

Zoonotic diseases: what can we catch from cats?

Zoonotic diseases are those which are transmitted from animals to humans. In healthy people, zoonoses from cats are rare. However, people with compromised immune systems are more susceptible to zoonotic infections, for example, babies, elderly people, people undergoing treatment for cancer or with immunosuppressive drugs, diabetics, and people with immunosuppressive diseases such as AIDS or cystic fibrosis.

Feline zoonotic diseases most likely to be encountered in a cattery/shelter setting include:

Ringworm

Ringworm is a skin infection that is not caused by a worm, but by a fungus. The correct name for these fungi is dermatophytes and the most common species to infect cats is *Microsporum canis*. Fungal spores from infected cats are transmitted to people by direct contact or indirectly from an infected environment. Signs of infection in humans include focal sores or red, raised skin lesions or hair loss on the skin and head. Cats with ringworm have crusted sores or focal areas of hair loss on the face, muzzle, ears, body or limbs. Cats can also be “fomite” carriers of ringworm spores, where they have no lesions themselves, but carry fungal spores in the hair coat that are infectious to other cats or people. The use of appropriate PPE (gloves and gowns) is important for staff in contact with cats with suspected ringworm, and such cats should be promptly isolated.

Parasitic infections

Cat fleas can bite humans and cause itchiness and skin inflammation. More importantly, fleas can be vectors for cat scratch disease (see below).

Feline intestinal parasites including roundworms (*Toxocara*) and hookworms (*Ancylostoma*) can cause disease by migration of their larvae into organs such as the liver or nervous system (*Toxocara*) or skin (*Ancylostoma*). Children are most susceptible to intestinal parasites through ingestion of soil (eg sandpits) contaminated with parasite eggs.

Toxoplasmosis is one of the most common zoonotic infections worldwide, with at least 30 per cent of the world’s human population estimated to be infected. Small and large cats are definitive hosts for *Toxoplasma gondii*, the parasite that causes toxoplasmosis. Cats most commonly become infected after eating raw-meat that contains tissue cysts or by ingesting infected prey, such as rodents or birds. Once a cat is infected, they will shed cysts (oocysts) in faeces for approximately two weeks, then stop completely. Most cats with toxoplasmosis are healthy and symptom-free, but occasionally cats can develop overwhelming infection, which can be fatal due to replication of the infectious organisms in multiple organs of the body.

Humans are more likely to develop toxoplasmosis after eating contaminated meat or vegetables, or from drinking contaminated water rather than from direct contact with

cats. The oocysts that are shed in an infected cats' faeces are not immediately infectious when they are passed, but become so after exposure to air and moisture, within 24 hours or so, when they sporulate. Thus, it is important for litter trays to be emptied whenever stools are passed and gloves should be worn when emptying litter trays. Toxoplasmosis can cause severe infections of the foetus in pregnant women, and even though the risk of infection is low if appropriate PPE is worn and litter trays emptied promptly, it is recommended that staff or volunteers who may be pregnant are not assigned to cleaning litter trays.

Giardiasis (*Giardia duodenalis*) and cryptosporidiosis (*Cryptosporidium felis*) are two other gastrointestinal zoonoses that occur after inadvertent ingestion of infected cat faeces (eg where hands are not washed after emptying litter trays). Most cases of these diseases in humans are caused by poor hygiene or ingestion of food or water contaminated with faeces from infected humans (*Giardia lamblia*, *Cryptosporidium hominis*), farm animals (*Cryptosporidium parvum*) or wildlife.

Bacterial infections

Bite wounds

Like ours, cats' mouths are home to a resident population of bacteria known as anaerobes, which live in and around the gums. If a person is bitten by a cat, these bacteria can cause severe bite-wound infections. Bite wounds should be immediately washed under running water and gently scrubbed using a mild disinfectant such as chlorhexidine. Medical attention should be promptly sought, as antibiotics may need to be prescribed. Delay in seeking medical advice could result in septicaemia.

Cat scratch fever

Cats' mouths and claws can also carry a bacterium known as *Bartonella henselae*, which is the agent of a zoonotic infection called cat scratch disease. Cats less than one year of age are most likely to be infected with this bacteria as a result of flea-infestation, since fleas are vectors of this bacterium. Infected cats are reservoirs of infection but are usually completely symptom-free. A scratch or bite from a kitten can result in cat scratch fever with redness, swelling or a blister at the scratch/bite, progressing to glandular swelling and in some cases fever and flu-like symptoms. Medical attention should be promptly sought if cat scratch disease is suspected.

Salmonellosis and Campylobacter

Like ours, a cat's intestinal tract is colonised with many bacteria. Cats' intestinal tracts can also be infected with bacteria, such as *Salmonella* and *Campylobacter*, which are then shed in the stools and can be zoonotic. Like the intestinal parasites described above, infection risk can be minimised by good infection control procedures including frequent handwashing, hand sanitisation and use of gloves when emptying litter trays.