

- Keep your pet healthy.
  - Make sure your pet receives regular preventive veterinary care including vaccinations (talk to your veterinarian about the appropriate vaccinations for your pet) and flea, tick and intestinal parasite preventives.



- Vaccinate your pets (including indoor cats!) against rabies.

- Clean up after your pets

- Discard pet waste in a tightly sealed, impermeable bag. Small biodegradable or plastic bags work well.

- Pet waste can contain harmful bacteria and parasites, so young children should not clean up after pets.

- Store pet foods separate from people foods, and feed your pets in separate areas from where you eat or prepare food for you and your family.
- Handle and cook food according to the directions provided on the package, or based on USDA recommendations.
- For your health as well as your pet's health, don't share your food with your pet.
- If you're attending a petting zoo or fair, do not eat or drink while in an area with animals. Wash your hands as soon as you leave the area.



## A word about reverse zoonotic diseases

Reverse zoonoses occur when a person spreads a disease to an animal. For example, methicillin-resistant *Staphylococcus aureus* (MRSA) can be spread to people from animals (zoonotic disease), but it can also be spread to animals from people (reverse zoonotic disease) and then possibly back to people from the infected animal. During the 2009 H1N1 influenza pandemic, there were several confirmed cases of people infecting their pets (ferrets, cats and dogs) with the influenza virus. Fortunately, the same precautions we've described above are effective ways to reduce the risk of making your pet sick.



# Preventing Zoonotic Diseases



For more information, visit,  
American Veterinary Medical Association

[www.avma.org](http://www.avma.org)



American Veterinary Medical Association  
1931 North Meacham Road, Suite 100  
Schaumburg, Illinois 60173 - 4360  
Phone: 847.925.8070 • Fax: 847.285.1329  
[www.avma.org](http://www.avma.org) • [AVMAinfo@avma.org](mailto:AVMAinfo@avma.org)

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People around the world share their homes and lives with animals, and there are many benefits of pet ownership. But human-animal interactions can also pose risks to both humans and animals, and one of these risks is the spread of disease between humans and animals. Fortunately, preventive measures and good hygiene are simple ways to reduce the risk of disease.

## What are zoonotic diseases?

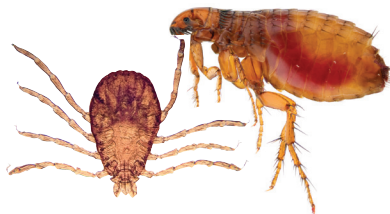
Zoonotic diseases are diseases that can be spread between animals and people. They can be caused by pathogens (disease-causing organisms) such as viruses, bacteria, parasites and fungi. Examples include rabies, *Salmonella*, some strains of Influenza A, and West Nile Virus, just to name a few. At least 65 percent of recent major disease outbreaks have zoonotic origins, and 75% of emerging infectious diseases are zoonotic. Emerging zoonoses can come from many animal species, including pets.

## How are zoonotic diseases spread?

Zoonotic diseases can be spread in a number of ways. Some methods of transmission include:

- **Fecal-oral transmission:** This occurs when you ingest small, usually invisible, amounts stool or droppings containing a pathogen. It is often an unintentional exposure because the person does not realize, or even forgets they came in contact with fecal material. This can occur when a person does not thoroughly wash their hands after handling infected animals or items from an animal's environment. *Cryptosporidium* is a common zoonotic parasite that affects people, especially since it can survive in recreational waters such as pools and can be ingested during swimming or playing in water.
- **Foodborne transmission:** This occurs when people ingest food contaminated with a pathogen, or if a person handles contaminated pet food, uncooked meat or fomites and does not wash his or her hands before handling foods or drinks. Examples of pathogens that can be transmitted this way include *Salmonella*, *E. coli*, *Listeria* and *Campylobacter*.
- **Bites and Scratches:** Rabies is an example of a zoonotic disease that is transmitted this way.

- **Insect-borne transmission:** This occurs when insects carry a pathogen from an infected animal or person and transfers it to another animal or person. Examples include mosquitos transmitting West Nile Virus, ticks transmitting Lyme disease, and fleas transmitting plague.



- **Direct contact:** This happens when there is physical contact with an animal. A person may become infected through touching an infected animal or through a bite, scratch or contact with the eyes, nose or mouth of an infected animal. Rabies and ringworm are examples of zoonotic diseases spread through direct contact.
- **Indirect contact:** This occurs when a pathogen can be transmitted without physical contact with the animal. Many pathogens can survive outside a person or animal for a period of time. Some pathogens can survive well in water and soil, or on inanimate objects, also known as fomites. These items can transfer pathogens such as *Salmonella*, *Leptospira* and fecal parasites from place to place, animal to animal and from animals to people.

## What zoonotic diseases can I get from pets and other domestic animals?

This list doesn't include every disease you can get from pets and other domestic animals, but here are some examples:

- Bartonellosis (caused by *Bartonella* bacteria)
- Brucellosis (caused by the *Brucella* bacteria)
- *Campylobacter* infection
- Cryptosporidiosis
- *E. coli* infection (caused by the *E. coli* bacteria)
- Leptospirosis (caused by *Leptospira* bacteria)
- Plague (caused by the *Yersinia pestis* bacteria)
- Rabies (caused by the rabies virus)
- Ringworm (caused by certain fungi)
- Salmonellosis (caused by the *Salmonella* bacteria)
- Toxoplasmosis (caused by the parasite *Toxoplasma gondii*)
- Toxocariasis (caused by *Toxocara* parasites – also called roundworms)
- Tularemia (caused by the *Francisella tularensis* bacteria)



## Are certain people at higher risk of being infected with zoonotic diseases?

Children are at higher risk of infection because they are less likely to thoroughly wash their hands immediately after handling animals; they might not have fully developed immune function; and they are more likely to put their hands and

other objects in their mouths. Young children, pregnant women, older people, and all people with certain health conditions such as asthma, heart disease or weakened immune system should be extra careful when interacting with animals. These factors can make them more likely to get severely ill if they get a zoonotic infection. Examples of conditions that cause a weaker immune system include HIV/AIDS, autoimmune diseases, and people undergoing treatment with chemotherapy, steroids or other immune-suppressing medications. People who are around animals often are also more likely to be exposed to a zoonotic pathogen. If you fall into any of these groups, take extra precautions to protect yourself.

## How can I reduce the risk to myself and my family?

Sometimes animals carrying a zoonotic disease appear perfectly healthy. It is important to practice these habits with all animals, even if they do not appear to be sick.

- Wash your hands with soap and running water:
  - After petting or handling any animal
  - Once you've cleaning up after your pet or livestock or handling their food or bedding
  - After handling uncooked food for you or your pet
  - After handling any pet or animal food
  - Before preparing food or drinks for yourself or others and before eating or drinking
- Make sure children wash their hands after touching an animal, whether at a petting zoo, fair, pond, beach, backyard, or any other place that they get to interact with animals. Children should also avoid touching their eyes, nose, and mouth until after they've thoroughly washed their hands.
- To help prevent illness and injury, keep children under 5 years of age away from areas where pets are fed.
- Make sure children stay away from wildlife, and that they do not pet unknown dogs or cats without the owner's permission.

