

Common Equine Internal Parasites

There are 3 classes of internal parasites that are of clinical significance to horses in the UK.

- 1) Round Worms
- 2) Tape Worms
- 3) Insects – Bots

Mixed infections of round worms and tapeworms are common in horses.

Round Worms

These are the largest group of intestinal worms to affect horses. Horses of all ages can be affected, with some worm species affecting young stock more than others.

Most Important Round Worms

a) Small Strongyles (Cyathostomins/ Small Red Worms):

Cyathostomins are the most common intestinal worm to affect horses. >95% of a horse's parasite burden will be attributed to cyathostomins. The adult worms live in the large intestine (caecum and colon) and are attached to the intestinal wall.



Infective larvae that are ingested burrow into the large intestine wall and become encysted. The larvae either emerge from the gut wall within a few weeks and develop into adults, or they enter a period of hibernation known as 'hypobiosis' and remain encysted in the gut wall. The encysted larvae will develop at some point, subsequently emerging 'en-masse' from the gut wall. This usually occurs in late winter/ early spring and gives rise to the clinical signs associated with the disease syndrome known as larval cyathostominosis.

This disease syndrome is potentially fatal and has a 50% mortality rate. The cause of mass emergence is not clearly understood but has been associated with seasonality and recent (within 2 weeks) adulticidal worming treatment.

Clinical signs include:

- Diarrhoea
- Rapid and severe weight loss
- Fluid swelling (oedema) due to protein loss
- Colic
- Death

Horses most at risk are young stock (< 6 years) but as there is life long susceptibility, horses of any age can be affected during any season.

b) Large Strongyles (Large Red Worms)

The use of modern wormers has reduced the large red worm population so that they have virtually been eliminated from horses in the UK. Larvae that are ingested by the horse migrate through major blood vessels or different organs, depending on the worm species, finishing as nodules in the large intestine.

Clinical signs can include colic. Infestation can prove to be fatal if blood vessels are targeted and blocked.

c) Ascarids (Parascaris equorum)

These are mainly found in foals as horses develop immunity by approximately 18 months of age. Larvae penetrate the wall of the small intestine. They subsequently migrate to the liver and the lungs where they are coughed up into the bronchi and trachea, swallowed, and return to the small intestine to develop into adults and lay eggs.



Clinical signs include:

- Coughing
- Poor growth rates
- Dull coat
- Intestinal Impaction due to large number of adults causing a blockage in the intestine. This can occur after worming. This can be fatal if not treated and can result in intestinal rupture.

d) Pin Worm (Oxyuris equi)

Pinworms can cause the classical clinical sign of tail rubbing/ itching due to the adult worms laying eggs around the perineal skin once they have migrated from the large intestine. These worms are not harmful, just a source of irritation. Pinworm adults and larvae are susceptible to most wormers.



e) Intestinal Threadworm (Strongyloides westeri)

These worms are only a major problem in foals as horses develop immunity to infection by 6 months of age. The larvae are passed from the mare's milk to the foal, where they migrate via the trachea to the lungs and are then swallowed. Development to adults and the laying of eggs occurs in the small intestine.

Clinical signs associated with this infection include:

- Diarrhoea
- Anorexia
- Dullness
- Loss of Weight
- Reduced growth rate

Other Less Important Round Worms

f) Hairworm (*Trichostrongylus axei*)

Infection only occurs if horses co-graze with cattle and sheep. Larvae develop to adults in the stomach, where they lay eggs. Clinical signs vary depending on the extent of infestation. Low infestations cause loss of appetite, poor growth rates and soft faeces. Heavy infestations can cause weight loss and diarrhoea.

g) Stomach Worm (*Habronema spp*)

Flies deposit larvae either around the horses eyes, causing irritation and conjunctivitis or around the mouth/ nostrils where they are either swallowed or migrate to the lungs. Development to adults in the stomach can cause a mild gastritis also known as 'summer sores' (non-healing ulcers).

h) Neck Threadworm (*Onchocerca spp*)

Biting midges deposit larvae in the subcutaneous tissues of the horse. The developing larvae migrate around superficial layers of the skin to ligaments in the neck, flexor tendons and suspensory ligaments causing skin irritation and swelling of the tendons and ligaments. Larvae may invade the lens of the eye, potentially causing blindness.

i) Lungworm (*Dictyocaulus arnfieldi*)

Lungworm rarely infects horses and is typically found in donkeys. Clinical signs if they are present tend to include a chronic cough and increased respiratory rate. Infection can possibly lead to secondary pneumonia. Horses are unlikely to pick up the parasite unless they are grazed with donkeys.

Tapeworms – *Anoplocephala spp*

Anoplocephala perfolita is the main species of tapeworm in the UK to affect horses. Horses accidentally ingest forage mites that have eaten the tapeworm eggs. Adults then develop in the horses' intestines and are typically found in the junction between the small and large intestine.



Clinical signs include:

- Un-thriftiness
- Hair loss
- Enteritis
- Colic – spasmodic/ ileocaecal colic
- Intussusception
- Fatal intestinal rupture

Insects: Bots (*Gasterophilus spp*)

The two most common species of bots (fly larvae) are *G. intestinalis* and *G. nasalis*. Flies lay their eggs on horses around the chin, mouth, lips, shoulders and forelegs depending on the species. Larvae are transferred to the tongue through licking, where they penetrate the tongue or cheek lining before passing down the oesophagus into the stomach. Once in the stomach, bots can remain here for up to a year before developing and maturing.



Clinical symptoms associated with bots include mild damage to the mouth and gums and possible stomach ulcers.

Types of Wormers

Despite there being numerous different equine wormers on the market, there are actually only a handful of drugs that can be used. The summary below highlights the drugs found in wormers that are capable of killing the different worms.



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EQUINE PRACTICE

Worm	Active Drug
Small Red Worm - Adults and Larvae (Non-encysted)	- Moxidectin - Ivermectin - Fenbendazole - Mebendazole - Pyrantel
- Larvae (encysted)	- Moxidectin - Fenbendazole (5 day course)
Large Red Worm (Adults and Larvae)	- Moxidectin - Ivermectin - Fenbendazole - Mebendazole - Pyrantel
Other Round Worms	- Moxidectin - Ivermectin - Fenbendazole - Mebendazole - Pyrantel
Tapeworm	- Praziquantel - Double dose Pyrantel
Bots	- Moxidectin - Ivermectin

NB: There is an increasing problem with **RESISTANCE** to Benzimidazole wormers (Fenbendazole and Mebendazole) and also those containing Pyrantel in certain areas.