

## Zoonoses - Diseases that can be Transmitted from Animals to Humans

H. Parkes\*, F. Human\* and C. Dudgeon, Veterinary Officer, Darwin

\* Formerly, Department of Primary Industry and Resources

---

### INTRODUCTION

Zoonoses are infectious diseases which can be spread **from** animals **to** humans. Many agents cause zoonoses, including bacteria, viruses, parasites, protozoa and fungi. Zoonoses may be contracted from both healthy and sick animals. This Agnote briefly describes some of the more common zoonoses found in the Northern Territory (NT).

### METHODS OF TRANSMISSION

Zoonoses can be contracted through a variety of ways. People who have close contact with animals, such as farmers, veterinarians, wildlife carers and abattoir workers have a greater risk of contracting zoonoses. Household pets, wildlife and petting zoos can also be a source of infection for the public. Indirect exposure to zoonoses is also possible through contact with such items as contaminated soil or water, or by consuming under-cooked meat or unpasteurised dairy products. Table 1 lists some zoonoses that have occurred, or could occur, in the NT and the likely animals that transmit them to humans and the method of transmission.

### DISEASE PREVENTION

The risk of infection by many zoonoses can be greatly reduced by taking simple hygienic precautions, such as:

- Practising good personal hygiene, such as washing hands thoroughly after handling animals and before eating.
- Ensuring all your vaccinations are up to date.
- Regularly cleaning and disinfecting work spaces and equipment used around animals.
- Minimising contact with animals by pregnant women and people with compromised immune systems.
- Wearing personal protective equipment, such as overalls, gloves and boots when handling animals, cleaning up animal waste or cleaning pet cages.
- Worming and vaccinating pets/livestock regularly and seeking veterinary advice if any of your animals are unwell.
- Ensuring all meat is cooked well, especially game meat, such as that of wild pigs.
- Providing prompt and effective first aid treatment by covering cuts and scratches with waterproof dressing.
- Ensuring that good control programs are in place for pest animals, such as rodents.
- Avoiding handling sick or injured bats. Call an NT Parks and Wildlife ranger or wildlife carer for assistance.
- Wearing gloves and shoes when gardening and avoiding walking through wet boggy areas with bare feet.

Several specific vaccines are available for some zoonoses that people working closely with animals may wish to consider. Consult your doctor for more information.

**Table 1.** Some zoonoses in the NT

Zoonosis	Animal vectors	How the disease spreads
Australian bat lyssavirus	Fruit bats and insectivorous bats	This virus is present in both flying foxes and insect-eating bats in the NT, but until now no humans have been infected. However, the virus can be fatal in humans, similar to rabies. People should avoid handling bats and seek <b>immediate</b> advice from a doctor or the NT Centre for Disease Control if bitten or scratched by a bat.
Hendra virus infection	Bats and horses	This virus is carried by flying foxes and can cause a severe, fatal disease in horses; infected horses may then pass the disease to humans handling them. Any horse that has a sudden onset of fever and respiratory or neurological signs should be assessed as soon as possible by a veterinarian. Owners should use personal protection equipment when in contact with potentially infected horses.
Q fever ( <i>Coxiella burnetii</i> )	Many species including cattle, goats and wild life	This bacterium causes a serious flu-like illness. It is transmitted by inhaling infected airborne particles or handling tissues and fluids of infected animals, such as milk, urine, faeces and placentas. A vaccine is available for people who are at high risk of exposure, such as abattoir workers.
Scrub typhus ( <i>Orientia tsutsugamushi</i> )	Native rats and mites	Mites usually spread this infection to native rats. Humans can become infected if bitten by an infected mite. People have been infected with this disease in Litchfield Park.
Sparganosis ( <i>Spirometra erinacei</i> )	Snakes, lizards, fish, birds and wild pigs	This disease is caused by a tapeworm that forms a cyst in animal tissue. Transmission occurs when undercooked meat with the cyst is consumed. These cysts can be found in tissues of many species of animals.
Cat scratch disease ( <i>Bartonella henselae</i> )	Cats	This bacterial infection is spread by scratches from claws of cats. It causes swelling of the lymph nodes (glands) and high fever in humans.
Helminth infections	Dogs and cats	Intestinal parasites (roundworms, hookworms) of dogs and cats that can cause a variety of diseases in humans.
Psittacosis or Ornithosis ( <i>Chlamydophila psittaci</i> )	Parrots, pigeons and other birds Horses (placenta)	It is a bacterial infection that causes a flu-like disease and respiratory infection in humans. It is spread by close contact with birds or their droppings. Horse placentas have recently been known to carry these bacteria, especially in aborted material.
Ringworm	Mainly kittens and puppies	Fungal skin disease spread by close contact. Ringworm may also be spread from person to person.
Toxoplasmosis ( <i>Toxoplasma gondii</i> )	Cats	This is a parasite that can be contracted by handling cat faeces. It has the potential to cause miscarriage or damage to the foetus in pregnant women.
Crypto-sporidiosis	Many different animals and people	The parasite is found in faeces and is spread by direct contact or through water. It may cause diarrhoea in humans.
Giardia	Dogs, birds and other animals	The parasite causes diarrhoea. It is most commonly spread directly between people; however, it can also spread through water contaminated by animal droppings.
Leptospirosis	Cattle, rats, dogs and pigs	This is a serious bacterial disease that spreads through urine of infected animals polluting water sources. Native rats and pigs on flood plains and swamps may carry this infection.
Melioidosis ( <i>Burkholderia pseudomallei</i> )	Pigs, goats, sheep and other animals	It is a bacterial disease that is usually contracted from the soil, rather than from animals. It commonly enters the body through cuts or scratches and affects both animals and humans. Symptoms include fever, coughing and difficulty in breathing.

## WHERE CAN YOU FIND MORE INFORMATION?

For detailed information on these zoonoses in the NT, contact the Centre for Disease Control (CDC) of the NT Government, which has comprehensive disease fact sheets on the Internet.

Internet address: <https://health.nt.gov.au/professionals/centre-for-disease-control>

CDC:

Location	Telephone number	Location	Telephone number
Darwin	8922 8044	Tennant Creek	8962 4259
Katherine	8973 9049	Alice Springs	8951 7540
Nhulunbuy	8987 0357		

ABLV and Hendra virus information sheets are available from the NTG website.

Please visit us at our website:

**[www.dpir.nt.gov.au](http://www.dpir.nt.gov.au)**

---

© Northern Territory Government

ISSN 0157-8243

Serial No. 819

Agdex No. 653

**Disclaimer:** While all care has been taken to ensure that information contained in this document is true and correct at the time of publication, the Northern Territory of Australia gives no warranty or assurance, and makes no representation as to the accuracy of any information or advice contained in this publication, or that it is suitable for your intended use. No serious, business or investment decisions should be made in reliance on this information without obtaining independent and/or professional advice in relation to your particular situation.