Internal parasites pose a relevant and common health risk to horses; thus, it is important for you to understand the major internal parasites in horses and some of the common anthelmintics used to treat these parasitic infections. This PowerPage is not intended to cover every parasite that a horse may acquire, but will present some of the major parasites in horses and some common dewormers.

**Key Points**

- Internal parasites of the gastrointestinal system can cause significant health problems in horses, manifesting as weight loss, diarrhea and/or colic.
- Numerous anthelmintics are available to combat internal parasites, but resistance to commonly-used medications is developing.

**Gastrointestinal Parasites**

**Large Strongyles**

Significant cause of intestinal disease in horses, which may result in colic, diarrhea and/or chronic weight loss. The adult strongyles are located within the cecum and colon of infected horses, but this group of parasites also migrates throughout host tissues during the developmental stages resulting in damage to various organs. The members of large strongyle family are:

*Strongylus vulgaris*

- *S. vulgaris* is most commonly associated with clinical signs of disease; however, with the advent of modern anthelmintics, colic as a result of *S. vulgaris* is fairly infrequent.
- Larvae penetrate submucosal arteries and migrate along endothelium to the cecal and colic arteries and then to the base of the cranial mesenteric artery; they return to the intestine via the arteries.
- As parasites migrate through mesenteric arteries, they can cause thrombosis, inflammation and infarction with subsequent necrosis of the intestine.

*Strongylus edentatus*

- Larvae invade gut wall, penetrate blood vessels and migrate to liver via the hepatic portal vein; larvae then travel through the liver and return to the large intestine via the mesentery.
- Migration may or may not result in observable clinical signs.
Large Strongyles (Cont.)

*Strongylus equinus*
- During maturation, larvae leave the intestine and migrate to the liver; from there they migrate back to the large intestine.
- Migration may or may not result in observable clinical signs.

*Anoplocephala perfoliata*

Anoplocephala, also known as the equine tapeworm, may or may not be a common cause of colic in the horse. This parasite inhabits the region of the ileocecal junction and can produce ulcerations of the mucosa. They have been associated (and implicated by some) with intussusceptions, but it is not specifically known if these tapeworms are the cause of the intussusception, or are they simply present in this region and observed during colic surgery.

*Parascaris equorum*

*P. equorum* (also known as roundworms or ascarids) causes disease in foals and is not a significant parasite in the adult horse. Adult horses develop immunity to ascarids and thus are not associated with disease in adults. Disease in foals results in ill thrift and poor weight gain, but can also result in significant disease from such a heavy burden of large worms resulting in intestinal impaction.

5-month old Quarter Horse colt with a history of poor weight gain and ill thrift. The left reveals a heavy burden of roundworms (white linear structures) throughout a dilated small intestinal loop. The image on the right demonstrates the round worms upon surgical removal.
Cyathostomes (Small Strongyles)

Cyathostomes, also known as small strongyles, include a number of species (40+) and can cause severe diarrhea in adult horses. This condition, known as larval cyathostomiasis, typically occurs in the late winter or spring and is associated with the simultaneous emergence of a large number of fourth-stage larvae from the intestinal mucosa. This rapid emergence results in significant diarrhea, weight loss, hypoproteinemia and possibly death.

Respiratory Parasites

Dictyocaulus arnfieldi (Equine Lung Worm)

Dictyocaulus arnfieldi infections are commonly observed in donkeys, but rarely produce clinical signs. In fact, donkeys and mules have been suggested to be the natural host and inapparent carriers for this parasite. Horses acquire this infection through contact with donkeys or their pasture, and experience more severe signs including bronchial inflammation and chronic cough. The lung worm can grow upwards of 16cm long.

Keep in mind that while *P. equorum* is not a “lung worm,” the larvae migrate through the lung of foals and can produce signs of respiratory disease.

Equine Anthelmintics

Deworming is an important preventative measure to ensure the health of a horse. However, recent literature has documented increasing resistance to various anthelmintics. Standard deworming protocols have been re-examined. A basic review of the common anthelmintics is presented here, but keep in mind that regional resistance to some of these medications may be present. (This table is intended as guide; recommendations to clients should be based on veterinary recommendation.)
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<td>Affect glutamate-gated chloride channels</td>
<td>Lg Strong; Mig Lg Strong Larvae; Cyathostomes; Ascarids; Bots</td>
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<tr>
<td>Benzimidazoles</td>
<td>Fenbendazole, Oxfendazole, Mebendazole</td>
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Adapted From: Equine Clinical Pharmacology (2004); Ed: Bertone JJ, Horspool LJ; pg 65.

Lg Strong – adult large strongyles; Mig Lg Strong – migrating large strongyle larvae; Cyathostomes – adult small strongyles
References