

## Health Alert: Murine Typhus

Texas DSHS has reported a nearly 10% increase in reports of flea-borne typhus during 2017. As a response effort TX DSHS has requested all physicians increase clinical suspicion for patients presenting with non-specific symptoms and possible exposure. The bacterium *Rickettsia typhi* experiences a peak in the months of December and January, with 25% of the cases reported occurring in patients between 6-15 years of age. While the disease is self-limited more than 60% of reported cases are hospitalized and 8 related deaths have occurred in Texas since 2003. Left untreated organ damage can occur, including liver, kidneys, heart, lungs and brain.

Identification: Murine Typhus, endemic typhus or flea-borne typhus (bacterium *R. typhi*)

Primary disease vectors: fleas associated with Rats, Cats, Opossums

Transmission: louse/lice fecal contamination of bite site or abrasion, contact with the eye, or inhalation of louse fecal material

Signs and Symptoms:

- Fever and chills
- Headache
- Cough
- Malaise
- Loss of appetite
- Body aches and muscle pain
- Rash (typically occurs around day 5 of illness)
- Nausea
- Vomiting

Diagnosis and Testing:

- IgG antibodies to *R. typhi* using an IFA test in acute and convalescent serum specimens collected 3 weeks apart
- Due to cross reactivity, specimens should be tested against a panel of *Rickettsia* antigens, including at minimum, *R. rickettsia* and *R. typhi*
- *Rickettsial* panel IFA testing is available at the DSHS laboratory [http://www.dshs.texas.gov/lab/mrs\\_mic\\_test\\_t2.htm#Typhus](http://www.dshs.texas.gov/lab/mrs_mic_test_t2.htm#Typhus)

Treatment:

- Effectively treated with Doxycycline
  - Treatment should continue at least 3 days after fever subsides and evidence of clinical improvement (usually 7-10 days)
  - Adults 100mg 2xdaily
  - Children under 100lbs 2.2mg/kg body weight 2xdaily

Prevention:

- Avoid contact with rodents by removing favorable habitats and food sources

- Wear gloves when handling a sick or dead animal
- Use EPA-registered insect repellent labelled against fleas
  - <https://www.epa.gov/insect-repellents/find-repellent-right-you>
- If you have a baby or child:
  - Do not use insect repellent on babies younger than 2 months of age.
  - Dress your child in clothing that covers arms and legs, or cover crib, stroller, and baby carrier with mosquito netting.
  - Do not apply insect repellent onto a child's hands, eyes, or mouth or on cuts or irritated skin.
  - Adults: Spray insect repellent onto your hands and then apply to child's face.
- Treat clothing and gear with permethrin or purchase permethrin-treated items.
  - Permethrin kills fleas and can be used to treat boots, clothing, and camping gear.
  - Treated clothing remains protective after multiple washings. See product information to learn how long the protection will last.
  - If treating items yourself, follow the product instructions carefully.
  - Do NOT use permethrin products directly on skin. They are intended to treat clothing.
- Keep fleas off of your pets. Use veterinarian-approved flea control products for cats and dogs such as flea collars or spot-ons. Permethrin should not be used on cats. Animals that are allowed outside are more likely to come in contact with fleas and could bring them inside

References:

<https://www.cdc.gov/typhus/murine/index.html>

<http://hosted.verticalresponse.com/591787/301cd99546/285325871/e115b0f109/>

David L. Heymann, M. E. (2015). *Control of Communicable Diseases Manual 20th Ed.* Washington DC: American Public Health Association.