

Canine Ehrlichiosis

A dangerous disease that may become more important with warmer summers.

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What is it? And can my dog get it?

Remember the talk of Rocky Mountain Spotted Fever two summers ago? This is that kind of disease. A disease of the blood cells caused by a bacterium called *Ehrlichia canis*. Your dog may get Canine Ehrlichiosis when bitten by the Brown Dog Tick (*Rhipicephalus sanguineus*) while visiting warmer parts of the Continent, or when bitten by a tick shared with an apparently healthy dog that is carrying the disease.

Almost all infections are picked up from this tick during the summer months in affected parts of the world. The symptoms are highly variable, making it difficult for the vet in the UK to even consider Ehrlichiosis as a possibility, while your dog is on the consulting room table. The disease results from the suppression of the bone marrow, and dramatic lowering of red blood cells and white blood cells. There have been cases in the UK. I also recall being shown a photograph of a dog that had never been outside of the UK, with symptoms of Ehrlichiosis. In this case it looked like a skin disease of the feet. German Shepherds are particularly susceptible to the disease. Retired Greyhounds from Europe must always be screened for Ehrlichiosis.

What happens when my dog contracts Ehrlichiosis? An overview of the disease process

- ≡ Your dog is unlucky to be bitten by the tick (or is even unluckier to receive a blood transfusion from a dog carrying the disease) carrying the infection.
- ≡ The Ehrlichia organism passes from the tick into your dog's bloodstream.
- ≡ There are three distinct stages to this disease:
- ≡ Stage ONE is the **Acute Phase**, and can start several weeks, even a month, after the tick bite. Your dog may have a fever, and the vet may notice a lowering of the blood counts - if those tests are done. That is the problem. Your dog may be a little under the weather, and has a fever. There are many conditions that may present like this. A day or two later your dog is much better, and you think no more of it. No blood tests may have been suggested during that time.
- ≡ Stage TWO is the **Subclinical Phase**. During this phase your dog may show no outward clinical signs and can last for the rest of its life. Your dog is infected, even though he or she looks well. It is possible for some dogs to rid themselves of the infection during this time.
- ≡ Stage THREE is the **Chronic Phase**. Your dog has a disease called Chronic Ehrlichiosis. This is a condition that results from pancytopenia, which is what it is called when your dog has very low blood counts. This can be fatal. But before it is fatal, it can present the vet with a bewildering set of symptoms that may include bleeding, skin disease, other bacterial infections, lameness, neurological problems, eye problems, kidney and liver problems, anaemia, and so on. You can see why, in the vet's consulting room, on a cold autumn day, Ehrlichiosis is the *last* thing he or she may think of. It is up to YOU to remember to mention to the vet that you have been to

Europe with your dog, or that your dog has had close contact with a dog (with a tick) from Europe. It may be a very small red coloured tick, easily missed.

What should make me think my dog may have Ehrlichiosis?

- ≡ I have been to the warmer parts of Europe with my dog, and he or she may have been bitten by a tick. I may have returned from my visit up to a month before.
- ≡ My dog feels like it has a fever. I know my dog has a fever because I have taken the temperature.
- ≡ My dog is definitely lethargic, and appears to want to do things only to please me, before going back to bed.
- ≡ My dog is off its food.
- ≡ He or she is losing weight rapidly.
- ≡ My dog is walking stiffly and appears to be in pain.
- ≡ My dog coughs every now and again.
- ≡ I've noticed that my dog has diarrhoea and has vomited.
- ≡ The eyes and nose look a little mucky.
- ≡ My dog is incoordinated, even partly paralysed.
- ≡ My dog looks like it has conjunctivitis, even in just one eye.

- ≡ My dog is showing abnormal bleeding events. Cuts are taking longer to clot. There may be little patches of bleeding in the skin, or from the nose or gums. This can look exactly like Lungworm at this point.
- ≡ My dog appears to have kidney disease.

!!! YOU CAN SEE NOW WHY YOUR VET MIGHT BE THINKING OF EVERYTHING ELSE BUT EHRLICHIOSIS. DON'T BLAME HIM OR HER FOR MISSING THE DISEASE !!!

- ≡ My dog has enlarged lymphnodes and/or an enlarged spleen. A good vet checks these things during a normal clinical examination, even when you have gone for 'just' a vaccination or 'just' a case of diarrhoea. This is when the alarm bells should definitely sound.

