This group also includes the elderly, especially those in nursing homes, hospice care, and hospitals; and infants and children under five years of age, whose immune system may be impaired or not fully developed.

What are some diseases could I get from my pet?

Type of Pet	Potential Diseases
Cats	Cat Scratch Fever, Toxoplamosis, Cryptosporidiosis, Salmonellosis, Campylobacteriosis, Giardiasis, Ringworm, Roundworms, Hookworms, Q-Fever
Dogs	Cryptosporidiosis, Salmonellosis, Campylobacteriosis, Giardiasis, Ringworm, Roundworms, Hookworms
Reptiles (snakes, lizards, turtles)	Salmonellosis
Fish	*Mycobacterium marinum*
Birds	Chlamydiosis, Avian Tuberculosis, Salmonellosis, Campylobacteriosis

What diseases pose the greatest risk?

Toxoplasmosis: Household cats are only one of many sources of the protozoan parasite, *Toxoplasma gondii*. Many cases of human central nervous system toxoplasmosis are actually reactivations of previous infections from the ingestion or handling of contaminated meat products, such as pork. Contrary to popular belief, touching or caring

for household cats is not the major transmission route. Once an infected cat has shed the *Toxoplasma* oocyst (egg), they are unlikely to shed again. Cats are most likely to shed infectious oocysts after ingesting infected tissues. Therefore, cats should not be allowed to hunt or eat raw meat. Oocysts need at least 24 hours to become infectious so daily litter box cleaning should be done, preferably by an immunocompetent person or while wearing gloves. Improper meat preparation, contaminated soil in the environment, and stray cats are most likely sources of infection. Stray cats can contaminate the environment and gloves should be worn when working outside, such as when gardening. Moreover, the handling of stray cats should be avoided. Proper kitchen hygiene will help decrease the risk from meat contamination. Don't reuse any utensils or cutting surfaces that were in contact with the raw meat without cleaning them. Don't taste marinades that have contacted the raw meat.

Cat Scratch Disease: This disease is caused by the bacteria, B*artonella henselae*, and this disease has been associated with cat contact, especially if one is scratched or bitten; and/or having exposure to cat fleas. To help prevent infection, the immunocompromised individual should avoid kittens (since they tend to scratch more than adults); avoid contact with stray cats; and use proper flea control. Immediately wash the wound if any scratches or bites occur.

Salmonellosis and Campylobacteriosis: Dogs and cats can be a infrequent source of infection of the bacteria, *Salmonella* and *Campylocater*. In addition, the most common sources for humans are contaminated water; and milk or food contaminated by domestic or farm animals. To prevent dogs and cats from being sources of infection, they should be fed a quality commercial diet and no raw or undercooked meat. They should not be allowed to hunt. The cat litterbox should be cleaned daily, preferably by an immune competent person, or if an immune compromised person must clean it, they should wear gloves and wash immediately afterwards. The litter box should not be kept in the kitchen, dining room, or any place where there is food. Pet poultry have been sources of *Salmonella* and *Campylobacter* as poultry can shed the bacteria in their feces and/or contaminate the area with their feces. Use proper hygiene, wash hands and disinfect areas that have had pet poultry contact.

Cryptosporidiosis: This infection is caused by the protozoan parasite, *Cryptosporidium parvum*, and is predominantly acquired from ingestion of fecal-contaminated food and/or water, such as in pools, lakes, rivers, and municipal water supplies. Therefore, drinking bottled water and taking care not to accidently ingest water at public pools and other bodies of water may help to greatly decrease the risk of infection. Any pets with diarrhea should be avoided and they should be examined by a veterinarian to determine the cause of the diarrhea.

Giardiasis: Giardiasis is a disease caused by the protozoan parasite, *Giardia lamblia.* Infection usually occurs from the environment, especially water sources. The frequency of transmission of *Giardia* between animals and people is not well established. Human outbreaks usually involve young children with exposure to day-care environments or originate from a water source, such as multiple-use pools. Any pets with diarrhea should be avoided until the cause of diarrhea has been determined.

How can we keep ourselves and our pets healthy?

- Wash hands with soap and water after contact with pets or feces;
- Wash hands well after working in dirt;

- Keep pets healthy and have them regularly examined by a veterinarian;
- Don't feed pets undercooked or raw meat, and do not let them get into garbage. Don't allow them to hunt, eat feces, or drink from toilet bowls;
- Keep pets free of fleas and ticks;
- Avoid being bitten or scratched and keep pet nails trimmed for indoor pet;
- Discuss your concerns with your physician and veterinarian.

What pets should be avoided?

- Animals younger than 6 months old are more likely to carry diseases that can make you ill.
- Animals with diarrhea should be checked by a veterinarian for infection with *Cryptosporidium, Giardia, Salmonella, Campylobacter,* and *Toxoplasma*;
- Stray animals and wild birds;
- Exotic pets, until their health status is known; and
- Reptiles and amphibians as they are major sources of *Salmonella.*

The benefits of pet ownership outweigh the potential risk of disease in people. For many zoonoses, people are more likely to get the disease from sources other than their pets. The risks can be minimized for all people, including the immunocompromised, by practicing basic preventative measures. Contact your veterinarian and physician for more information.

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