Geographical Distribution

In the Western hemisphere, cutaneous leishmaniasis occurs primarily in South and Central America although cases have been reported as far north as Texas and Oklahoma. It has only spread to northern parts of Texas and Oklahoma in the past 30 years and is predicted to spread farther due to climate change. It's found in a broad range of habitats from tropical forests to deserts. Leishmaniasis has been found in 90 countries and on every continent except Australia and Antarctica[3].

Leishmaniasis seems to follow travel and immigration patterns. Many of the cases in North America have been associated with popular tourist destinations.[1]

Prevention

Measures for preventing leishmaniasis infection include:

- Use insect repellent containing DEET!
- Minimize areas of exposed skin!
- Minimize time spent outdoors from dusk to dawn (when sandflies are most active).

**Taking these precautions will prevent many other diseases.*

Treatment

Treatment is determined on a case-by-case basis. The cutaneous form may heal on its own over months to years while leaving significant scarring. There is no preventative vaccine, but medicinal treatment is available. If you think you or your pet may have leishmaniasis, contact your veterinarian or dermatologist.

Further Information

For further information, see the following sources:

[1] World Health Organization
www.who.int/leishmaniasis/en
[2] US Army Public Health Command
http://chppm-www.apgea.army.mil/
[3] Centers for Disease Control and Prevention
www.cdc.gov/parasites/leishmaniasis

Photos from:
[A] A male phlebotemine sandfly. *Wikipedia Commons*
[B] Cutaneous leishmaniasis lesion before ulceration. Wright, Natalie et al. *Cutaneous Leishmaniasis in Texas: A Northern Spread of Endemic Areas*. 2008.
[C] White blood cell infected with leishmania amastigotes. Dr. Thomas M. Craig, Texas A&M University.
[D] Leishmaniasis lesion on a cat's ear. Dr. Thomas M. Craig, Texas A&M University.
[E] Ulcerated plaque lesions characteristic of New World leishmaniasis. Wright, Natalie et al. *Cutaneous Leishmaniasis in Texas: A Northern Spread of Endemic Areas*. 2008.
[F] Blood-fed *Lutzomyia longipalpis* sand fly. Photo courtesy of Ray Wilson.

If you would like to find out more information or participate in the study, please contact our research team below:

Cutaneous leishmaniasis in Texas: an eco-epidemiological study

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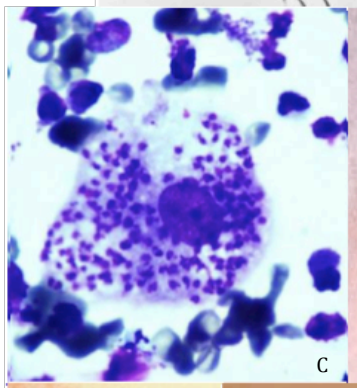
Leishmaniasis

Information regarding cutaneous leishmaniasis


A


B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Leishmaniasis in Texas

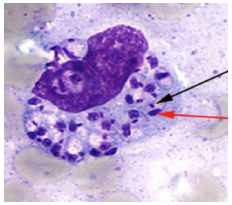
Cutaneous leishmaniasis is a skin disease characterized by slow healing pustules and crusting crater-like lesions that may appear anywhere on the body.

The cause of the disease is a parasite called *Leishmania mexicana.* Because the disease is uncommon it is often misdiagnosed (see differential diagnoses below).

Cutaneous leishmaniasis sores in cats from Texas. Photo courtesy of Dr. Thomas M. Craig, Texas A&M.

Diagnosis

Laboratory tests are used to identify the parasite species. Diagnosis of cutaneous leishmaniasis involves taking samples from a lesion and examining them under a microscope along with other laboratory tests examining antibodies and DNA.



White blood cell infected with leishmania amastigotes. Photo from www.cdc.gov

Differential Diagnoses can include:

- Fungal skin infection
- Bacterial skin infection
- Inflammatory disease
- Psoriasis

Frequently Asked Questions

Q: How common is leishmaniasis?

A: About 1.5 million new cases of cutaneous leishmaniasis occur annually[2].

Q: How is leishmaniasis spread in Texas?

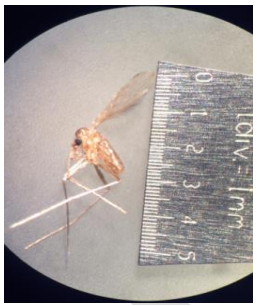
A: The sand fly contracts leishmaniasis by biting an infected animal. If that sand fly bites you or your cat, you may become infected. It can also be spread through blood transfusions, transplacental (mother to baby) transmission, or contaminated needles.

Q: What are disease vectors?

A: Vectors are insects and arachnids that spread parasites such as: mosquitoes spreading malaria, ticks spreading Lyme disease, and kissing bugs spreading Chagas disease. Vectors transmit pathogens from animal to animal. We call these ***vector-borne diseases***.

Q: What are sand flies?

A: Sand flies are very small and hairy. They are about 1/3 the size of a mosquito. They feed on blood and their bites are often painless and go unnoticed. They are the vectors of leishmaniasis.



1.5 mm sandfly captured in Texas

Q: What are disease reservoirs?

A: Disease reservoirs are animals that serve as "homes" for parasites to grow and multiply. Just as water reservoirs collect and store water that can be distributed to humans for drinking, disease reservoirs store parasites that can be transmitted to vectors.

Frequently Asked Questions Continued

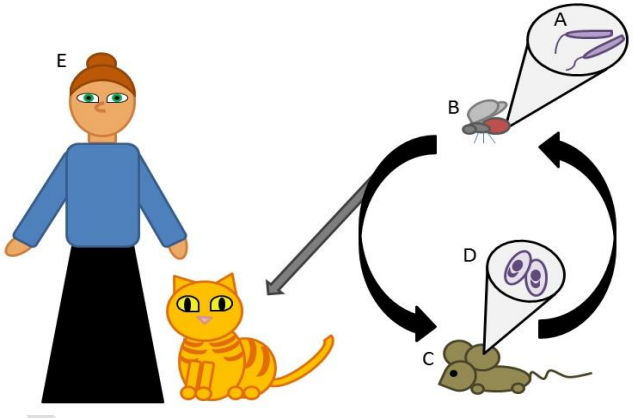
Q: What animals carry leishmaniasis?

A: Multiple mammal species including humans, dogs, cats, rats, and mice. Woodrats of the genus *Neotoma* are thought to be the primary mammal carriers.

The Southern Plains Woodrat (*Neotoma micropus).* Photo from www.discoverlife.rog

Q: What are the risk factors for leishmaniasis?

- Living in rural areas
- Traveling to areas where the disease is known to occur
- Being outside at dusk and dawn when sand flies carrying the parasite are most active



(A) The *Leishmania* parasite in the gut of an infected sand fly. (B) Female sand fly that has been infected by feeding on (C) an infected rodent. (D) parasites inside the rodent. (E) Humans and pets are also occasionally infected outside of the zoonotic cycle.