How does the vet diagnose Ehrlichiosis?

Once you and your vet have taken that mental leap into thinking that your dog might have Ehrlichiosis, it may still not be straightforward. It is difficult to diagnose and confirm Ehrlichiosis, when it is not something the vet is expecting, or used to seeing. The first thing to do is a careful secondary clinical examination to feel for an enlarged spleen and superficial lymphnodes. These lymphnodes are just behind the back corner of lower jawbone in the soft part of the neck (submandibular lymphnodes), in front and at the bottom of the shoulders (prescapular lymphnodes), and in the fleshy part behind the knee joint (popliteal lymphnodes). An enlarged spleen may be difficult to feel in a fat dog, but it is that dense fleshy smooth organ that sits like a wide belt behind the liver. You may have a go at feeling

how these feel in the healthy dog, so that *should that moment arise*, you will be able to tell that these things are enlarged.

The next thing the vet may suggest is a set of blood tests called a Blood Chemistry (which may show kidney and liver damage) and a Haematology (which may show the very low blood counts). The results of the Haematology are crucial, *but may take a day or two*. You may, however, be lucky and see a vet who has been trained in other parts of the world, like South Africa, and southern Europe, where any animal with a fever has a blood smear taken. He or she may immediately do this, ideally a capillary smear from the ear tip, and examine it while you wait. Ehrlichiosis can be diagnosed from a smear, but a negative smear does not mean your dog does not have the disease.

Now for the good new news! There is a Snap Test that can be done immediately, and takes only around 8 minutes, called the ‘SNAP 4Dx Plus Test’. The same test also checks for Heartworm, Lyme Disease, and Anaplasmosis. The only problem is this, however: your vet may not have this test in stock (they definitely would not have it in stock), and has to order it from IDEXX. I will let you into a secret. IDEXX is notoriously slow at getting these things to us. Even when we order it in the morning, it may still take several days to arrive.

My advice, therefore, is TREAT!!! Treat before the diagnosis is confirmed. Treat because the treatment is simple, and without side effects.

How is Ehrlichiosis treated?

- ≡ The infection is easily killed.
- ≡ The difficulties arise when your dog has the complications of bone marrow suppression, which can include organ failures, immunosuppression, haemorrhage, and

anaemia. Intravenous fluid therapy is useful. In severe cases blood transfusion is recommended.

- ≡ The antibiotic of choice is Doxycycline capsules/tablets at 10mg/kg once daily for at least two weeks. Most practices keep this antibiotic in stock, so treatment can generally be started immediately.
- ≡ Other antibiotics that have shown to be effective are Tetracycline (22mg/kg twice daily) and Oxytetracycline (25mg/kg twice daily by mouth or 10mg/kg once daily by injection).
- ≡ The other symptoms must also be treated, and may include steroids if the platelet destruction (thrombocytopenia) is severe.

What are the Risk Factors and how do I prevent Ehrlichiosis?

- ≡ This disease occurs worldwide where the necessary vector, the tick, is found. In the case of the UK, the appropriate vector is present in southern Europe, and is called *Rhipicephalus sanguineus*.
- ≡ All rescue dogs from abroad must be screened for the set of diseases that includes Ehrlichiosis even if they are apparently well. Retired Greyhounds from affected areas may suffer from the subclinical form of the disease, and must always be tested for this and other tick borne diseases. Untested, these dogs may die later in life from a variety of conditions which may have been caused by Ehrlichiosis.
- ≡ German Shepherds are especially prone to the more serious form of the disease.

- ≡ When in Europe (the affected parts; a computer search should produce up to date information), or if your dog has mixed with dogs fresh from Europe, always check your dog for ticks, and pull these off immediately. You do not need special equipment. Just pull the ticks off! It is thought that the tick has to feed for 24 – 48 hours before the disease is transmitted.
- ≡ Ticks prefer low bushes in woods, and grasses of around 30 – 40 cm in length. The immature ticks wait on the vegetation for a passing animal or person. Avoid these areas during the tick season if possible. Be vigilant.
- ≡ Use acaricide preparations to prevent ticks on your dog. There are a number of products licensed in the UK for the control of ticks on dogs. Always speak to your vet for the most impartial and up to date advice.