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## Research on liver fluke in horses at the University of Liverpool

We are currently conducting a research study to investigate the impact of liver fluke on the health of horses.

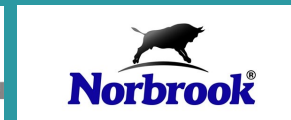
Part of this is a case control study to find out whether horses with liver disease are more likely to be infected with liver fluke than healthy controls.

We are recruiting horses with possible liver disease for inclusion in the study. If you would like more information about the study please contact Alison Howell or see our website

[www.liverpool.ac.uk/infection-and-global-health/research/liver-fluke-horses/](http://www.liverpool.ac.uk/infection-and-global-health/research/liver-fluke-horses/)



We are grateful to the Animal Welfare Foundation for funding a study conducted by the University of Liverpool investigating “The impact and prevalence of liver fluke in UK horses” and for providing the funding to produce this information leaflet. More information about their work can be found at [www.bva-awf.org.uk](http://www.bva-awf.org.uk) Production of this leaflet was part sponsored by Norbrook



#### Contact:

Alison Howell (Liver fluke research study)  
07889 644864  
[ahowell@liverpool.ac.uk](mailto:ahowell@liverpool.ac.uk)

Or follow us on twitter @HorseLiverfluke

Paul Gilmore (Liverpool Veterinary Parasitology Diagnostics - for liver fluke tests)  
0151 794 1178  
[Gilmore@liverpool.ac.uk](mailto:Gilmore@liverpool.ac.uk)

Diagnosteq (Other equine parasitology diagnostics)  
0151 794 6184/6158  
[diagnost@liverpool.ac.uk](mailto:diagnost@liverpool.ac.uk)



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# Equine Fasciolosis



## What is equine fasciolosis?

## How is it diagnosed?

## How can it be treated?

[www.liverpool.ac.uk/infection-and-global-health/research/liver-fluke-horses/](http://www.liverpool.ac.uk/infection-and-global-health/research/liver-fluke-horses/)



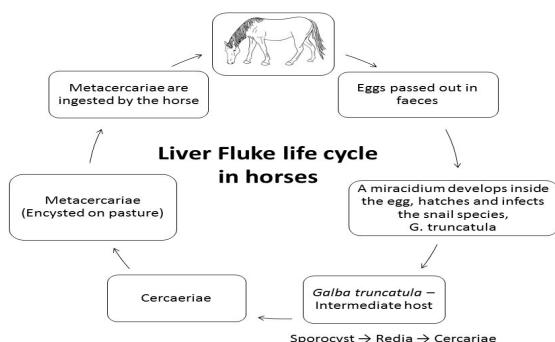
## What is Equine Fasciolosis?

Fasciolosis is a condition caused by the parasitic trematode, *Fasciola hepatica*, otherwise known as liver fluke.

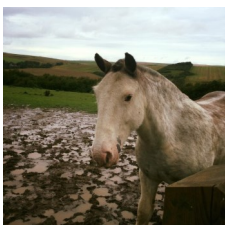
It is a common cause of disease in grazing ruminants and is widespread throughout the UK. Liver fluke can also infect other grazing animals, including horses, donkeys, deer and rabbits.

Disease results from damage to liver parenchyma caused by the migration of a large number of immature fluke, or from the presence of adult fluke in the bile ducts, or both.

## What is the Liver Fluke lifecycle?



The hatching of fluke eggs, the development of the parasite and the multiplication of snails depends on adequate moisture and temperatures greater than 10°C. These conditions are usually localised to damp areas of pasture and occur from May-October in the UK.



## How is Liver Fluke diagnosed?

### Clinical Signs

Horses and donkeys with liver fluke burdens are frequently asymptomatic. However, reported<sup>1,2,3,4</sup> clinical signs include:

- **Weight loss**
- **Jaundice**
- **Poor performance**
- **Lethargy**
- **Anaemia**
- **Diarrhoea**
- **Raised liver enzymes, including GGT**

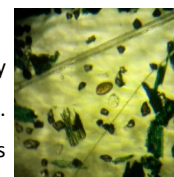


Liver fluke appears to commonly affect horses in that are in moderate to good body condition and older horses are frequently infected<sup>1,2</sup>. There does not appear to be a relationship between liver fluke infections and concurrent nematode infections in horses<sup>1</sup>.

Co-grazing horses with ruminants including cattle and sheep is a strong risk factor for horses being infected with liver fluke. Studies report the majority of infected horses have a history of grazing land previously used by ruminants<sup>1,2</sup>.

### Diagnostic tests

Faecal sedimentation assays are commonly used to detect the presence of liver fluke eggs. This test is not reliable in horses and donkeys due to the sporadic shedding of eggs and not all infections appear to reach patency<sup>3</sup>.



Antibody detection enzyme-linked immunosorbent assay (ELISA) is more sensitive than faecal assays. This test is suitable for horses, not donkeys, and indicates a current or recent infection.

ELISA and faecal testing are available from Liverpool Veterinary Parasitology Diagnostics. [www.liverpool.ac.uk/lvpd](http://www.liverpool.ac.uk/lvpd)

## How can Liver Fluke be treated?

Currently there are no flukicidal treatments licensed for horses or donkeys in the UK, therefore treatment must be prescribed using the cascade.

From a recent survey of veterinary surgeons, triclabendazole is reportedly the most widely used product and appears to be safe and effective. In areas where triclabendazole resistance occurs, closantel is being used<sup>1</sup> Other options which are mentioned in the literature but which were not reported in our study are oxiclozanide and nitroxylin. See the table below for details.

Drug (Reference)	Dose (mg/kg bodyweight)	Route of treatment	Regimen of treatment	Fluke stage targeted	Potential side effects
Triclabendazole (1,7,8,9)	15	Oral	Single dose	From 2 weeks old	No adverse effects reported
Closantel (1,5)	10	Oral	2 doses 8-10 weeks apart	From 6-8 weeks old	No adverse effects reported. Possible blindness in very high doses
<b>Alternative treatments used in cattle in sheep in the UK but usage in horses not reported in our survey:</b>					
Oxiclozanide (2)	10	Oral	2 doses 8-10 weeks apart	Adult only	Mild colic and diarrhoea may occur
Nitroxylin (10)	7	S/C injection	2 doses 60-70 days apart	From 6-8 weeks old	No adverse effects reported. Blindness and neurological signs have been noted in sheep overdoses