

## Animal Surveillance Case Definition Leishmaniasis

### Clinical description

A communicable disease of dogs and people caused by a protozoan parasite of the species *Leishmania*. Leishmaniasis is usually transmitted by the bite of an infected sand fly (*Phlebotomus* and *Lutzomyia* species) and is found in approximately 90 tropical and subtropical countries around the world. The most common forms of the disease in people are the cutaneous form, which causes skin sores, and the visceral form, which affects the internal organs of the body. An estimated 500,000 new human cases of visceral leishmaniasis occur each year worldwide. If left untreated, the disease is usually fatal. Humans, dogs, wild canidae, and many other animals are known or suspected to serve as reservoirs for these organisms are the reservoir for this infection.

In the United States, both forms of leishmaniasis are generally associated with a history of travel to a region where the disease is enzootic. Soldiers have returned to the U.S. with infections after being stationed in the Middle East.

Since 1980, there have been sporadic reports of leishmaniasis in foxhounds in Alabama, Oklahoma, Ohio, and Michigan, without a history of international travel. In 1999 an outbreak was identified in New York State when foxhounds became ill with bleeding, wasting, seizures, hair loss, skin lesions, kidney failure and swollen limbs and joints; several died. *Leishmania* species were isolated from the dogs and grown in culture. Serodiagnostic screening of foxhounds at the kennel revealed a high proportion of positivity for *Leishmania*. Dogs from neighboring kennels, pet dogs, horses, and wild rodents were negative. Ultimately over 10,000 serum samples were tested and foxhounds in 21 states were found positive; all other dog breeds were negative. Although there is no cure for the infection in dogs, remission is possible. The route of transmission between dogs was not determined. The sand flies known to transmit *leishmania* have not been found in the areas investigated and dog-to-dog transmission has been suggested. Although direct transmission from an infected dog to a person has not been reported, it may be possible and immunocompromised persons would theoretically be at the highest risk. In the study described above, a diagnostic protocol was conducted utilizing cytology, polymerase chain reaction (PCR) assay and serologic testing.

If veterinary practitioners suspect canine leishmaniasis and wish to conduct testing, or become aware of animals epidemiologically linked to infected dogs, please contact the NJDHSS, IZDP (609-826-4872) for assistance.