



Zoonoses on farms

Zoonoses are infectious diseases that are transmitted between animals and humans. There are about 50 types of zoonoses that have been recorded in Australia.

Transmission usually occurs through bodily fluids (e.g. blood, saliva, urine) or faeces of infected animals, or through contact with other animals (e.g. cats, dogs, rodents). Contaminated items such as hay, wool, animal hair, hides and carcasses can also be a source of infection.

These diseases can be transmitted from healthy or ill animals, and an infected animal may not appear sick.

Those most at risk from infection by workplace zoonoses include:

- abattoir workers
- farm workers
- fish workers
- shepherds
- shearers
- wool sorters
- veterinary workers
- pelt and hide tanners
- livestock handlers, including transport workers
- animal laboratory workers.

Reducing the risk

Depending on the infectious diseases, applicable control measures may include:

- eliminating physical contact with animals or potential sources of infection, such as carcasses, blood, tissue and body fluids – where this is not possible, contact should be minimised so far as is reasonably practicable (e.g. using mechanised crushes, restricting access to certain work areas)
- providing at-risk workers with information on zoonoses and training in safe work procedures, symptoms and treatments for particular diseases to minimise infection risks
- ensuring that potentially infectious material (e.g. placenta, contaminated litter) is disposed of in a safe and hygienic way, such as incineration
- protecting livestock using biosecurity measures (animal disease control), including isolating and treating sick animals, keeping pigs and cattle separated, vaccinating livestock and pets and controlling rodents
- ensuring abattoir ventilation systems are appropriately designed so the outlet and intake are far enough apart to prevent contaminated material ejected from the outlet being drawn in by the intake
- using machinery, preferably with an enclosed cab, to clear manure and feed waste build-up in sheds, yards and lane areas where animals are regularly kept or moved

- having good drainage in animal holding pens and farm areas, and disposing of animal effluent hygienically, including using mesh flooring in pig pens where possible
- cleaning and disinfecting work spaces, floors, benches and equipment
- providing suitable facilities for hand washing, cleaning and laundering of contaminated clothing to reduce risk of zoonoses
- implementing policies regarding good personal hygiene, including hand washing after handling animals, machinery or equipment and before handling food
- ensuring cuts and abrasions are treated immediately and covered with water-resistant dressings
- providing vaccinations for at-risk workers (pre and post exposure)
- avoiding consumption of unpasteurised milk
- displaying information about workplace risks
- providing workers with overalls, gloves, masks, waterproof boots, goggles and aprons.

Incident notification: Prescribed serious illnesses

Under the *Work Health and Safety Act 2020* and associated regulations, the person conducting the business or undertaking (PCBU) must [notify the regulator](#) if a worker contracts, in the course of work involving handling or contact with animals, animal hides, skins, wool or hair, animal carcasses or animal waste products:

- a prescribed occupational zoonosis
- any infection to which carrying out the work was a major contributing factor.

The following occupational zoonoses are considered prescribed serious illnesses that must be reported: Q fever, anthrax, leptospirosis, brucellosis, Hendra virus, avian influenza and psittacosis.

The two most common zoonoses in Western Australia are leptospirosis and Q fever.

Leptospirosis (Weil's disease)

- **Cause** – most commonly found in rodents, pigs and cattle, but sometimes occurs in sheep, dogs and cats. Usually contracted from the urine of infected animals, especially rodents, or from contaminated water or soil with bacteria entering the body through cuts in skin or the linings of the eyes, nose or throat.
Rats are the most common source of leptospirosis infection in humans and animals.
- **Symptoms** – flu-like with muscular pains, severe headaches and fever. May develop into chills, stiff neck, and light sensitivity. Symptoms usually ease within 10 days, but may recur.
Serious cases can cause vomiting, jaundice (yellowing of the skin and eyes), affect kidneys, cause internal bleeding and may be fatal.
- **Treatment** – can be treated with specific antibiotics. No human vaccination program available in Australia, but livestock vaccines are available and this can reduce the risk to humans.

Q fever

- **Cause** – most commonly found in sheep, cattle, goats and some native wildlife, such as bandicoots, kangaroos and wallabies, as well as camels, cats and dogs. Infected animals generally show no signs of being sick.

