

Stings, Bites and Ticks

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With the onset of spring and the warmer weather, one must be on the lookout for all the insects and reptiles coming out of winter hibernation.

Bee Stings and Ant bites

The most common allergic reactions that are seen with dogs would be as the result of **bee stings and ant bites**.

Symptoms are usually seen as a sudden, grossly swollen, soft pitting swelling, often of the face and lips, less commonly as welts all over the body. Unfortunately, you often do not know what has bitten your animal and when it may have occurred. Bee stings and ant bites are not generally life threatening and the reaction is usually limited to swelling around the area which has been bitten. When this occurs around the mouth and throat it can be very alarming to the owner. Most bites of this nature do not cause respiratory difficulties unless the animal is particularly sensitive to the cause ie. extremely allergic.

Treatment with antihistamines will quickly relieve symptoms. Occasionally short acting cortisones are needed with the more severe cases.

Dogs who have the bad habit of chasing bees can become so sensitised to bee stings that they can develop a hyperacute, severe reaction which can indeed be life-threatening within 10-15 minutes of being bitten. The owners may need to (a) keep the dog locked in a pen (away from flowers) and (b) have some fast acting cortisone on hand for these emergencies (if your vet trusts you sufficiently to administer this). If the dog is seen to be in difficulties, give the cortisone and then immediately take it to your vet. By doing so, you gain extra time to get your dog to the vet. Luckily, very few dogs ever develop such hyperacute reactions.

Snake and spider bites are far more difficult to deal with, particularly if you have no knowledge of the initial incident eg. such as the time the incident occurred and/or the causative agent.

Spider Bites - Very few cases of spider bite are confirmed, nor the spider identified. Spider bites generally only cause localised reactions, thick wheals and occasional patches of necrotic (dead) tissues over the bite areas. Some general soreness and sluggishness may occur. Treatment of suspected spider bites is generally symptomatic ie. treatment of the presenting signs, usually by the use of short acting cortisones and/or antihistamines.

Snake Bites

Snakes that commonly cause problems on the Australian east coast include the black, the brown and the tiger snakes. The types of snakes in an area can vary considerably around Australia, so it is important to know what snakes are in your neighbourhood as treatment (serum used) can change.

Time of year, areas to avoid - Snakes particularly love hot dry weather and a dry sandy, rocky terrain. As cold blooded reptiles, snakes need to cool off in very hot weather by going towards water and other damp areas. Under tank stands, near water features dams etc are high risk areas. Snakes are also attracted to birds as part of their natural prey, so if you keep birds, keep any aviaries well away from any dog kennels or yards.

Symptoms of snake bite can vary slightly between the various types of snake. Signs of snake bite include: lethargy, trembling, vomiting and profuse salivation, progressing to inability to stand, rapid respiration, bluish mucous membranes (of the gums) and/or sudden collapse. Some dogs may collapse, recover, then go down again within 1-2 hours. The various actions of the venom include an anti-coagulation effect, a paralysis effect and a neurotoxin. There may be a hypersensitivity to noise and light in the form of minor fitting and/or muscle twitching. Additionally, there may be blood in the urine.

Signs can vary according to the type of snake, the time that has elapsed since the dog was bitten, the amount of venom received and where the dog was bitten (over a blood vessel etc).



Treatment - Take the animal to a veterinarian as soon as possible. Treatment can differ according to the presenting signs and the amount of knowledge as to the cause and time of the incident. The majority of cases will show signs of being affected by the venom within 2-4 hours.

Some snake bites can take 12 or more hours to manifest with owners, often erroneously, thinking that because there are no obvious signs within 1-2 hours, that the animal may not have received any poison. These dogs are often found collapsed or severely depressed, are often jaundiced and passing blood in the urine.

Do not delay getting the dog checked by the closest veterinarian as precautionary treatment is preferable to being too late. The longer the delay from the initial incident, the lower the survival rate. Diluted antivenom is given as soon as possible in affected dogs. Other treatment with snake bites involves using adrenaline, intravenous fluids, short acting cortisones etc. Vitamin C in high doses has been anecdotally reported to be helpful in some circumstances.

