



**COUNTY OF ORANGE
HEALTH CARE AGENCY**

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**PUBLIC HEALTH
EPIDEMIOLOGY & ASSESSMENT**

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To: Orange County Physicians, Infection Control Practitioners, and other Health Care Providers

Re: Murine (endemic) typhus

In the past few weeks, we have received reports of two suspect human cases of murine (endemic or flea-borne) typhus in Orange County residents. Over the past 6 months, several endemic typhus cases were reported in Long Beach; these infections appeared to have been acquired locally. Previously, approximately 8-18 cases of endemic typhus were reported annually in California, mainly from Los Angeles County. Orange County's last reported case was in 1993. **We encourage health care providers to consider murine typhus in the differential diagnosis of patients presenting with compatible symptoms, send appropriate testing, and report suspect cases to us.**

Murine typhus is usually caused by *Rickettsia typhi*, although *Rickettsia felis* may also play a role. Humans become infected through inoculation of nonintact skin with infected rat flea or cat flea feces at the time of the flea bite or through scratching. Rats, cats, and opossums may also be involved in the transmission cycle. Infected persons may not recall a flea bite.

Clinical presentation: After an incubation period of 6-14 days, fever, headache (can be severe), malaise, and myalgias may develop. Several days after the initial symptoms, a macular or maculopapular rash may develop. Other symptoms can include nausea, vomiting, and cough. Disease is often mild in children. Complications are uncommon and include aseptic meningitis, renal failure, respiratory failure, encephalitis, and death.

Diagnosis: Confirmation of diagnosis is through serological (antibody) testing for *Rickettsia typhi* IgM and IgG. Antibody titers may be negative in the first week of illness, so acute and convalescent testing in patients with compatible symptoms may be needed.

Treatment: The treatment of choice is doxycycline. If murine typhus is strongly suspected, empiric treatment should be considered pending laboratory confirmation as testing turnaround may take several days and early treatment can prevent severe and fatal infections.

Prevention: Prevention is through control of rodents, stray cats, opossums, and fleas in the house or yard by keeping the area clean, free of trash, brush, or leftover pet food, and treating for fleas as necessary.

Reporting: Typhus fever is a reportable disease. Please report suspect and confirmed cases to Orange County Epidemiology (phone 714-834-8180; fax 714-834-8196).

For more information: Please contact Orange County Epidemiology at 714-834-8180. A fact sheet published by Los Angeles County Public Health is available at <http://www.ladhs.org/docs/mtyphus.pdf>.