

## Paralysis Ticks

### Occurrence

Paralysis ticks, also called dog ticks, shell-back ticks or scrub ticks are a serious parasite occurring on the East Coast of Australia. They inject a toxin causing paralysis that can be fatal in domestic animals. More than 80,000 cases of tick toxicoses, mainly in domestic pets are treated each year in eastern Australia. Paralysis ticks are native to Australia and their natural hosts are marsupials, principally bandicoots, but also other animals such as echidnas, possums and wallabies. Native animals are usually immune to the paralysing toxin because of their frequent exposure to tick infestation. However, these native animals (hosts) do maintain a reservoir of paralysis ticks in a particular area. **Paralysis ticks tend to be associated with bushy or scrubby areas which harbour the native animal hosts but they can still be picked up in open paddocks and in suburban backyards!**

### Life Cycle

Paralysis ticks are a three-host tick. This means that the tick must attach and feed on a new host (of the same or a different species) on three separate occasions in order to complete its life cycle. Three stages of the tick's life cycle can be found attached to dogs. These are:

- Pinhead sized larvae ('seed ticks')
- Match-head sized nymphs
- Match-head to pea-sized adult females.



A very thorough inspection of an animal is required to find larvae, nymphs or unengorged adult ticks. While ticks are particularly attracted to the head, neck, ears and between the toes they are also often found around dogs' mouths which makes them very difficult to find. They can be found on any part of a dog! The parasitic phase occurs when ticks attach to a host and suck blood. Each of the three separate stages of this phase lasts about a week. Paralysis ticks can be found on hosts at any time of year. However adult ticks are most commonly seen from July through to March with a peak availability of young adults in spring. When the fully engorged female paralysis ticks drop, they lay 2000 - 3000 eggs then die. With moist, warm conditions, most of these eggs will hatch within 7 to 9 weeks. The resulting larvae tend to infest hosts in late summer and autumn. These drop and moult to nymphs which infest animals in late autumn and winter. While most tick development follows this pattern, there is enough variation that small numbers of adult ticks can be found at any time of year. Free living stages are particularly susceptible to dry conditions. A temperature above 32°C delays development or kills the tick while temperatures below 7°C for a few days can kill unattached adults.

## **The signs of tick poisoning**

The paralysis tick injects a toxin into its host dog as it feeds. Increased body temperature due to either hot weather or exercise will exacerbate symptoms.

If left to run its course, a case of tick poisoning goes through three stages.

### **Early signs:**

- A change in voice; the bark becomes softer and/or changes pitch, may be hoarse
- Weakness in the back legs; walking along then sitting down suddenly is a common early sign.
- Vomiting, especially if it happens several times in a day and you see froth.

### **Later signs:**

- Wobbliness in the back legs.
- Excessive salivation and vomiting is not uncommon.
- Breathing changes including panting, progressing to loud breathing, even grunting noises.
- Many dogs will exhibit a moist cough and breathing problems before other signs.

### **Worsening signs:**

- As signs of poisoning progress, the animals become unable to stand.
- Breathing becomes exaggerated and difficult.
- As breathing becomes more difficult, the gums become cold and blue-tinged. Death follows quite quickly.

## **How can you find a tick on your pet?**

- Although most ticks are found around the head and neck of the animal as well as inside the ears, and between the toes, they can end up anywhere on the body. It is especially important to search longhaired dogs very thoroughly between the eyes and the end of the nose. The most reliable way to locate the ticks is to systematically run your fingers through your cat or dog's coat. Using a tick hook available from your VET can be a reliable way to remove ticks. If the head is left in, don't worry as the tick will die and inject no more poison. Always assume there is more than one tick and continue your systematic search.
- It is true that animals can develop an immunity to tick poison, but it requires repeated mild poisoning and may last only one season. Even those animals that do build up an immunity can still wind up paralysed if they're bitten by multiple ticks or a particularly toxic one. So it's not a good idea to count on your pet being one of the lucky ones.

