CANINE TICK DISEASES

EHRLICHIOSIS: THE DIAGNOSIS OFTEN FORGOTTEN

CANINE TICK DISEASES

Many pathogens are the cause of tick-borne diseases in dogs, such as **Babesia canis, Babesia gibsoni, Anaplasma platys, Ehrlichia canis,** among others. These pathogens are carried by ticks belonging to the genera Dermacentor, Ixodes and Rhipicephalus, which transmit them to the dog during their bite, via their saliva.

Dogs infected with a tick-borne disease may exhibit a variety of clinical symptoms, such as hyperthermia, lethargy, loss of appetite, dark urine, pale or yellowish mucous membranes, and occasionally vomiting.

EHRLICHIOSIS

In the acute phase of Ehrlichiosis (also called **Anaplasmosis**) caused by Anaplasma platys, Anaplasma phagocytophilum or Ehrlichia canis, **the clinical signs may go unnoticed.** If nothing is done, pathogens continue to multiply in the dog's blood. Some of them have a high tolerance to the bacterial load while other breeds, such as the German Shepherd, can develop a **chronic form** of the disease. It should be noted that, during stress, for example, the disease can occur even though the bite dates back a few months.

During a canine Ehrlichiosis infection, **co-infection** can take place in 50% of cases with other pathogens transmitted by the same vector. The chronic form of Ehrlichiosis is very serious and can cause the dog to **lose weight, joint pain and bleeding.**

At this stage, the bone marrow is irreversibly affected. Blood cells are no longer produced in sufficient quantities and the chances of survival of the animal are very low.

STANDARD DIAGNOSTIC PROTOCOL

During **the acute phase of infection,** tick-borne diseases can be diagnosed by various methods:

Serological method

Perform tests 2 weeks apart to verify Seroconversion

- By indirect immunofluorescence
- By fixing the complement
- By ELISA techniques (mainly used for chronic piroplasmosis)

Biological or biochemical method

- By CBC: anaemia and thrombocytopenia
- By biochemistry: hyperglobulinemia

Research method the pathogen or its genome

- By blood smear (low sensitivity)
- By PCR (to be done before antibiotic treatment)

FOR OPTIMAL EFFICIENCY, it is recommended to use several of these methods, as they detect different elements and complement each other.

PREVENTION OF TICK-BORNE DISEASES IN DOGS:
PRACTICAL RECOMMENDATIONS FOR VETERINARIANS

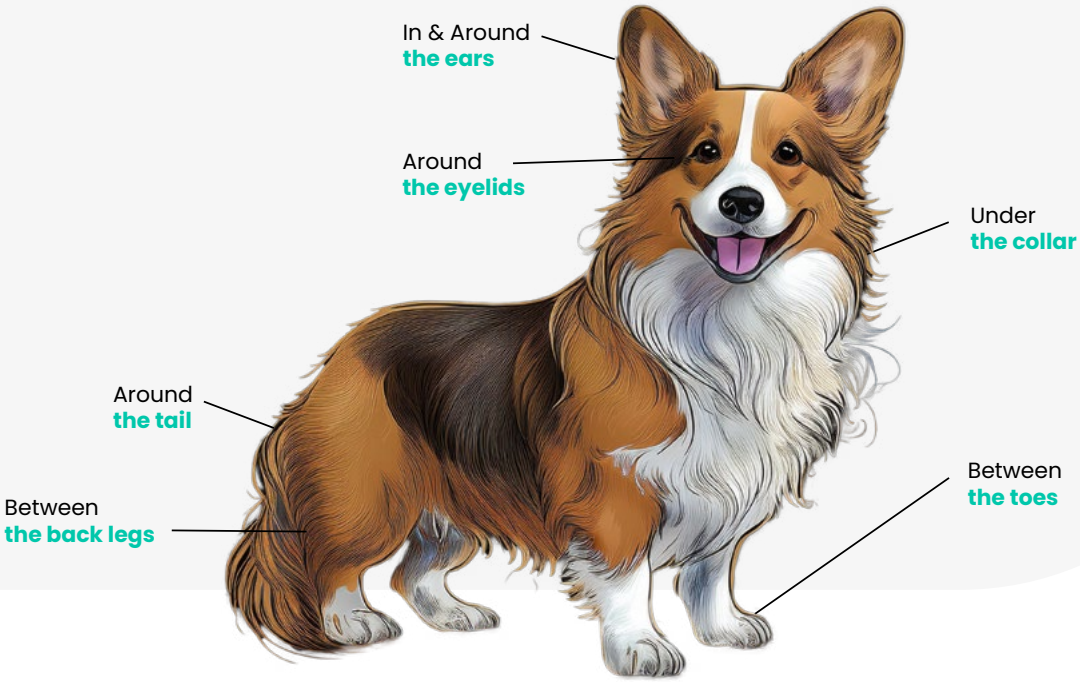
Tick-borne diseases, such as **babesiosis** and **ehrlichiosis**, represent a constant challenge to canine health. Despite the lack of vaccines for some of these diseases, there are effective preventive strategies that veterinarians can recommend to their clients

1

Regular use of parasite control treatments:
Parasite control treatments remain essential in the **prevention of tick infestations.** Recommend the use of acaricidal collars, pipettes, sprays or tablets, tailored to each dog's specific needs and environment.

