



# Zoonoses

## What is a zoonotic disease?

A zoonotic disease (zoonosis) is a disease of animals that is transmissible to man.

## Which people are most vulnerable to zoonotic diseases?

Individuals with reduced immune function, and hence reduced ability to fight infections, are most vulnerable to acquiring zoonotic disease.

'High risk' groups include:

- ◆ Developing fetuses
- ◆ Babies and young children
- ◆ Very elderly people
- ◆ Pregnant people
- ◆ Immunosuppressed people – for example, those receiving anticancer therapy, people who have had their spleen removed, those with acquired immunodeficiency syndrome (AIDS) and organ transplant recipients on immunosuppressive treatment to prevent organ rejection
- ◆ People with concurrent illnesses or on treatments that increase their vulnerability (eg, with indwelling feeding tubes, implants, etc)

Among these high risk groups, it is more likely that a zoonotic infection will be more serious than in an otherwise healthy individual.

## How common are zoonotic diseases?

Zoonoses are generally rare but they can be serious, particularly in high risk individuals, so it is important to be aware of the risks. It is much more common for people to acquire infections from other people than from pets. Reactivation of previous infections can occur with some organisms (eg, *Toxoplasma gondii*) and accounts for some of the reported cases.

## How do people acquire zoonotic diseases?

There are many ways in which people can acquire zoonotic infections. These include:

- ◆ Direct contact with an animal, its body secretions or an environment contaminated by the organism; for example, through bites, scratches, contact with infected hair or body secretions (eg, urine, faeces, blood), or contact with contaminated carpets or garden soil
- ◆ Transmission of infection via an intermediate host such as a biting arthropod (eg, fleas, ticks)

The table overleaf lists some of the zoonotic diseases that can be transmitted to people from cats and gives information about signs of disease in people and advice regarding management.

## Zoonotic myths

Many infectious causes of disease are species-specific – in other words they only cause illness in one species (such as cats) and are not infectious to people. Infections that people are commonly concerned may be zoonotic include feline immunodeficiency virus (FIV), feline leukaemia virus (FeLV), feline herpesvirus (FHV) and cat 'flu. *None of these infections is zoonotic* – all are examples of infections that affect domestic cats and are not transmissible to people.

## Reverse zoonoses

Also known as anthroponoses, reverse zoonoses are infectious diseases of humans that can be transmitted to animals. Examples include *Mycobacterium tuberculosis* and methicillin-resistant (formerly called methicillin-resistant) *Staphylococcus aureus* (MRSA) infections (see MRSA advice in resources section of [www.bsava.com](http://www.bsava.com)).

## Reducing the risk of infection

Cat ownership is safe and rewarding as long as general hygiene measures are followed. In situations where high risk individuals own cats, the following measures are especially important:

### General hygiene

- ◆ People should wash their hands regularly throughout the day and especially after handling animals or their excreta. Hand washing is especially vital before activities such as eating, teeth brushing, handling contact lenses and smoking
- ◆ The cat's environment (including litter trays) should be kept clean and any uneaten food removed
- ◆ Human cooking and eating utensils should not be shared with the cat, and litter trays should be sited away from food areas in the house
- ◆ Contact with excreta should be avoided – especially if diarrhoea is seen. If it is necessary for a high risk individual to clean a litter tray then they should wear a face mask and gloves. Hands should be washed after cleaning the tray, even when gloves are worn. Litter trays should be emptied daily and use of litter tray liners should be considered to make this job easier. Cleaning should be conducted outside in well ventilated areas where possible. Once all surface material has been removed the tray should be disinfected. Litter tray hygiene should include use of:
  - Household bleach (effective against most viruses and bacteria). A 5.25% solution of sodium hypochlorite should be diluted to a maximum of 1 part bleach to 30 parts water (volume for volume). Bleach is inactivated by light so should be stored in an opaque container and diluted freshly before use
  - Scalding water (effective against most viruses, bacteria, *Toxoplasma gondii* and cryptosporidia).

The Cat Group, launched in 2000, is a collection of professional organisations dedicated to feline welfare through the development and promotion of policies and recommendations on the care and keeping of all cats.

