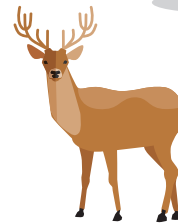




# LEPTOSPIROSIS: Working with deer



This fact sheet provides information about the risk of leptospirosis infection in people working with deer.

## KEY POINTS

- > Leptospirosis is easy to catch from an infected animal and its environment.
- > Infection can occur through breaks in the skin or through mucous membranes of the eyes, nose or mouth.
- > Protect yourself, your family and staff by vaccinating your animals, controlling rodents, practicing good personal hygiene, using protective equipment, and seeking help early if you feel unwell.

## WHAT IS LEPTOSPIROSIS?

Leptospirosis is an infectious disease transmitted from animals to humans (a zoonosis), and from animal to animal, through cuts or cracks in the skin or through the mucous membranes of the eyes, nose or mouth. It is present in almost all warm-blooded mammals, including farm, domestic and feral animals.

Leptospirosis spreads easily, and is caused by bacteria known as leptospire that multiply in the kidneys of animals and are shed in the urine.

The bacteria thrive in moist or wet conditions and can survive for months.

## HOW ARE PEOPLE INFECTED?

People can catch leptospirosis from infected animal urine. Even a splash or fine spray of urine or indirect contact with urine-contaminated water can spread large numbers of leptospire.

Cuts, sores and skin grazes increase the risk of infection, as does licking your lips and eating or smoking before washing and drying your hands.

## WHAT ARE THE SYMPTOMS IN PEOPLE?

People affected by leptospirosis, either mildly or severely, may not show symptoms.

Infection may just feel like a bad case of the flu, with headaches and fever. Severe cases can result in permanent complications, usually kidney or liver damage. Some people may be unable to work for months and, in severe cases, be unable to return to running their farm. The disease can keep coming back.

Pregnant women can miscarry. Death from infection is rare.

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## WHO IS AT RISK OF INFECTION?

Anyone working close enough to deer to be splashed or sprayed with urine or urine-contaminated water is at high risk, in particular:

- > people handling hinds, which commonly 'dribble' urine on to their hind legs or flick it onto people with their tails
- > workers in wet yards, where deer often kick up water spray
- > vets and anyone assisting with artificial breeding, ultrasound scanning, fawning, or autopsies
- > truck drivers and others loading deer for transport
- > workers in a deer slaughter plant.

## HOW ARE DEER INFECTED?

Like other livestock, deer are infected by grazing pasture or drinking water contaminated with infected animal urine.

The deer habit of wallowing is likely to spread infection, and there is a potential risk of infection from rat or mouse urine when handling hay or feed grains.

Family members, especially children, are at risk if they have contact with deer or where deer have been.

## WHAT ARE THE SYMPTOMS IN DEER

Deer are primary hosts for Hardjo, and secondary hosts for Pomona. Other serovars (strains) are reported now and then.

Pomona and Hardjo infection in deer may not be clinically obvious, but can have sub-clinical effects, including:

- > production losses (reduced weaning percentages/reduced growth)
- > tiredness
- > swollen kidneys and hematuria (red blood cells in urine)
- > jaundice
- > photo sensitisation



- > corneal opacity (disorder of the cornea)
- > anaemia.

Pomona infection can have severe clinical effects, including death of weaners (young deer).

## HOW DO YOU MANAGE THE RISK AND PROTECT AGAINST INFECTION?

Minimisation is the best option for managing risk, as leptospirosis is difficult to eliminate. This is done through antibiotic treatment, vaccination programmes, awareness, PPE, hygiene and other procedures.

### ANTIBIOTICS

Antibiotics may stop animal shedding, which will limit the spread of infection in an outbreak.

### VACCINATION

The recommended vaccination programme for deer is similar to that for cattle. Vaccination before exposure should prevent infection and shedding. If infection already exists, vaccination has shown to reduce shedding by around 50% in the 10-12 months after vaccination.

Farmers should work with their vet to carry out a risk analysis, and then decide whether to vaccinate or not.

**Vaccination is a long-term strategy – it will take time to reduce or eliminate the risk for an infected herd first starting on a vaccination programme. Stopping vaccination will result in herds that are MORE prone to infection and outbreaks.**

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- > Vaccinate all deer with a sensitiser dose (at three months old) and a booster 4-6 weeks later, before the high risk season (autumn to early summer).
- > Give breeding stock and antler-producing stags an annual vaccine booster.
- > Avoid mixing young deer of unknown vaccination or infection status until fully protected by vaccine.
- > Assume that all bought-in stock is unvaccinated, unless accompanied by a current veterinary vaccination certificate or ASD form<sup>1</sup>.
- > If uncertain, vaccinate all bought-in stock twice, starting at least six weeks before entering the property. Where this isn't possible, keep new stock on a separate run-off that won't be grazed by resident stock for at least 12 weeks, or on an area of the farm from which run-off water won't contaminate other pastures.
- > Cross-grazing deer with sheep or cattle is a common cause of infection in each of those species. If cross-grazing, all classes of stock should be vaccinated.
- > Unvaccinated pig populations pose a risk of infection to other livestock; however, there is no reason why livestock farms can't have pigs as long as controls are in place, such as:
  - buying pigs from accredited leptospirosis-free sources
  - antibiotic treatment of pigs, followed by isolation and vaccination
  - a vaccination programme for all livestock.

