

Leishmaniasis

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Animal Biosecurity and Welfare, NSW DPI

Key Points

- Leishmaniasis is a protozoal disease affecting humans and animals.
- Leishmania organisms are spread between animals primarily by a particular type of blood sucking sandfly (phlebotomine sandflies).
- *Leishmania* species are exotic to Australia apart from one species affecting kangaroos.
- A small number of dogs have been diagnosed with leishmaniasis in Australia. All these dogs had been imported from countries in which leishmaniasis regularly occurs.
- The likelihood of people becoming infected in Australia is believed to be low, as none of Australia's phlebotomine sandflies are known to bite humans
- Leishmaniasis is a notifiable disease in animals in NSW.

Introduction

Leishmaniasis is a protozoal disease affecting humans and animals. There are numerous *Leishmania* species which can cause disease. They are transmitted primarily by a particular type of blood-sucking sandfly (phlebotomine sandflies). However none of these particular sandflies have yet been identified in Australia and no Australian phlebotomine sandflies are recognised pests of humans.

Disease can be seen from months to seven years after the animal was first infected and can appear in a range of forms affecting the skin or internal organs or both. The severity of the disease varies from no obvious disease to fatal.

In parts of the world where the disease regularly occurs, rodents, small mammals and members of the dog family (dogs, foxes, wolves etc) are common carriers of *Leishmania* infection. Most species of *Leishmania* can infect people.



NSW DPI State Veterinary Diagnostic Laboratory

Distribution

Leishmaniasis in humans and dogs is widespread throughout Africa, parts of Asia, southern Europe, and in South and Central America. Major epidemics occur in the Middle East and South America. Infection regularly occurs in the Mediterranean basin countries and Africa, as well as India, parts of China and other areas of Asia.

In regions where the disease regularly occurs dogs are commonly affected by the species *Leishmania infantum*. Many infected dogs don't show any symptoms and this helps maintain the long-term presence of the parasite in these regions.

Australia is considered free from *Leishmania infantum*. However between 2000 and 2015, seven infected dogs were identified which had symptoms of leishmaniasis and one healthy dog was identified as infected. All these dogs had been imported into Australia.

Investigations have found no evidence of spread from these infected dogs to animals or people in Australia.

The only known *Leishmania* species in Australia is *Leishmania australiensis*. It was first isolated in 2001 from the skin sores of a group of captive red kangaroos in the Northern Territory. To date, it has not been associated with disease in humans or in domestic animals.

Spread

Animals showing symptoms of leishmaniasis represent the major risk of spreading *Leishmania* species. Phlebotomine blood sucking sandflies are the only insects proven to be able to spread *Leishmania* organisms and are the main method of spread of *Leishmania* overseas. The specific species of phlebotomine sandflies that have been identified as spreading *Leishmania* elsewhere in the world have not been found in Australia.

Day-feeding biting midges are thought to spread *Leishmania australiensis* between kangaroos in the Northern Territory. It is not known whether an insect capable of spreading *Leishmania infantum* is present in Australia.

In other countries spread has occurred between dogs at mating and from bitch to pups before birth. In rare cases ticks and fleas may also spread the disease.

Disease in dogs

The signs of leishmaniasis seen in dogs can vary widely. The most common signs include:

- skin sores
- enlarged lymph nodes
- ongoing loss of weight
- decreased appetite
- lethargy
- excessive drinking and urinating
- sore eyes or conjunctivitis
- nose bleeds
- abnormal nail growth
- lameness
- vomiting and diarrhoea.

The disease is usually fatal if left untreated.

Obligations under the NSW Biosecurity Act 2015

Under the *Biosecurity Act 2015* a person who becomes aware of, or suspects, the presence of an animal disease or pest has a general biosecurity duty to take reasonably practicable steps to prevent, eliminate or minimise the biosecurity risk posed or likely to be posed by the animal disease or pest.

Potential ways to discharge your general biosecurity duty if your animal has signs of or is confirmed to have leishmaniasis will include the steps outlined below.

Diagnosis

If you have a dog that has lived in a country in which leishmaniasis regularly occurs, and it is showing any of the signs of disease listed above, you should take it to your private veterinary practitioner for further investigation. If your veterinary practitioner considers that your dog may have leishmaniasis they will collect samples for testing and must notify NSW DPI. NSW DPI will pay the laboratory testing fees.

Management of infected dogs

If leishmaniasis is confirmed in a dog, your private veterinary practitioner will provide advice on possible treatment options including drug therapy to reduce the number of organisms present.

To minimise the risk of spread of infection infected dogs should be desexed to prevent breeding and steps taken to prevent insect bites that could potentially spread the infection (e.g. fitting with an insecticide-impregnated collar). Euthanasia may also be considered for both animal welfare and disease management reasons.

An investigation will take place to try and identify where the dog was most likely to have become infected and to identify whether other animals may have been exposed. Exposed animals include dogs sourced from the same overseas kennel, companion dogs, bitches mated with the infected dog, offspring of infected bitches plus dogs that have received blood transfusions or bites from infected dogs.

If your dog is suspected or known to have been exposed to infection you should seek veterinary advice if your dog develop signs of disease similar to those seen in dogs infected with leishmaniasis.

The available tests may not detect infection in apparently healthy dogs. Infection may still be present (but undetectable) in exposed animals and disease could develop up to seven years after the dog was exposed.

More information

For general inquiries regarding biosecurity phone 1800 680 244

Acknowledgments

Animal Health Committee Leishmaniasis Response Policy

For updates go to www.dpi.nsw.gov.au/factsheets

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