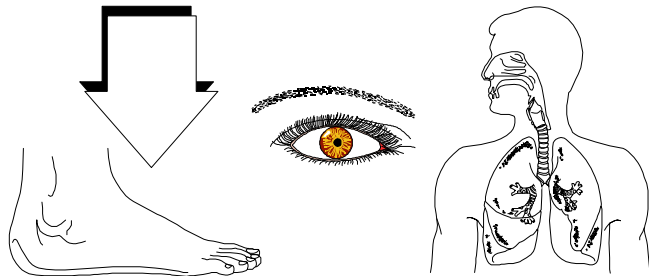


## WHAT IS MURINE TYPHUS?

Murine typhus is a disease transmitted by fleas. Endemic typhus, flea-borne typhus, and shop fever are other names used for this disease. It is caused by the bacterium, *Rickettsia typhi*, and possibly *Rickettsia felis*, found in infected fleas and their feces. Murine typhus differs from epidemic or louse-borne typhus, which does not usually occur in this country.

## HOW DO I GET MURINE TYPHUS?

Fleas defecate as they feed. Infection occurs when flea feces containing the disease agent are scratched into the bite site or other skin opening, are transferred to the eye (conjunctiva), or enter the airway.



## WHAT ARE THE SYMPTOMS?

Symptoms may begin from 6 to 14 days after exposure. All infected persons have fever and most have headache, chills, body aches and pains. A rash on the chest, back, arms and/or legs can sometimes occur. Murine typhus shares symptoms with many other diseases and can be incorrectly diagnosed if a specific blood test is not performed. Most of the cases reported in Los Angeles County require hospitalization.

## HOW IS THE DISEASE TREATED?

This disease is readily treatable with the appropriate antibiotic therapy.

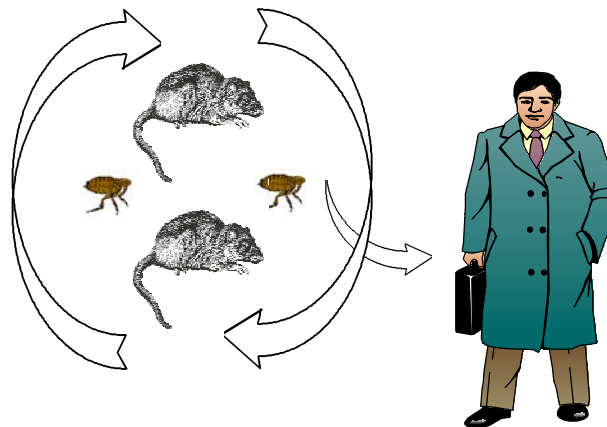
## WHAT ANIMALS ARE INVOLVED?

In Los Angeles County, the Norway rat, roof rat, domestic cat, and opossum are involved in the transmission of this disease to humans. These animals, which are not native to California, frequently come into close contact with people. They become infected and pass the organism to their fleas. Infected animals usually do not display symptoms.

## WHERE CAN THIS DISEASE BE FOUND?

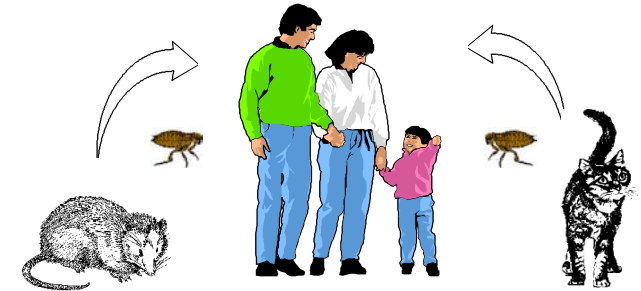
In Los Angeles County, the disease is found in both urban and suburban areas, and manifests itself in two separate transmission cycles based on the environment and the animals involved. The most classic transmission cycle is known as the **urban cycle**. It is found in downtown Los Angeles where the disease circulates among Norway rats and their fleas.

## THE URBAN CYCLE



The **suburban cycle** of the disease is found in residential communities. The disease circulates primarily among domestic cats and opossums, and is transmitted by the cat flea. This cycle accounts for most of the reported cases occurring in our county.

## THE SUBURBAN CYCLE



## HOW HAS MAN CONTRIBUTED TO THE CONTINUED THREAT OF THIS DISEASE?

In Los Angeles County, man has played an active role by introducing the animals involved in the transmission cycle and by creating environmental conditions conducive for the maintenance and spread of murine typhus. These animals often exist in significant numbers in commercial or residential communities because of ample food supply, accessible harborage, and a lack of predators such as coyotes.

## SHOULD THIS DISEASE BE REPORTED?

Physicians should report suspect cases to the Morbidity/Communicable Disease Reporting Unit (213) 240-7821. A Confidential Morbidity Report can be downloaded from the Department of Health Services web site:

<http://lapublichealth.org>

Click on Acute Communicable Disease and then Disease Reporting.

## HOW WILL I KNOW IF MY PET HAS MURINE TYPHUS?

Infected pets usually do not display noticeable symptoms. If these pets are infested with fleas, their fleas may become infected and can transmit the disease to you.

## WHAT STEPS CAN I TAKE TO PREVENT MY PETS AND MYSELF FROM CONTRACTING THE DISEASE?

**Practice safe flea control.** Pets, yards, and homes should be kept free of fleas. Oral and topical flea control medications can be used on pets to control and prevent flea problems. Consult your veterinarian for advice. When purchasing pesticides to treat yards and homes, use only materials which state "fleas" on the label, and follow all label directions carefully.

**Eliminate all possible harborage.** Homes should be kept in good repair to prevent rodents, opossums, and stray or feral cats from entering the structure or nesting in crawl spaces below structures. Yards should be kept clear of heavy undergrowth and accumulated debris to reduce areas where animals may nest or hide.

**Eliminate all food sources.** Do not encourage animals to visit your yard by directly or indirectly feeding them. Open trash cans, bird feeders, fallen fruit, and pet food attract rodents and other animals. Pick up all fallen fruit and do not leave food out for pets.

**Take personal precautions.** When cleaning nesting areas, spray the area with disinfectant, and wear protective equipment such as a particle mask or respirator, goggles, and gloves. This practice also reduces exposure to rodent excretions which may cause other diseases.

When opossums or feral cats become pests, well-intentioned individuals will sometimes attempt to capture and relocate these animals to other areas. This practice violates California Fish and Game laws and is considered inhumane.



Prior to trapping opossums and stray or feral cats on your property, contact your local animal control agency or the Humane Society. **DO NOT RELOCATE ANIMALS.** This practice helps spread disease.

## HOW CAN I OBTAIN ADDITIONAL INFORMATION?

Medical questions about this disease can be directed to the Acute Communicable Disease Unit (213) 240-7941. The Vector Management program has additional information regarding the management of opossums, rodents, and fleas. Pamphlets on other vector-borne diseases in Los Angeles county and the hazards of relocating animals are also available. Free rodent bait can be obtained by contacting:



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# Answers to your questions about **MURINE TYPHUS**