2

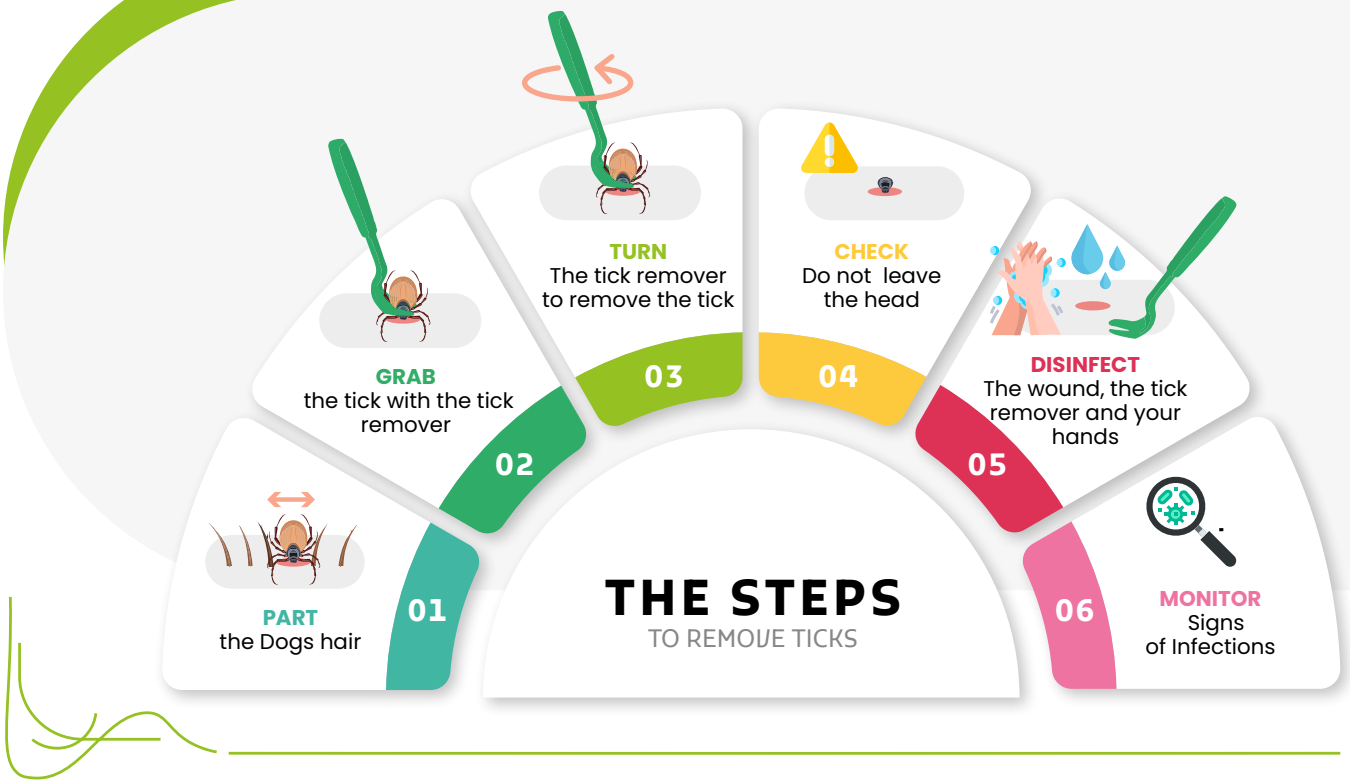
Where to check your dog for ticks:



3

Tick monitoring and removal:
Encourage owners to **monitor their dogs regularly** for ticks. As soon as a tick is seen, it must be removed with a tick remover. It is also important to **monitor the bite and the dog's general condition** for several days, in order to **detect any signs of illness early.**

