Zoonoses

Drs. Foster & Smith Educational Staff

Zoonoses are diseases that can be spread from animals to people. They include diseases that are caused by bacteria, viruses, parasites, and fungi. Depending on the disease, zoonoses can be spread in multiple ways. Some zoonotic diseases may cause only mild illness, while others, like rabies, can be fatal. This article is not meant to alarm you, but simply inform you that these diseases occur and there are multiple ways you help keep you and your pet healthy. Some of these diseases, like salmonellosis and toxoplasmosis, are more likely to be acquired from raw or undercooked food than they are from your pet.
Are some people at more risk of acquiring a zoonosis?
Persons whose immune systems may not be functioning normally are at more of a risk of acquiring a zoonoses or developing a more severe disease. These persons include:

- Infants and very young children
- Pregnant women
- Elderly people
- People receiving cancer chemotherapy, transplant recipients, and others who may be on immunosuppressive medications, including long-term corticosteroid use
- People with chronic medical conditions such as diabetes mellitus, chronic renal failure, cirrhosis of the liver or other chronic liver disease
- Persons who have had a splenectomy
- Persons with HIV infection or AIDS

Persons with these conditions can often safely keep their pets, but the type of and age of pet they have should be carefully considered. In general, reptiles are less safe that other pets, and pets who are housetrained would be more suitable.

How do I best protect myself from infection with a zoonosis?
Keeping your pets healthy, using common sense, and good hygiene can reduce any potential risk of transmission.

- Have your pet receive an annual or twice yearly examination by a veterinarian. This will not only help keep your pet healthy, it will find any problems early. This will increase the chances of successful treatment and make it less likely for any zoonotic disease to be transmitted. If your pet does show signs of illness, contact your veterinarian and schedule an appointment.
- Feed your pet a quality diet, and avoid feeding raw or under cooked meat or unpasteurized milk.
- Use good hygiene when around your pet or any of your pet's waste. Avoid direct contact with animal feces and waste. Wear gloves when cleaning up pet waste, and always wash your hands well afterward. Also wash your hands after having contact with your pet.
- Use appropriate parasite control for your pet. Deworm your pet as recommended by your veterinarian, and use appropriate flea and tick control. Also keep your pet up-to-date on his vaccinations.
- Prevent your pet from drinking out of the toilet or eating animal feces.
- Prevent your pet from hunting or having contact with wildlife.
- Have any new pet checked by your veterinarian.
- A bite or scratch from your pet should be washed well immediately with soap and water. For bite wounds, wash with soap and running water for 10 minutes, and then contact your physician.

What are some of the common zoonoses?
The following table lists some of the more common zoonoses, the species of animal infected, the route of transmission, and symptoms in both animals and people. This is not an all-inclusive list, but does provide you with an understanding of how diverse these diseases can be.

Organism/ Disease	Dog	Cat	Ferret	Bird	Small Pets	Reptiles/Amphibians	Fish	Route of Transmission	Symptoms in Animals	Symptoms in People

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Aeromonas							X	f	Skin ulcers, loss of scales, swollen abdomen, enlarged eyes	Swelling around any previous wounds on the hands; vomiting, diarrhea
Brucellosis	X							a,d	Often no signs; may have swollen lymph nodes, swollen testicles, abortions	Flu-like illness, arthritis, sore testicles
Campylobacter	X	X	X	X	X	X		f	Cats and dogs: diarrhea; other animals generally show few signs	Diarrhea - maybe bloody, vomiting, flu-like symptoms
Cat scratch fever		X						b,fl,s	Usually no signs; may see fever, swollen lymph nodes, eye inflammation or heart disease	Rash, swollen lymph nodes, fever, fatigue
Cheyletiella mites		X			X			d	Flaky, itchy skin	Itchy skin
Cryptococcus				X				a	Difficulty breathing, weight loss, diarrhea, blindness, paralysis	Flu-like illness, headache, weight loss, difficulty breathing, meningitis

