AAEP
American Association
of Equine Practitioners
Horse Health Education
INTERNAL PARASITES
Strategies For Effective Parasite Control
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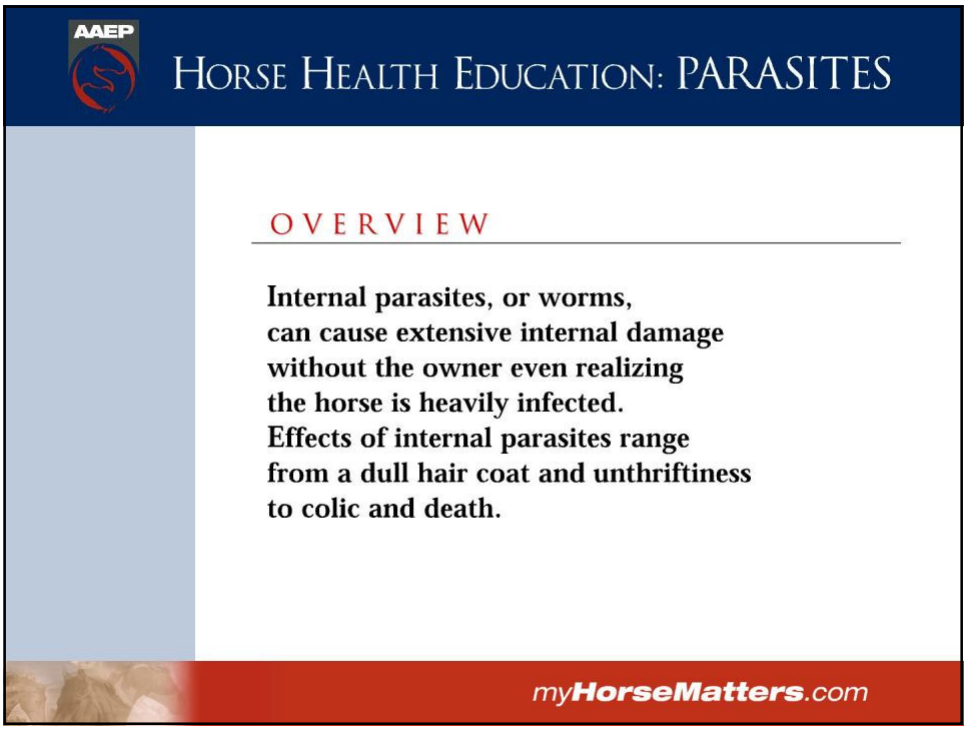
AAEP
HORSE HEALTH EDUCATION: PARASITES
OVERVIEW
Internal parasites, or worms,
can cause extensive internal damage
without the owner even realizing
the horse is heavily infected.
Effects of internal parasites range
from a dull hair coat and unthriftiness
to colic and death.
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OVERVIEW

Effects of internal parasites:

- Lower the horse's resistance to infection
- Rob the horse of valuable nutrients
- Cause permanent damage to internal organs

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OVERVIEW

Establishing an effective parasite control program is second only to supplying the horse with clean, plentiful water and high-quality feed.

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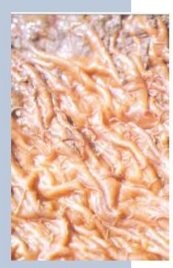

TYPES OF INTERNAL PARASITES

There are more than 150 species of parasites that can affect the horse. The following are the most common and troublesome:

- Large strongyle (bloodworms or redworms)
- Small strongyle
- Ascarids (roundworms)
- Tapeworms

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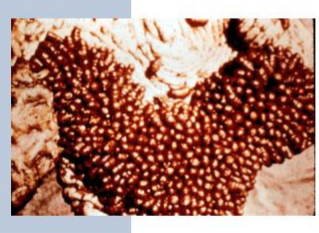
TYPES OF INTERNAL PARASITES



- Lungworms
- Pinworms
- Bots
- Threadworms

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LIFE CYCLE OF THE PARASITE

- Eggs
- Larvae (immature worms)
- Adults (mature worms)

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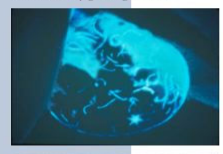
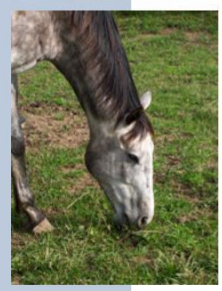
Water droplet on blade of grass containing parasites that will be consumed by grazing horse.





