

Facts about Wildlife Diseases: Leprosy¹

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This publication is part of an EDIS series, Wildlife Diseases: Risks to People and Animals.

What is leprosy and how does it spread?

Also known as Hansen's disease, leprosy (*Mycobacterium leprae*) is a bacterial disease that infects the skin and nerves. Leprosy causes disfiguring skin sores, nerve damage, and occasionally lung damage if left untreated. Leprosy was recognized as an infectious disease as early as 600 BC, and historically people with the disease have been shunned by society. Leprosy is spread between humans via respiratory droplets when people sneeze or cough. In the southeast United States, handling armadillos is thought to be the source of many infections. Leprosy can remain dormant for months or years before signs of infection occur. However, patients can become noninfectious and eventually cured after taking multi-drug therapy. Worldwide, 250,000 new cases of leprosy are reported each year, and in the United States, approximately 150 new cases of leprosy are diagnosed each year.

Leprosy in armadillos

Nine-banded armadillos (Figure 1) are the only known natural hosts of leprosy besides humans. The prevalence of leprosy in armadillos in the Southeast is high, and it can be transmitted from armadillo to armadillo, but it does not appear to cause symptoms in armadillos and it does not infect other wildlife species.



Figure 1. Nine-banded armadillo
Credits: Tom Brakefield, Getty images file

Who is at risk for contracting leprosy?

According to the CDC, 95% of all adults are naturally immune to leprosy, even if they are exposed to the bacteria causing it. Among susceptible people, those who handle armadillos, eat armadillo meat, or have contact with people who have leprosy (and are not receiving treatment for the disease) are at the greatest risk for contracting leprosy. Two-thirds of the US cases of leprosy were contracted abroad, and tropical areas have a higher prevalence of the disease. In general, the risk of contracting leprosy is low.

1. This document is WEC363, one of a series of the Wildlife Ecology and Conservation Department, UF/IFAS Extension. Original publication date December 2015. Visit the EDIS website at <http://edis.ifas.ufl.edu>.

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How common is leprosy?

Florida

- 2001–2010: 101 cases
- Averages between 8–10 per year
- 2015: 27 cases, which is triple the average number per year
- Most common counties: Brevard, Volusia, Polk, Hillsborough, and Dade as reported by the Florida Morbidity Statistics Report (2015).

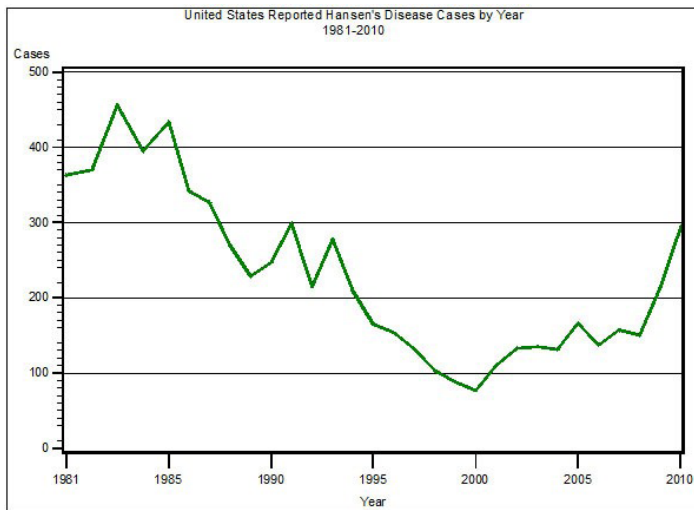


Figure 2. In 2010, 294 cases of Hansen's disease were reported in the United States. Since 2000, the number of cases has steadily increased. In the last 30 years (1980–2010), 7,124 new cases were reported. Credits: Reprinted with permission from the National Hansen's Disease Program. <http://www.hrsa.gov/hansensdisease/dataandstatistics.html>

United States of America

- 2010: 294 cases reported (Figure 2)
- Most common states (69% of new cases): California, Florida, Hawaii, Louisiana, Massachusetts, New York, and Texas (Figure 3)