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Cryptosporidia	X	X	X	X	X	X	X	f	May have no symptoms, or diarrhea in animals with suppressed immune systems	Diarrhea, vomiting, abdominal pain; pneumonia in immuno-compromised people
Fleas	X	X	X		X			d	Itching, sometimes small red lesions	Itching, small red lesions
Giardia	X	X	X					f	Usually no signs; may see diarrhea especially in young animals	Sudden diarrhea, gas, nausea, abdominal pain, vomiting
Hookworms	X	X						sk	May show no signs; anemia, diarrhea, weight loss, poor hair coat	Skin lesions with itching
Influenza			X					a	Sneezing, nasal discharge, loss of appetite, lethargy; pneumonia is possible	Flu-like illness
Leptospirosis	X		X		R			a,d,u	Fever, bleeding disorders, jaundice, kidney failure, vomiting, diarrhea; sometimes sudden death	Flu-like illness, leg pain, meningitis, cough, kidney failure, abortion

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Lymphocytic choriomeningitis					X			a,b,d	May show no signs; weight loss, avoidance of light, tremors, and convulsions	Flu-like illness, meningitis
Mycobacterium avium				X				f	Weight loss, depression, diarrhea, difficulty breathing, depression, increased urination, lameness	Swollen lymph nodes, night sweats, fatigue, fever, weight loss, stomach pain, diarrhea
Mycobacterium						X		d	Mouth infections, weight loss despite good appetite, nodules in internal organs and under skin	Skin lumps or ulcers, pneumonia, arthritis
Mycobacterium spp.							X	d	Skin ulcers, color changes, swollen abdomen, enlarged eyes	Skin lumps or ulcers, pneumonia, arthritis
Pasteurella	X	X			X			b	Dogs and cats usually no signs; rabbits have nasal discharge, sneezing, sometimes eye discharge	Painful and red lesion, swollen lymph nodes

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Pentastomes						X		d,fl	May show no signs or difficulty breathing, weight loss, loss of appetite, lethargy	Usually no symptoms, abdominal pain, chronic cough, night sweats, pneumonia
Plague		R						d,fl	Fever, swollen lymph nodes, pneumonia, sometimes death	Flu-like illness, painful lymph nodes, pneumonia, sometimes death
Psittacosis				X				a	May show no signs or lack of appetite, weight loss, depression, difficulty breathing, watery green droppings, pink eyes, discharge from eyes or nares, or sudden death	Flu-like illness, rash, pneumonia, heart damage
Q fever		R						a,d,t	Usually show no signs; may see fever, loss of appetite, lethargy and abortion	Flu-like illness, headache, severe sweats, cough, heart damage, hepatitis
Rabies	X	X	X					b	Fever, changes in behavior, drooling, paralysis,	Headache,fever, difficulty swallowing, seizures, death

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									death	
Rat bite fever					R			b,f,s	Rats generally show no signs	Flu-like illness, rash, painful joints
Ringworm	X	X	X		X			d	Red, itchy, circular skin lesions, with hair loss and sometimes crusts	Red, itchy, circular skin lesions
Roundworms	X	X	X					f	May show no signs; diarrhea, vomiting, poor growth, pot-bellied, pneumonia	Blindness, joint pain, pneumonia, flu-like illness
Salmonella	X	X	X	X	X	X	X	f	Often show no signs of infection; may have diarrhea	Diarrhea, flu-like symptoms, nausea
Sarcoptic mange	X				X			d	Severe itching	Severe itching, small red lesions
Toxoplasma		X						f	Some cats may not show signs; others have fever, loss of appetite, depression; may also affect the eyes, digestive tract and nervous system	Flu-like illness, abortions, congenital defects

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Tularemia	X	X			X*			a,d,t	Dogs: low fever, listlessness, loss of appetite; cats: fever, swollen lymph nodes, eye and nasal discharge	Skin ulcer, swollen lymph nodes, pneumonia, diarrhea, vomiting
Yersina (intestinal - rare)				R	R	R		f	Weight loss, diarrhea	Watery diarrhea, fever, vomiting

a - through inhaling airborne organisms
b - bite wound
d - direct contact through the skin
f - ingestion (from fecal-contaminated hands, food, or water)
fl - fleas
R - rare
s - scratch
sk - larvae penetrate through skin
t - ticks
u - contact with urine
* - wild animals only

Summary
Zoonoses are diseases that are transmitted from animals to people. Although rare, it is important to understand that they do exist and what precautions you can take to keep you and your family healthy.

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