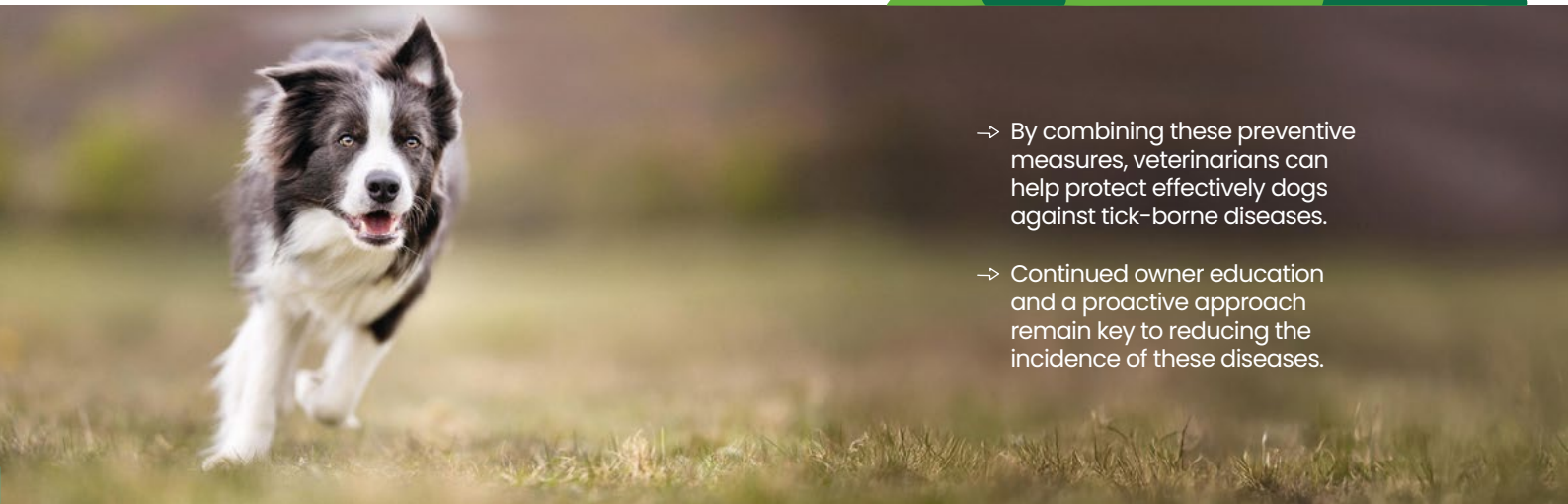
TIPS FOR OWNERS TO REMOVE TICKS



4

Reducing exposure to ticks:
To limit the risk of infestation, **advise avoiding walks in tall grass or in the forest,** especially during periods of high tick activity.

These areas represent an increased risk of contamination for dogs.



→ By combining these preventive measures, veterinarians can help protect effectively dogs against tick-borne diseases.

→ Continued owner education and a proactive approach remain key to reducing the incidence of these diseases.

DIAGNOSTIC

COMPARISON OF THE DIFFERENT DIAGNOSTIC METHODS ON ACUTE CASES

Acute tick-borne diseases in dogs, such as **babesiosis** and **ehrlichiosis**, require a **quick** and **accurate diagnosis for effective management.**

Several methods are available to identify the pathogens involved. **Light microscopy** allows the identification of ticks, **the examination of pathogens in their salivary glands**, or in the biological samples of the infected animals while **serology** detects the **presence of specific antibodies directed against the pathogen** infecting the animal (it is therefore an indirect detection of the pathogen). PCR, on the other hand, offers **sensitive and direct detection of pathogens via their DNA,** even in small quantities.

The combination of these methods improves the reliability of the diagnosis.

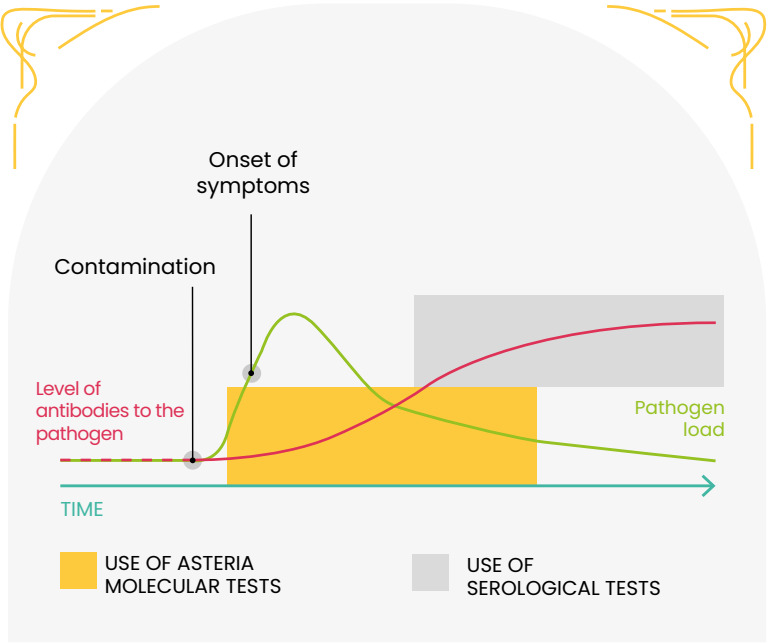
	Microscopy in the clinic	Serology at the clinic	PCR in an external laboratory	Tests Astéria® (LAMP-Technology)
Specificity	▭	▭	✓	✓
Accurate identification of the pathogen species	✗	✗	✓	✓
Sensitivity	▭	▭	✓	✓
Response time	✓	✓	▭	✓

OUR ENALEES SOLUTION

Advantages of PCR-LAMP tests over serological tests in the aid of diagnosis:

Our **Asteria®** tests are **molecular biology** tests. They directly detect **the DNA of the pathogen** and can therefore be used from the **beginning of the infection** even before symptoms are detectable or the immune response is put in place.

Their **sensitivity is very close to that of PCR,** but the results are obtained in **30 minutes.**



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