BETWEEN PIROPLASMOSIS AND ANAPLASMOSIS:
A NUANCED DIAGNOSIS

ISOLATED EQUINE FEVERS

Equine vector-borne diseases, such as **piroplasmosis** and **anaplasmosis**, are vector-borne-infections that are often responsible for similar clinical symptoms. However, these pathologies differ in their origin, geographical distribution and seasonality, making differential diagnosis essential to ensure rapid and effective treatment.

TWO DISEASES WITH SIMILAR SYMPTOMS BUT DISTINCT CAUSES

Equine piroplasmosis is caused by the **protozoan parasites** *Babesia caballi* and *Theileria equi,* transmitted by ticks of the genus Dermacentor, *Ixodes* and *Rhipicephalus*. When they bite, these ticks inoculate the parasites through their saliva, causing **clinical signs such as hyperthermia, despondency, anaemia and hepatorenal disorders in the horse. In acute forms**, the course can be **fatal in less than 72 hours** without appropriate treatment.

Equine anaplasmosis, on the other hand, is a **bacterial disease** caused by *Anaplasma phagocytophilum*, transmitted mainly by *Ixodes* ticks.

It causes **symptoms** similar to those of **piroplasmosis**, such as **fever, lethargy, anorexia, limb oedema**, and **thrombocytopenia.**

Often underdiagnosed, anaplasmosis is nonetheless present in Europe and North America, with distinct seasonal activity periods.

GEOGRAPHICAL DISTRIBUTION AND SEASONALITY:
A KEY FACTOR IN THE RISK OF INFECTION

Piroplasmosis is widely distributed in **tropical, subtropical and temperate regions**, including **South America, Africa, Asia** and **Southern Europe.** It tracks tick activity, with an increased **prevalence in spring** and **summer in temperate zones.**

Anaplasmosis, on the other hand, is more common in the **wooded and humid regions of Europe**, **North America**, and **Asia**. Its infection cycle is bimodal, with peaks in **spring** and **autumn**, when ticks of the genus *Ixodes* are most active.

DIAGNOSTICS

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

Serological method
Testing 2 weeks apart to check for seroconversion
- By **indirect immunofluorescence**
- By **fixing the complement**
- By **ELISA techniques**
  (mainly used for chronic piroplasmosis)

Method of searching for the parasite (microscopy)
- By blood smear (low sensitivity since the number of parasites is very low)

Gene amplification by PCR or LAMP is a great option. It offers **high sensitivity** as well as **simple and fast identification of the pathogen.**

For maximum effectiveness, it is recommended to combine several of these methods, as they are complementary and can detect different elements.

TREATMENT

Imidocarb is a drug **that does not have an MA for equine treatment.** Its injection is very violent for the horse, leading to spams, tremor, or convulsions.

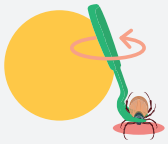
Digestive issues are frequent, and colic or vomiting must be taken seriously as they can **result in fatal exhaustion.** Imidocarb should therefore only be used if a **positive case of piroplasmosis is established.**

Anaplasmosis is often underdiagnosed and should not be treated with Imidocarb but with antibiotics. **Differentiating between piroplasmosis and anaplasmosis is essential for proper treatment.**

HOW TO PREVENT ISOLATED EQUINE FEVERS?

There is no vaccine against piroplasmosis or anaplasmosis in horses, so here are some recommendations to give to your clients to avoid its occurrence:

USE an acaricide to be diluted in water and applied to the horses' backs to repel ticks. Avoid excessive use to prevent resistance.



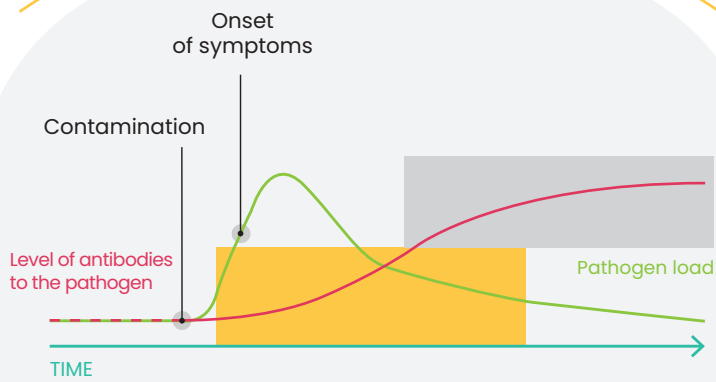
REMOVE ticks promptly with a **tick remover** and monitor the bite site and the horse's overall condition over the following days.

MAINTAIN their living space such as the hedges around the stud paddocks.

WITH EPONA® : A FAST AND SENSITIVE DIAGNOSIS

Epona® tests are **molecular biology** tests that **directly detect the DNA of the pathogen** and can therefore be used from the **beginning of the infection** even before symptoms are detectable.

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



COMPARISON OF THE DIFFERENT DIAGNOSTIC METHODS

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

ENALEES
Le Nouvel Art du diagnostic

FOR MORE INFORMATION, PLEASE CONTACT US AT THE FOLLOWING ADDRESS: CONTACT@ENALEES.COM

ENALEES.COM

EPO-INF-002 - Enalees - 815288469 RCS Evry - Photo credits : Adobestock, Alain Potignon - Design www.agence202.com - April 2025