Infection usually occurs from inhaling aerosolised particles and dust contaminated with animal urine, faeces, milk or afterbirth and birth fluids of infected animals. It may also occur by drinking infected, unpasteurised milk, and by contact with contaminated straw, wool, hair or hides.

Bacteria that cause Q fever are very hardy and can survive in the environment for long periods of time. It may be highly concentrated in animal tissues (especially the placenta) and is resistant to disinfectants.

- **Symptoms** – severe flu-like illness, although some infected people have few symptoms. Chronic infection can occur, commonly presenting as endocarditis, a serious heart disorder.
May also cause lesions of bone, tissues and organs with some people developing ongoing, long-term fatigue after the initial disease has resolved (Post Q Fever Fatigue Syndrome).
Infection in pregnant women can cause miscarriage and premature birth.
- **Treatment** – can be treated with specific antibiotics. Vaccination for human protection is available. Due to the seriousness of the illness and high efficacy of the vaccine, all at-risk workplaces should implement a Q fever vaccination program to protect workers.

Anthrax

- **Cause** – naturally occurring in soil. Infection occurs from contact with infected domestic and wild animals or animal products. Bacteria can survive for a long time as spores.
- **Symptoms** (dependent upon type) – generally, dark, painless sores within 7 days of exposure.
- **Treatment** – can be treated with specific antibiotics. Considered very unlikely to occur in Western Australia.

Brucellosis

- **Cause** – bacterial infection found in cattle, pigs, goats, sheep, working dogs and domestic animals.
Infection is spread by contact (broken skin, open cuts or sores) with infected animal tissue, the ingestion of unpasteurised milk and dairy products from infected animals, or through inhalation of the bacteria in dusty animal enclosures, abattoirs and laboratories.
- **Symptoms** – flu-like illness, including fever, headache, weakness, sweats, chills, weight loss, joint and muscle pain and aches.
- **Treatment** – can be treated with specific antibiotics. Virtually eradicated in Western Australia.

Hendra virus

- **Cause** – disease sporadically found in horses. Human infection results from close contact with infected horses and their blood, body fluids and tissue.
Natural hosts of the virus are flying foxes, which can pass the virus on to horses.
- **Symptoms** – initial symptoms include fever, cough, sore throat, headache and tiredness and can lead to meningitis or encephalitis (inflammation of the brain). Infection can be fatal.
- **Treatment** – no specific treatment available. Considered unlikely to occur in Western Australia.

Avian influenza (bird flu)

- **Cause** – can be spread by saliva, mucus or faeces from infected wild birds to poultry or other birds and animals. Contact with infected birds can lead to human infection in rare instances where the virus gets into a person's eyes, nose or mouth, or is inhaled.
- **Symptoms** – general flu-like symptoms ranging from mild through to severe illness that can be fatal.
- **Treatment** – antiviral drugs can be prescribed. There have been no reported cases of human bird flu to date in Australia.

Psittacosis (ornithosis)

- **Cause** – bacterial infection usually transmitted from birds in the parrot family to humans. The bacteria can be found in other species of birds, including poultry, pigeons, canaries and sea birds.
- **Symptoms** – generally mild illness with common symptoms including fever and chills, headache, muscular aches and dry cough.
- **Treatment** – can be treated with specific antibiotics. Occurs occasionally in Western Australia (less than 10 cases per year).

Other zoonoses prevalent in the handling of or contact with animals, animal produce or waste products include Australian bat lyssavirus, hydatid disease, influenza A, orf and toxoplasmosis.

Japanese encephalitis virus is a rare, but serious disease that is spread to humans and animals by infected mosquitos. It is a nationally notifiable disease and [suspected infection must be reported](#).

Further information

Department of Mines, Industry Regulation and Safety

- Report an incident
www.commerce.wa.gov.au/worksafe/report-incident-0
- Zoonoses
www.commerce.wa.gov.au/worksafe/zoonoses

Department of health

- Japanese encephalitis
www.healthywa.wa.gov.au/Articles/J_M/Japanese-encephalitis

Department of Agriculture, Fisheries and Forestry

- Japanese encephalitis virus
www.agriculture.gov.au/biosecurity-trade/pests-diseases-weeds/animal/japanese-encephalitis

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