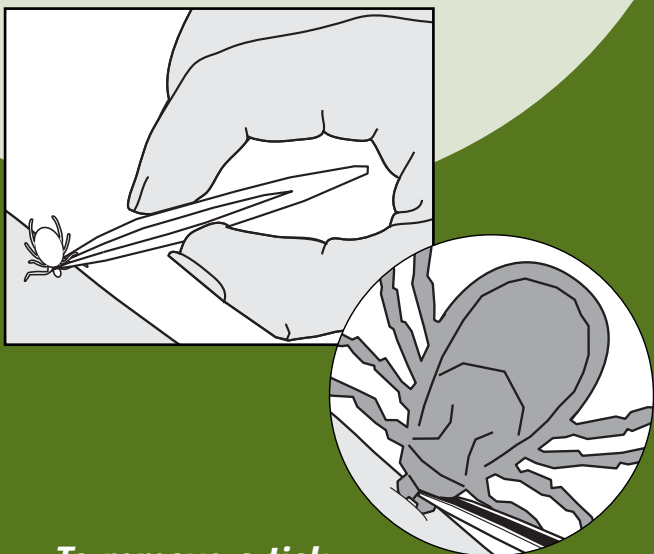


Prevention of tickbite

Ticks occur in moist, bushy areas. Eggs are typically laid in leaf litter or mulch. Ticks are not very mobile; larvae, nymphs and adults climb onto grass and the foliage of low bushes where they wait for passing hosts (animals or people) to feed on. Once on the host, ticks crawl upward on the host's body looking for a place to attach.



To remove a tick

Once found, ticks should be removed as soon as possible using fine tipped forceps or fine surgical scissors: press the skin down around the tick's embedded mouth part, grip the mouth part firmly, lift gently to detach the tick. Avoid squeezing the body of the tick during removal.

IMPORTANT: In individuals with a history of allergic reactions to tickbites, ticks should still be removed as soon as possible, but only by a doctor and where resuscitation facilities are readily available.

How to reduce the likelihood of being bitten

When outdoors in known tick areas:

- Wear appropriate clothing including long pants tucked into socks and long sleeved shirts tucked into pants. Ticks are more easily detected on light coloured clothing
- Spray clothes with an insect repellent
- Apply a repellent containing DEET or Picaridin to exposed skin – check the label and follow the manufacturers' instructions regarding how to apply and when to reapply the repellent.

On return from a known tick area:

- Remove all clothing and search the body for ticks especially behind the ears, on the back of the head and neck, groin, armpits and back of knees. Be careful where clothes are placed as they may introduce ticks into the house. Ticks in clothing can be killed by placing clothes in the dryer for at least ten minutes on the hot cycle
- Don't forget to check children
- Check pets as they may bring ticks into the house. Many dogs and cats are infested each year and may die from tick paralysis
- Increase sunlight penetration to ground and reduce humidity levels conducive to tick survival in outdoor play areas and paths. Mow lawns regularly, reduce mulch and leaf litter, minimise watering, and trim shrubs overhanging those areas.

For further information please contact your Public Health Unit (look under H for NSW Health details in the Business Listings section of the Telstra White Pages).

A full copy of this brochure can be down-loaded from the NSW Health website: www.health.nsw.gov.au



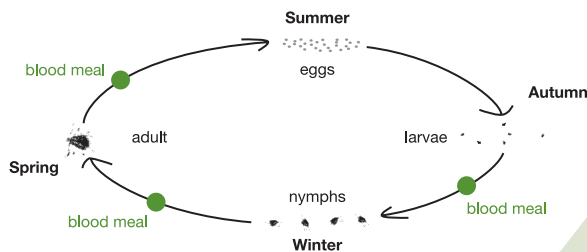
Tick Alert

Ticks can be a health hazard



Ticks are bloodsucking parasites. There are many tick species in Australia though the most common species that attacks humans in NSW is the paralysis tick, *Ixodes holocyclus*. This tick is mostly found along a narrow coastal strip between the Great Dividing Range and the coast, which in some areas extends inland up to 75 km. As the majority of the human population also lives along the coast encounters with this tick can be frequent.

Ticks have four distinct stages of development: egg – larva – nymph – adult. Larvae, nymphs and adult females must have a blood meal from a host. After the blood meal larvae and nymphs drop off the host and rest in the environment as they develop into the next stage; adult females drop off the host and lay eggs. The whole cycle usually takes about a year.



Tick stages can overlap across the seasons

While most tickbites cause little or no symptoms, they occasionally are a threat to human health, including:

- Allergic reactions
- Toxic effects
- Tickborne infectious diseases – infectious diseases transmitted by ticks.

Allergic reactions

These can be local or generalised. Local mild allergic reactions and itching due to tickbites can be treated with cold compresses and moisturisers. If local reactions persist, or if the itching and swelling cause significant discomfort see your doctor for advice. Local bacterial infection may occur when the skin has been broken by persistent scratching.

In some susceptible people a tickbite may cause a severe allergic reaction or anaphylactic shock, which is rare but can be life threatening.

If shortly after a tickbite you experience breathing difficulties or an unusually severe skin reaction with itchy wheals, seek medical attention immediately.

Toxic effects

Tick paralysis is caused by a toxin contained in the tick's saliva. Symptoms include general unsteadiness, lethargy, visual disturbances, breathing difficulties, and weakness of the arms, legs or parts of the face. Tick paralysis develops over a few days, as the tick injects more saliva the symptoms may intensify, and the patient's condition may continue to worsen even after the tick has been removed.

Children and pets are at greatest risk of the toxic effects. If symptoms of tick paralysis are present, seek medical or veterinary attention immediately.

Tickborne infectious diseases

■ **Spotted fevers** are caused by bacteria belonging to the Rickettsia family. In Australia the two types of spotted fevers are **Queensland Tick Typhus**, which occurs along the coastal strip of eastern Australia from North Queensland to Victoria, and **Flinders Island Spotted Fever**, which occurs mainly in Flinders Island in Bass Strait, Tasmania and Victoria. Symptoms of the Spotted Fevers include fever, headache, joint and muscle pains, tenderness of lymph nodes and, usually, a rash characterised by spots. At the site of the bite there may be redness and swelling and a thick black scab (eschar). Clinical diagnosis is confirmed by specific blood tests. Rickettsial infections can be treated with antibiotics. Serious illness resulting in death is very rare.

■ **Lyme disease** is the most common tickborne disease in the world. While the bacteria known to cause the disease in other parts of the world have not been found in Australia, there are reports that exposure to *Ixodes holocyclus* may be associated with symptoms resembling those of Lyme disease. Symptoms appear within days, weeks or months of being bitten by a tick. Early non-specific symptoms (fever, headache, joint and muscle pains, and sore and swollen lymph nodes) are sometimes accompanied by a characteristic and large 'bull's-eye' rash (erythema migrans) at the site of the tickbite. Later stages of the disease may affect the nervous system, the heart and joints. Lyme disease can be treated with antibiotics.

• wear protective clothing outdoors

• apply repellent to skin

• if bitten, remove ticks as soon as possible