***It is presumed with all snake bite victims that a full dose of venom was received, therefore all victims receive the same amount of anti-venom, regardless of size.**

Types of Anti-venom

Tiger/brown antivenom - Newer anti-venoms have been developed that are a combination of anti-venom for the black/brown and tiger snake. This combination covers the majority of common snake bites including the red bellied black, brown and tiger snakes, so some of the challenge as to which type of snake has bitten the animal has been removed.

Tiger and Brown snake antivenoms are still individually available and may be used more in areas where that specific snake type is predominantly seen.

Death Adder bites are particularly lethal, generally killing the animal within the hour. These dogs rarely survive long enough to get to the vet. These bites require *Death Adder* antivenom specifically. As this anti-venom is very expensive and *death adder* bites relatively uncommon in many areas, most veterinarians do not hold stock of this anti-venom.

Prevention

In known high density snake areas, keep dogs away from dams or cool damp areas such as under tank stands. These areas should ideally be fenced off from the dogs. Keep open areas clear of long grass by regularly mowing the running yards. Close off any drains or small entrances into cool kennel blocks. Fence around the dog running yards and kennels with bird wire netting from the ground to at least 3 feet up.

If you live in an area with a reasonable incidence of snake sightings, it is well worth getting a book on the subject so that you can learn to distinguish between the various types.

Paralysis Tick Poisoning (*Ixodes Holocyclus*)

Paralysis tick poisoning of dogs (and cats) as a result of *Ixodes holocyclus* tick bites is commonly seen during the warm humid periods of the year. Affected cases are seen along the entire **coastal belt** of eastern Australia, from Bairnsdale in Victoria all the way up to lower Queensland. Affected cases are seen from spring through to autumn.

Paralysis ticks can kill affected dogs within 3-6 days of contact. Ticks like to crawl to the top of long grass and low shrubs, and will attach to the coats of animals as they brush past. About 80-90% of ticks are found around the head, neck and shoulder regions. Ticks do not have a separate head, merely a mouth piece. Where they are attached to the skin, there is an allergic reaction to the tick saliva, resulting in a 'crater'.

There is another tick (*Ixodes Cornuatus*) found in **Tasmania** than can cause lethargy leading to paralysis. The Tasmanian tick, while physically similar to the paralysis tick on the mainland, is actually a separate species. Affected dogs are seen in hot weather from January to April in Tasmania and should be treated in the same manner as described here for normal paralysis tick poisoning ie. prompt veterinary treatment is required.

Many other species of ticks are found throughout coastal regions of Australia, but the majority are usually harmless, more of a chronic nuisance value. Most common are the bush ticks.



The message here is if you are not sure what type of tick your dog has had, seek veterinary attention, particularly if there are any signs of altered behaviour.

Description of ticks

Paralysis ticks look like small **slate-grey coloured** warts and the legs all come out close to the mouth piece. When the tick is fully engorged, it can be nearly as big as your little fingernail.

Bush ticks are brown and the legs are well spaced out down the sides of the body. *Cattle ticks* are bluish and have legs spaced down the sides.

*(*If you live in a tick area, the local Department of Agriculture in your state may be able to give you a diagram of the various types of ticks in the area.)*

Symptoms

Signs are incoordination of the hindquarters, weakness of the hind legs, husky cough and loss of voice, loss of appetite and a rapid respiration rate.

Very early signs are easily missed but, if you are living in a tick area, you should be alert for any change in the dog's habits. Initially the dog may appear reluctant to walk very far, refuse a feed and be slightly off balance when turning. The further it walks, the worse it becomes. This progresses to a total paralysis with laboured breathing and bluish mucous membranes (gums). Death results from paralysis of the respiratory muscles and lung congestion.

It takes several days for the effects of the paralysis tick to start showing and 3-4 days for the effects to wear off.

Treatment involves removal of all ticks. If no ticks are found, they may already have dropped off. There should still be a crater, which is an allergic reaction in the place where the tick was embedded.