SECRETARIAT

TAESSELBURY

HIGH STREET

TISBURY

WILTSHIRE SP3 6LD

PHONE: 01747 871872

FAX: 01747 871873

[www.thecatgroup.org.uk](http://www.thecatgroup.org.uk)

e-mail [info@thecatgroup.org.uk](mailto:info@thecatgroup.org.uk)

## Examples of zoonotic diseases that may be transmitted to people from cats

Organism(s)	Class of organism(s)	Route of infection	Disease caused in man	Advice
<i>Bartonella</i> species	Bacteria	Arthropod transmitted (eg, flea bite)  Scratch or contamination of an existing wound	Swelling of regional lymph nodes, fever: 'cat scratch disease' See also: <a href="http://www.fabcats.org/cat_group/policy_statements/catscratch.html">www.fabcats.org/cat_group/policy_statements/catscratch.html</a> and <a href="http://www.fabcats.org/owners/fleas/info.html">www.fabcats.org/owners/fleas/info.html</a>	Thoroughly cleanse area bitten. Consult a doctor for advice on treatment
<i>Bordetella</i> species	Bacteria	Inhaled aerosol	Cough, flu-like signs (generally only seen in immunocompromised people) See also: <a href="http://www.fabcats.org/breeders/infosheets/cat_flu/catflu2.html">www.fabcats.org/breeders/infosheets/cat_flu/catflu2.html</a>	Consult a doctor for advice on treatment
<i>Campylobacter</i> species, <i>Salmonella</i> species (cats can be asymptomatic carriers of infection)	Bacteria	Contact with faeces	Diarrhoea See also: <a href="http://www.fabcats.org/owners/digestive/diarrhoea.html">www.fabcats.org/owners/digestive/diarrhoea.html</a>	Cats should be treated with antibiotics where bacteria are isolated. Consult a doctor for advice on treatment
<i>Chlamydomphila felis</i>	Bacteria	Contact with infected tears	Conjunctivitis See also: <a href="http://www.fabcats.org/owners/chlamydomphila/info.html">www.fabcats.org/owners/chlamydomphila/info.html</a>	Very rarely reported. Affected cats and people are readily treated with antibiotics. Consult a doctor for advice on treatment
Cowpox virus	Virus	Contact with an infected skin lesion	Skin lesions; occasionally systemic infection, which can be fatal. Generally disease develops only in immunocompromised people See also: <a href="http://www.fabcats.org/owners/skin/cowpox.html">www.fabcats.org/owners/skin/cowpox.html</a>	Avoid handling infected cats. Wash hands after contact. If infection is suspected, consult a doctor for advice on treatment
<i>Cryptosporidium parvum</i>	Coccidia	Contact with faeces (infection is also commonly transmitted by contaminated water sources)	Gastroenteritis, cramps See also: <a href="http://www.fabcats.org/owners/digestive/diarrhoea.html">www.fabcats.org/owners/digestive/diarrhoea.html</a>	Consult a doctor for advice on treatment
<i>Giardia</i> species	Protozoa	Contact with faeces	Diarrhoea See also: <a href="http://www.fabcats.org/owners/digestive/diarrhoea.html">www.fabcats.org/owners/digestive/diarrhoea.html</a>	Treat affected and in-contact cats. Shampooing and environmental control strategies may reduce the risk of reinfection. Consult a doctor for advice on treatment
<i>Helicobacter</i> species	Bacteria	Contact with vomitus	The species of <i>Helicobacter</i> found in cats is rarely transmitted to man and is probably not a cause of human disease	
<i>Microsporum</i> , <i>Trichophyton</i> and a range of other species	Fungus	Contact with infected hair (including in the environment) or skin lesion	Skin lesions: 'ringworm' See also: <a href="http://www.fabcats.org/owners/skin/ringworm.html">www.fabcats.org/owners/skin/ringworm.html</a>	Consult a doctor for advice on treatment
<i>Mycobacterium bovis</i>	Bacteria	Inhaled aerosol	Conjunctivitis See also: <a href="http://www.fabcats.org/cat_group/policy_statements/mycobacterial.html">www.fabcats.org/cat_group/policy_statements/mycobacterial.html</a>	Consult a doctor for advice on treatment
<i>Pasteurella multocida</i> , <i>Capnocytophaga</i> species	Bacteria	Bite	Swelling, pain, abscessation	Thoroughly cleanse area(s) bitten. Consult a doctor for advice on treatment
<i>Toxocara cati</i>	Nematode (roundworm)	Contact with faeces	Abnormal migration of worm larvae can affect many different organs (eg, eyes) See also: <a href="http://www.fabcats.org/owners/worming/info.html">www.fabcats.org/owners/worming/info.html</a>	Regular worm treatment of pet cats is recommended to prevent this very rare possibility
<i>Toxoplasma gondii</i>	Coccidia	Contact with faeces	Miscarriage, fetal abnormalities, ocular and neurological inflammatory disease See also: <a href="http://www.fabcats.org/owners/toxoplasmosis/info.html">www.fabcats.org/owners/toxoplasmosis/info.html</a> and <a href="http://www.fabcats.org/cat_group/policy_statements/toxo.html">www.fabcats.org/cat_group/policy_statements/toxo.html</a>	See Cat Group policy statement on cats and toxoplasmosis – <a href="http://www.fabcats.org/cat_group/policy_statements/toxo.html">www.fabcats.org/cat_group/policy_statements/toxo.html</a>

