Zoonotic disease risk - feral pigs

Introduction
Zoonotic diseases are infectious diseases that can pass from animals to humans. People in direct contact with animals or animal products are most at risk of contracting a zoonotic disease.

In Australia, feral pigs can carry a number of zoonotic diseases, including *Brucella suis* infection, leptospirosis and Q fever.

*Brucella suis* infection
*Brucella suis* usually infect pigs. *Brucella suis* infection is widespread in Queensland’s feral pig population and it has also been detected in the feral pig population in northern NSW.


*Brucella suis* can be transmitted to people. Feral pigs are the usual source of infection for people, particularly by contact with the tissues and body fluids of an infected pig e.g. blood, urine, uterine discharges and aborted foetuses. The risk of infection from slaughtering and butchering feral pigs may be reduced through the use of protective clothing and good personal hygiene.

Uncommonly, *Brucella suis* can be transmitted in aerosols. Rarely, infection is transmitted from person-to-person.


Human brucellosis typically presents with acute, non-specific influenza-like symptoms including intermittent fever, sweating, lethargy, loss of appetite, headaches, joint pain, chills, muscle aches, and back pain. The onset of clinical signs usually occurs 5 to 60 days after exposure, but occasionally not until several months later.

Typically symptoms last for 2 to 4 weeks and are followed by a spontaneous recovery. However, some infected people may develop an intermittent fever and other symptoms that wax and wane at 2 to 14 day intervals, known as ‘undulant fever’.

Chronic infection may occur and delays in diagnosis increase the risk of complications. Infection, often with abscesses, can occur in a number of organs including the liver, spleen, joints, heart, and testicles. Endocarditis (infection of heart muscle/valves) is an occasional serious complication.

See also the NSW Health brucellosis and feral pig hunting fact sheet.

Leptospirosis
Leptospirosis is caused by *Leptospira* species found in animal urine and animal tissues.

*Leptospira* bacteria usually enter the body through skin cuts or abrasions and occasionally through the mucous membrane lining of the mouth, nose and eyes. Common initial symptoms of leptospirosis include fever, severe headache,
sore muscles, chills, vomiting, and red eyes. These symptoms can mimic other diseases, such as influenza, and diagnosis is often difficult. Some people do not have all of these symptoms.

Symptoms usually develop 5 to 14 days (can range from 2 to 30 days) following infection and last from a few days to 3 weeks or longer. Some people with leptospirosis go on to develop severe disease involving systemic infection, Weil’s disease or meningitis (inflammation of the lining of the brain), and bleeding in the lungs can also occur. Symptoms of Weil’s disease include kidney failure, jaundice (yellow colouration of the skin and eye mucous membranes indicating liver disease) and haemorrhage into the skin and mucous membranes.

Most people who develop severe disease require hospitalisation and severe leptospirosis can be fatal.

See also the NSW Health leptospirosis fact sheet.

Q fever

Q fever is an illness caused by the bacterium *Coxiella burnetii*. People usually become infected by aspiration of infected aerosols or dust when working with or near infected animals, animal tissues or fluids, and especially fluids and membranes associated with birth.

Q fever can be contracted by inhaling dust from wool, hides, straw, grass or other environmental sources contaminated by *Coxiella burnetii*. Faeces, urine and foetal fluids and membranes are the major sources of contamination of the environment. Contaminated work clothing may also be a source of infection.

Human Q fever infections are usually associated with goats, cattle and sheep. However, other animals such as kangaroos, bandicoots, feral pigs, domestic cats and dogs can also be infected. Infected animals often have no symptoms, but can shed the bacteria in urine, faeces and milk. High concentrations of the bacteria are found in the placenta (afterbirth).

*Coxiella burnetii* is resistant to heat, drying and many disinfectants and survives for long periods in the environment.

Q fever in humans is usually an acute infection, but it can sometimes lead to a chronic (long-term) illness. Acute Q fever can cause a severe, influenza-like illness that is sometimes associated with hepatitis (inflammation of the liver) and pneumonia. Symptoms begin about 2 to 3 weeks after exposure and typically include high fever, chills, severe sweats, severe headaches, muscle pains, joint pains, and extreme fatigue.

Chronic Q fever may result in endocarditis particularly amongst people with existing heart valve disease. Many infected people have no or few symptoms.

If Q fever is not treated, symptoms can last from 2 to 6 weeks. Most people make a full recovery and become immune to repeat infections.

Some people develop chronic fatigue (post Q fever fatigue syndrome), which can last for many years after the initial infection. Symptoms of chronic Q fever may occur up to 2 years after the initial infection.

Spread of Q fever from person-to-person has been reported, but it is extremely rare.

See also the NSW Health Q fever fact sheet.

Prevention

When coming into contact with feral pigs, carcases or feral pig fluids/tissues:

- Cover all skin abrasions and cuts with waterproof dressings
- Wear latex gloves when gutting feral pigs, handling carcases or birth products
- Use good lighting and take care to avoid cuts when gutting feral pigs, especially when cutting around the pig’s reproductive organs
- Consider wearing a face mask or goggles if there is a risk of urine contact
- Do not eat or smoke while working with feral pigs, handling carcases or birth products
- Thoroughly wash hands and arms with soap and water after coming into contact with feral pigs or their carcases and prior to eating or smoking
- Cook feral pig meat thoroughly before human consumption
- Remove protective clothing prior to returning to home environment
- Discuss Q fever vaccination with your doctor
- Consult a doctor as soon as possible if you develop any of the symptoms suggestive of a zoonotic disease
- Ensure your doctor is aware of your occupational and/or recreational contact with feral pigs

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PUB17/531