Removal of ticks is easily done by placing your thumb and first finger on either side of the tick, pinching down and almost taking a small piece of skin, and then give it a quick half twist. The tick will pop out. Ticks do not have a definite head; removal and/or killing the tick is the initial primary concern. You can pre-spray them with Frontline* directly or any fly spray if you are concerned that you cannot effectively remove the tick.

The effects of the tick are still wearing on over the next 48 hours, so veterinary advice must be sought on all cases that are showing any signs of paralysis. Where there are respiratory difficulties, the dog should be seen by the vet as soon as possible.

The vet will administer tick serum from hyperimmune dogs. The dog is hospitalised and preferably kept very quiet and covered up to reduce external stimuli ie. light and noise. Treatment for any respiratory and cardiac symptoms is also initiated, including diuretics to decrease the amount of fluid in the lungs. Sedation and/or Temgesic* is used to keep the dog calm. Severely affected dogs must be kept at normal body temperature as the lack of movement can result in them becoming chilled.

Treatment must be kept up to these dogs around the clock. It can be a very tense time over the period of the next 2-3 days until the breathing becomes easy and more relaxed ie. until the dog stabilises. Once this occurs, the dog is usually out of danger. Aftercare then becomes the same as described below for mild cases.

Tick dogs are handled as little as possible to minimise respiratory distress.

Aftercare/Treatment and dogs with no obvious symptoms of paralysis

Very mild cases, with no obvious signs of paralysis, should be put somewhere very quiet and dark for 24 hours.

However, if it is the first tick they have ever encountered, it is wise to have the dog examined by your vet. Do not give food or water to the animal, as it is paralysed internally as well as externally.

After 24 hours, give a small amount of water. If the animal drinks, and there is no vomiting or coughing allow free access to food and water. If it is reluctant to drink, then wait another 12-24 hours and repeat the process. If the dog is not drinking after 48 hours or any signs of paralysis or breathing difficulties develop, consult your vet immediately.



Some dogs can develop heart problems after severe poisoning which generally resolves in several days. Older dogs in particular should be kept very quiet for 4-5 days after recovery and not stressed as there can occasionally be lingering affects on the heart.

Dogs can (and do) develop a *relative immunity* to tick poison but it develops slowly from repeated exposure to ticks. The immunity is short lasting (approximately three months) and variable, which means that by the end of winter there is usually little or no immunity left from last season's tick events.

Prevention

Frontline*, a topically applied spray (eg. Frontline Plus* spray) that, if applied all over the dog, can give 4 weeks protection. Liquid concentrates (eg. Frontline Top Spot*, Advantick*) will give 2 weeks cover, even if dogs are going in and out of water regularly. These compounds are very safe and non toxic. The other topical treatment which is effective is Permethrin* rinse but it must be applied weekly to be effective.

Tick collars are excellent as they cover the primary area where ticks are found on the dog (head/neck and shoulders) and should be changed once every 6-8 weeks during the tick 'season'. **Preventick*** collars are the best currently and can safely be used in conjunction with Frontline* treatments. Do not leave long tags hanging loose for other dogs to chew as the side effects of dogs eating these collars can be quite severe.

In very high risk areas for Paralysis ticks you can use Proban Cythioate* tablets 3 times weekly which will kill ticks as they attach. This can be used in conjunction with Frontline and Preventick* collars. Unfortunately, it can become expensive for the larger dogs, but it can be of great benefit.

Long haired dogs are often shaved every spring in high tick areas to assist in the finding of ticks.

Tick Season varies according to the weather. **Tick areas** - Ticks are rarely found inland of the coastal belt.

Ticks prefer humidity and warmth, so the ideal times for ticks are spring through to autumn. Usually in the middle of summer when it is very dry, the ticks will usually not be out. If, however you are having a particularly wet summer, they can stay out and about. **Particularly be on the lookout for ticks in the 7-10 days after rain or during periods of high humidity.**

Avoid bushy areas - Ticks prefer to live in thick, overgrown areas and will climb to the top of tall grass, small shrubs and bushes. If you live in a known tick area: keep the grass very short in any dog areas, as well as for at least 2-3 metres around it. High winds can blow ticks into a mown area but the risk of picking up ticks can be reduced to almost nil in a well tended area. Do not take your dog on walks through rough bush or allow it to roam through these areas.