#### **AWARENESS**

- > Clearly display information that leptospirosis may be a risk in the work area. Make sure new workers and anyone else who will be in close contact with animals, are aware of the risks and what to do before entering the work area.

- > Watch for abnormalities or warning signs of infection, eg poor growth rates, sudden deaths, low weaning percentages. Consult a vet.

#### **PPE**

- > Wear clean, suitable PPE, especially when working in wet conditions or closely with deer.
- > Suitable PPE includes overalls; sturdy, closed-toe, water-proof footwear; face protection; rubber gloves.
- > Change gloves or boots immediately if they split or leak.

#### **HYGIENE**

Personal hygiene is good additional protection.

- > Wash your hands regularly, using water, soap, and disinfectant – especially after using the toilet or handling livestock, and before eating, drinking, smoking, or taking a break. Wash your face if you have facial hair.
- > Use disposable towels only.
- > Don't scrub your hands harshly as it may cause breaks in the skin.
- > Don't touch your eyes, nose or mouth before washing your hands.
- > Cover cuts, grazes, blisters and skin breaks with waterproof coverings, and change coverings regularly.
- > Make sure deeper wounds are fully healed before working closely with livestock.
- > Don't smoke, drink or eat when handling livestock, as this can introduce bacteria into the mouth. Keep coffee mugs away from the work area.
- > Wash your clothes after handling stock.
- > Keep toilets and hand-washing facilities clean.

<sup>1</sup> Ministry of Primary Industries (2007). Animal Products Act 1999 Information Pamphlet. Retrieved 18 March 2015 from: [www.foodsafety.govt.nz/elibrary/industry/Animal\\_Status-Outlines\\_Purpose.pdf](http://www.foodsafety.govt.nz/elibrary/industry/Animal_Status-Outlines_Purpose.pdf)

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## FURTHER CONTROLS

- > Provide reticulated water from a low risk source (eg rainwater).
- > Make sure all introduced animals have a current veterinary certificate of vaccination or ASD form<sup>2</sup>. If not certain, then isolate, medicate and vaccinate.
- > Control rodents and possums, keeping them away from stored food and other crops – make sure no excess feed is lying around.

## ANIMAL STATUS DECLARATION (ASD) FORM

The Animal Status Declaration (ASD) form is a standardised form used to transfer key information about animals to the next person in charge of them, and eventually to the processor. An ASD form must be completed for:

- > all deer sent for processing
- > the movement of all deer from one property or saleyard to another, or a property where there is a different person in charge of the animals – even fawns less than 30 days old.

## WATCHING YOUR HEALTH

The sooner treatment starts, the better.

### FIRST AID

A readily available supply of clean water is important.

Look after your health. As soon as there is exposure to urine or infection is suspected:

- > dry off urine splash immediately (leptospires dry out easily), then wash the area
- > wash your hands and face well, taking particular care with facial hair
- > use soap and water, and dry well

- > flush out your mouth and eyes, and any exposed skin with lots of running water
- > wash out fresh or old cuts and grazes with water and disinfectant, and dry well
- > tell a supervisor.

## PRIMARY CARE TREATMENT

- > See a doctor within 24 hours of suspected exposure or if flu-like symptoms develop, to get antibiotic treatment and have a blood sample taken.
- > Tell the doctor that leptospirosis may be the cause of your illness – some doctors may not be familiar with the symptoms.
- > The blood sample MuST be taken before medication is taken, and a subsequent sample may be needed 3-4 weeks later.
- > Treatment options will depend on the severity and duration of the symptoms. Antibiotic treatment should be given if leptospirosis infection is strongly suspected.
- > All patients with severe infection or signs of meningitis should be sent to hospital immediately.

## FINDING OUT MORE

[Good Practice Guide: Prevention and Control of Leptospirosis](#)

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<sup>2</sup> Ministry of Primary Industries (2007). Animal Products Act 1999 Information Pamphlet. Retrieved 18 March 2015 from: [www.foodsafety.govt.nz/elibrary/industry/Animal\\_Status-Outlines\\_Purpose.pdf](http://www.foodsafety.govt.nz/elibrary/industry/Animal_Status-Outlines_Purpose.pdf)

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