

# Scrub typhus

Scrub typhus is a disease caused by bacteria called *Orientia tsutsugamushi*, which is in the rickettsia family.

## How it is spread

The bacteria infect people when they are bitten (usually painlessly) by an infected larval mite called *Leptotrombidium deliense*. The mite is very small (0.2 to 0.4mm) and can often only be seen through a microscope or magnifying glass.

The mites live in grassland areas at the edge of dense monsoon forests or forested creeks. Mites usually feed on marsupials and other native animals such as rats but they can attach to passing humans and bite for a blood meal.

Scrub typhus cannot spread from one person to another.

## Where is the disease found

Scrub typhus is found in the Asia-Pacific region including northern Australia. The endemic area extends from south-eastern Siberia and northern Japan, through eastern and south-east Asia, to Vanuatu in the east and Pakistan in the west. Other countries may have small foci. Thailand has the highest prevalence of disease.

There have been numerous reported cases of infection in the Top End of the Northern Territory since 1990 with one fatality. More than half of the reported cases were infected in Litchfield National Park.

Risk areas in the Top End are described as locations near escarpment slopes in humid, tropical areas that have associated creeks and seepage areas with monsoon forest and grasslands in close proximity. Areas in the Top End where infection has occurred include Batchelor area, Emu Point near Peppimenarti in the Daly River area, West Arnhem, Melville Island, and Groote Eylandt.

## Symptoms

The symptoms usually occur within 1 to 2 weeks of being bitten. They may include fever, chills, sweating, headache, muscle aches, swollen glands, nausea/vomiting and a skin rash. The bite site often ulcerates and becomes red with a central black scab, called an "eschar". The bite site may be on the buttocks or genitalia, including when people have been bitten while sitting, and in the armpit.

Any person with these symptoms who has recently visited a risk area, in particular Litchfield National Park, should mention the possibility of scrub typhus to their doctor. The diagnosis is made by blood tests.

## Who is at risk

Anyone visiting areas near escarpment slopes in humid, tropical areas of the Top End that have associated creeks and seepage areas with monsoon forest and grasslands in close proximity is at risk. Activities that are particularly high risk are bushwalking, fishing, swimming and hunting.

Risk also applies to:

- off road tourists
- military personnel on bush exercises
- park rangers
- people clearing land in high risk areas

## Treatment

Treatment with antibiotics is necessary and very effective. Doxycycline is the drug of choice. Some people may require treatment in hospital.

## Prevention

You should take precautions to avoid being bitten by mites when visiting 'at risk' areas. These include:

- do not sit or lie on bare ground or grass, use a suitable ground sheet or other ground cover
- wear footwear such as runners or boots with socks rather than walking barefoot or wearing sandals. Long trousers are preferable when bushwalking
- apply insect repellent that contains DEET, picaridin or oil of lemon eucalypt (PMD) to all exposed skin areas on the legs, onto socks and the bottom half of trousers (this is the same repellent you use to prevent mosquito bites)
- camp in cleared areas away from dense forests. Use tents with attached floors.

People who are working in infested areas should consider wearing permethrin impregnated clothing.

## Contact

For more information contact your nearest [Centre for Disease Control](#).

Location	Phone
Darwin (Top End Region)	(08) 8922 8044 or 1800 008 002
Katherine (Big Rivers Region)	(08) 8973 9049
Tennant Creek (Central Australia Region)	(08) 8962 4259
Alice Springs (Central Australia Region)	(08) 8951 7540
Nhulunbuy (East Arnhem Region)	(08) 8987 0357