## **If you find a tick on your dog**

- Pull it off as quickly as possible. Fingernails can be just as effective as tweezers and tick hooks.
- Don't bother treating the area with any type of product before removing the tick.
- Don't assume it was only one tick. Check your pet for other ticks.
- **Take your pet to a vet clinic. Just because the tick is gone it does not mean your pet will get better. Paralysis can still set in because the tick poison has already been injected to your dog!**

## **Preventative Treatment for Paralysis Ticks in Dogs**

While new, improved products are appearing quite regularly, the paralysis tick does become resistant to insecticides. Thus, none can ever claim to be 100% effective. So even if you use one (or a combination) of the repellents described below, you should still search your pet(s) every night during the tick season. These search-and-destroy missions become even more imperative after your animal has been in bushy terrain. A small tick missed one day is often found the next.

### **Advantix®**

Advantix will kill both fleas and ticks in all life stages when **applied every two weeks**. As well, there is growing evidence it may repel ticks. (Because it is water-safe, it is suitable for dogs that occasionally swim or are washed for dog showing events) **Advantix is toxic for cats**. Please separate your dog and any cats on the day of application and, obviously, do not use on cats. Wash your hands thoroughly after use and before handling the family cat! For collie rough dogs this is a preferred treatment for many owners due to the ease of application and its effectiveness in a long coated breed and its better water resistance than some other spot on treatments.

### **Permethrin®**

This is an effective rinse for adult ticks as well as larval and nymph stages, offering up to one week's residual effect. Available as a concentrate, you mix Permethrin with water and use it as a soaking rinse or spray, leaving it on your dog to dry. You must be careful to sponge carefully around your dog's face to ensure thorough coverage. If you're in the habit of exercising in bushy areas, a light spray of Permethrin will give your dog(s) added protection against ticks. You can use Permethrin as often as every day if necessary. Collie rough owners will understand how hard it is to soak a collie rough coat as required with this product. However if you use a turbo bath to wash your dog you can add it in the correct concentration to the final rinse and leave in to dry.

### **Frontline® Plus**

When you apply this preventative onto the skin between the shoulder blades, it spreads over your dog's entire body, killing ticks on contact. It must be applied every two weeks, and you **should not wash your dog 48 hours before or after application**. Because the chemical can be diluted by daily or frequent swimming, we recommend you regularly search for ticks just in case. **Frontline Plus and Frontline Spray are not an effective preventative for larval and nymph stage ticks**. There is anecdotal evidence that

Frontline spray (see below) and spot on is becoming less effective with ticks and in some areas it is possible that ticks have developed immunity to this product.

### **Frontline Spray®**

This spray claims three-week protection from paralysis ticks. If you do use Frontline, it should be at the highest dose rate at least every *two to three* weeks, but no longer. As for Permaxin the difficulty in soaking the coat with this product makes it problematic for use with collie roughs.

### **Tick collars**

There are mixed reports about tick collars. On the plus side, they are relatively inexpensive and can work well, particularly at preventing larval and nymph tick attachment. On the negative side, they must be replaced every six to eight weeks depending on the type, they're unreliable for dogs that swim and they have a rather pungent chemical smell which puts some people off. Tick collars are usually NOT recommended in situations where there are young children or multiple dogs that play rough and hence remove each other's collars and chew on them!

### **NEXGARD (afoxolaner) Chewables**

***This is a new product new to Australia in February 2015. It has been used in 2014 in other parts of the world under different brand names with amazing results. It is a monthly chewable (that is given orally) that not only treats for fleas but ALSO TICKS! It has been proven in clinical trials and in practice to be highly affective against both these parasites! Reassuring for collie owners it has also been tested on collies with both mutations for the MDR1 gene (commonly called ivermectin sensitivity) and is SAFE. In fact it was administered at 10 times the recommended monthly does and did not affect these afflicted collies!***

You will probably have seen recently that Frontline, Frontline Plus and Advantix have been discounted in price everywhere by the manufacturers and retailers as they will each disappear over time to be replaced by the much more affective new product NEXGARD. For those in tick free areas who sometimes travel to tick infested regions, NEXGARD will be an easy and SAFE oral treatment to give their collie before travelling!

### **References:**

1. [http://www.dpi.nsw.gov.au/\\_data/assets/pdf\\_file/0013/160321/paralysis-ticks.pdf](http://www.dpi.nsw.gov.au/_data/assets/pdf_file/0013/160321/paralysis-ticks.pdf)
2. <http://www.pittwateranimalhospital.com.au/ticks.html>