See also [www.fabcats.org/owners/zoonoses/info.html](http://www.fabcats.org/owners/zoonoses/info.html) for a general article on zoonotic diseases



Fill the tray with boiling water and leave for 10 minutes

- Ammonia solution (5 to 10% strength). Immersion for 10 minutes is another effective option against *Toxoplasma gondii* oocysts, although the fumes produced can be unpleasant
- It is important to note that phenolic disinfectants (eg, Dettol, Lysol, Jeyes Fluid) and those containing glutaraldehyde or formaldehyde are *poisonous to cats* and should not be used near them (see also [www.sheltermedicine.com/portal/is\\_cleaning\\_shtrml](http://www.sheltermedicine.com/portal/is_cleaning_shtrml))

#### Action following exposure

- ◆ Bite or scratch sites should be washed immediately. A high risk individual should always seek medical attention following a bite
- ◆ If a cat licks a human wound, the wound should be washed immediately
- ◆ If in doubt, medical advice should be sought

#### Management of the cat(s) (and other animals) in the house

- ◆ If a high risk individual seeks to obtain a new cat then it is safer to adopt an adult than a kitten. Ideally the new cat should be well socialised (so that it is less likely to bite or scratch) and come from a single-cat household (where the risk of infectious diseases is low). Feral cats and those adopted from multicat households (eg, ex-breeding cats) or rescue centres are more likely to be carrying infectious diseases. The new cat should be examined by a veterinary surgeon and treated for internal and external parasitic infections. The new cat should be clinically healthy and have no evidence of infectious diseases or immunosuppression itself. Screening should be considered for certain infectious disease organisms such as *Salmonella*, *Cryptosporidium* and *Campylobacter* and for immunosuppressive illnesses such as FIV and FeLV. Although FIV and FeLV are not transmissible to people, infected cats are more likely to develop other infectious diseases
- ◆ Routine preventive health care is essential for the cat (and other pets) owned. This includes routine vaccination and treatment for internal and external parasites. Treatment for fleas should include use of household sprays that prevent development of fleas in the environment. An annual health check should be performed by a veterinary surgeon and the cat should be taken to a vet promptly if unwell. Ticks seen on the cat should be removed by a professional or carefully with tweezers or purpose-designed tick removers (with the handler wearing gloves). Alternatively tick-killing treatments

(such as Frontline; Merial) can be applied, although these may take several hours to be effective. Hands should be washed after handling ticks or chemicals

- ◆ Dental prophylaxis is recommended to help reduce oral infections. Regular dental check-ups should be conducted by a veterinary professional at least every 6 months depending on the age and condition of the individual cat. Home dental care, such as tooth brushing, should not be performed by a high risk individual and contact with saliva (eg, through licking) should be avoided
- ◆ Claws should be clipped regularly to help prevent scratch injuries. The use of sticky claw covers (eg, Soft Claws, [www.spuk.com](http://www.spuk.com)) can also be considered to reduce the risk of a scratch injury. Note, however, that claw covers are not advisable in cats that go outside as they limit the cat's ability to climb and potentially escape from difficult situations (eg, being pursued by a dog)
- ◆ The cat should be fed commercial cat food and not home-made diets, especially raw meat as this increases the risk of diseases such as toxoplasmosis and salmonellosis. Only pasteurised milk should be offered. Cats should be given mains water and prevented from drinking from the toilet or other contaminated sources
- ◆ Playing that encourages scratching or biting must be avoided
- ◆ Owners should wear gloves when administering oral medicines to their cat or seek other solutions (eg, ask another person to dose the cat, or choose other treatments that can be administered by a veterinary surgeon)
- ◆ Owners in very high risk categories may wish to consider having an indoor-only cat to reduce the risk of infections acquired through hunting and fighting

#### References

American Association of Feline Practitioners. 2003 Report on Feline Zoonoses. <http://www.aafponline.org/resources/guidelines/ZooFinal2003.pdf>  
 Greene CE, Levy JK (2006) Immunocompromised people and shared human and animal infections: zoonoses, sapronoses, and anthroponoses. In *Infectious Diseases of the Dog and Cat*, 3rd edn, Ed CE Greene. WB Saunders and Elsevier. pp 1051-68

#### Useful websites

- ◆ [www.hpa.org.uk](http://www.hpa.org.uk) (zoonoses are listed in the 'Topics A-Z section')
- ◆ [www.defra.gov.uk/animalh/diseases/zoonoses/index.htm](http://www.defra.gov.uk/animalh/diseases/zoonoses/index.htm)
- ◆ [www.pawssf.org/library\\_safepetguidelines.html](http://www.pawssf.org/library_safepetguidelines.html)

A united view on feline issues – working together for the good of cats



The Cat Group, launched in 2000, is a collection of professional organisations dedicated to feline welfare through the development and promotion of policies and recommendations on the care and keeping of all cats.