World

- Approximately 250,000 new cases each year
- Primarily found in tropical regions
- Most common countries: Angola, Brazil, Central African Republic, Democratic Republic of Congo, Federal States of Micronesia, India, Kiribati, Madagascar, Mozambique, and Nepal

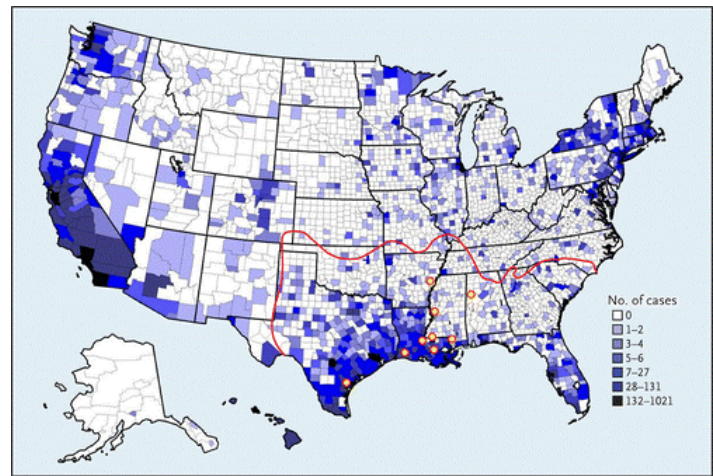


Figure 3. Distribution of leprosy cases in the United States by county. The red line indicates armadillo range limit in the southeastern United States. The yellow circles are locations where armadillos have been found positive for leprosy. In 2015 leprosy was found in armadillos from Florida and Georgia (Sharma et al. 2015).

Credits: Reprinted with permission, Truman et al. 2011. www.nejm.org

What are the symptoms of leprosy?

The first symptoms of leprosy are pale or slightly red areas on the skin and a loss of feeling in the hands or feet. Leprosy is treatable, but often misdiagnosed. Medical doctors who encounter patients with skin lesions that have not responded to standard treatments should ask their patients about their history of contact with armadillos. People with these symptoms who have been in contact with armadillos should seek medical attention and report their contact with armadillos to their health care providers. A skin biopsy can be performed to determine if a person has leprosy. Here are other symptoms that may indicate an infection by leprosy:

- Faded or discolored skin lesions
- Thick or dry skin
- Severe pain
- Numbness on affected areas of the skin
- Muscle weakness or paralysis (especially in hands and feet)
- Eye problems leading to blindness
- Enlarged nerves (especially around elbows and knees)
- A stuffy nose
- Nosebleeds
- Ulcers on the soles of feet
- Loss of sense of touch

How can you limit the spread of leprosy?

- Avoid contact with armadillos. If you do handle armadillos wash your hands thoroughly with soap and water.
- Avoid cooking and consumption of armadillo meat, but if you do eat armadillo meat, cook it thoroughly. Wash your hands and any surface areas that had contact with raw meat with soap and warm water.
- Soil contaminated with armadillo feces may be a source of infection. Be sure to wash your hands after contact with soil.
- Armadillos can be controlled by:
 1. Removing brush and cover that armadillos prefer for burrows
 2. Using properly designed fences
 3. Live-trapping or lethal control

What should you do after a wild animal bite or scratch?

Although armadillos are the only animal currently known to carry leprosy, it is important to use caution around all wild animals because many other diseases can spread from animals to humans. If you are injured by an animal, come into contact with saliva from an animal, or receive a cut while processing the carcass of an animal, take three precautionary steps:

1. Immediately scrub the site of infection with soap and running water for 5–10 minutes.
2. Report to your doctor, a clinic, or an emergency room promptly so a medical professional can treat the wound and determine if you should receive any post-exposure prevention measures.
3. Call your County Health Department or County Animal Control Agency and give a detailed description of the animal you were in contact with and information on your location at the time the incident occurred.

In the rare case of infection with leprosy, the National Hansen's Disease Program provides patient care and oversees clinics throughout the United States. Their contact information is:

National Hansen's Disease Program 1770 Physicians Park
Drive Baton Rouge, Louisiana 70816 1-800-642-2477

For more information visit <http://www.hrsa.gov/hansensdisease/>

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