Check your dog daily during the tick periods of the year, paying particular attention to the head, neck and shoulder areas. Beyond this area, the dog will usually bite out any small ticks which are trying to embed themselves into the skin. Despite this, the dog must be fully checked all over. Coated dogs are high risk animals in tick areas as the ticks are extremely easy to miss in the thick hair.

If travelling into known tick areas (as many people go to the beach areas with their dogs during the school holidays), pre-treat the dogs with Frontline 1 week prior to going and ideally put a tick collar on as well. Check the dog daily while there and again for 4-8 days after returning home.

With paralysis tick poisoning, remember:-

- 1. It takes several days for the tick poison to take effect and several days to wear off.**
- 2. Severe cases need hyperimmune tick serum to try to reduce the severity of the effects of the toxin.**
- 3. Every case is treated according to its symptoms and each case is different**
- 4. There should be as little external stimuli as possible at all times while the dog is affected by the toxin.**
- 5. There are no guarantees of survival.**
- 6. Prevention is the ideal way to avoid the risk to your dog's life.**



Babesia or Babesiosis - a tick borne disease

Babesia Canis ('large' Babesia) and *Babesia Gibsoni* ('small' Babesia) are tick borne protozoal parasites of dogs which have a world wide spread and has been recently discovered to be in Australia. While very few dogs have been found to be affected as of the current time (mainly in one group in Victoria), if this disease becomes wide spread in the general dog population, there could be serious repercussions on the future health of breeding stock.

The tick that is the vector or carrier for the parasite is *Rhipicephalus sanguineus* or the **brown dog tick** which is found in parts of Victoria, Western Australia, New South Wales, Queensland but most commonly in the far north of Australia. The Babesia parasite primarily affects the red blood cells but it can result in other organs being affected. Many dogs are unaffected and become carriers of the disease. Other dogs can become quite sick with a variety of symptoms and may even die.

Symptoms – There are two main types of infection – uncomplicated and complicated.

Uncomplicated babesiosis is basically a haemolytic disease, causing a chronic anaemia. Dogs are tired, lethargic or even asymptomatic. These dogs generally have enlarged spleens and elevated liver enzymes. They can be thin and run intermittent low grade fevers.

Complicated babesiosis, more commonly seen in the younger dog, is generally a result of the body responding to the parasitic invasion with a generalised inflammatory reaction. Affected dogs are depressed, weak and pale in the gums, generally running a fever. They can be jaundiced, have enlarged livers, acute renal failure, respiratory distress as well as immune mediate haemolytic anaemia.

Diagnosis is by blood test for antigens and/or by blood smears to detect the parasite in the peripheral blood.

Treatment for uncomplicated cases is usually by giving either Imizol* (2 doses 14 days apart) or Clindamycin* until cured. Blood transfusions may be needed.

Complicated cases require intensive therapy to save the dogs life including the drugs mentioned above and intravenous fluids etc. Not all dogs can be cleared of the infection.

Prevention is by preventing tick bites. Ideally use the Preventic Collars* and monthly dosing with the Frontline Plus* spray all over the dog (this is more effective than the Top Spot* form) in high tick infestation areas.

Brown Dog Tick infestations – northern Australia

The brown dog tick (*Rhipicephalus sanguineus*) is a very common tick in Australia. It is found most commonly throughout Queensland, the Northern Territory, northern Western Australia as well as the far north coast of New South Wales. It has even been found in Melbourne. This tick can be a serious problem in tropical and subtropical areas in northern Australia.

Large numbers of these ticks on a dog can result in anaemia due to blood loss as well as skin irritation and inflammation from the saliva at the bite sites. As the brown dog tick is also the vector for Babesiosis (above) and, as the likelihood of this disease spreading is very high, efforts must be made to protect your dogs from tick infestations.

In known tick areas, prevention is better than having the cure - keep the dogs covered with collars and preventative sprays.