LIFE CYCLE OF THE PARASITE

- Eggs or larvae are deposited on the ground in the manure of an infected horse.
- They then develop in the environment; eventually being swallowed while the horse is grazing.
- Larvae then mature within the horse's digestive tract, with some parasites migrating into other tissues or organs before returning to the intestines to mature into egg-laying adults.

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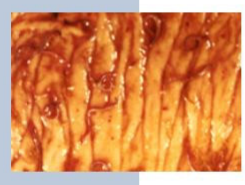
LARGE STRONGYLE



As larvae, large strongyle penetrate the lining of the bowel and migrate along the blood vessels that supply the intestines.

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LARGE STRONGYLE

Infection of large strongyle can cause:

- Unthriftiness
- Weight loss
- Poor growth in young horses
- Anemia
- Colic

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CAN THEY BE CONTROLLED?

Large strongyle can be controlled effectively using macrocyclic lactones and related dewormers.

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SMALL STRONGYLE

Small strongyle larvae do not migrate through the tissues, but burrow into the lining of the intestines where they remain dormant, or "encysted," for several months before completing their life cycle.

During this time, most dewormers do not affect larvae.

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SMALL STRONGYLE

Infection of small strongyle can cause:

- Severe damage to the lining of the intestines, especially when large numbers of larvae emerge from the dormant stage
- Colic and diarrhea
- Weight loss

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SMALL STRONGYLE

- Slow growth in young horses
- Poor coat condition
- Lethargy

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CAN THEY BE CONTROLLED?

Early and late larval stages as well as the adult parasites are susceptible to several dewormers.

There are only a few dewormers that are effective against the encysted larval stage, which causes the most damage.

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ASCARIDS (ROUND WORMS)

These parasites are most often a problem in young horses (especially foals, weanlings and yearlings).

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ASCARIDS (ROUND WORMS)

Infection of adult ascarids in large numbers can cause blockage (impaction) of the intestines.

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ASCARIDS (ROUND WORMS)

Ascarid infection in young horses can cause:

- **Coughing**
- **Poor body condition and growth**
- **Rough hair coat**
- **Pot belly and colic**

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ASCARIDS (ROUND WORMS)

Colic is most often seen when deworming older foals (over 3 months of age) for the first time, which are heavily infested with ascarids.

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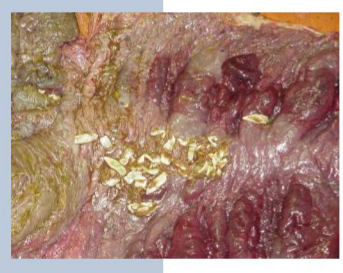

TAPEWORMS

Tapeworms are now known to cause colic, ranging from mild cramping to severe symptoms. The tapeworm lifecycle consists of a tiny mite as an intermediate host, which is present within the food source of the horse. Horses are at risk when they consume this mite in grass, hay or grain.

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OTHER INTERNAL PARASITES

Lungworms – cause chronic coughing in horses, ponies and mules. Donkeys are the natural host of this parasite.

Pinworms – lay their eggs on the skin around the horse's anus, creating an irritation that causes the horse to repeatedly rub its tail.

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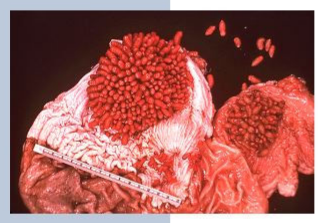
OTHER INTERNAL PARASITES



Bots – can damage the lining of the stomach where they attach. They can also cause ulcerations within the mouth where larvae burrow into the tissues after the eggs have been consumed.

Threadworms – are mostly a problem within young foals, in which they can cause diarrhea.

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SIGNS OF PARASITISM

Signs of parasitism may include:

- Dull, rough hair coat
- Decreased stamina, lethargy or depression
- Unthriftiness or loss of condition
- Slowed growth in young horses
- Pot belly (especially in young horses)
- Colic and diarrhea

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FECAL EGG COUNTS

This is a simple test that can determine whether the infection is light, moderate or heavy. It is also useful in developing a deworming program. Results are most useful when several horses on a farm are tested on the same day, giving an idea of the level of parasitism on the property.

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FECAL EGG COUNTS

A negative fecal result *does not mean* the horse is free of internal parasites.

Larvae do not produce eggs at all and may be present in large numbers in a horse with a fecal count of zero.

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DEWORMERS

It is best to use a broad-spectrum dewormer as the basis of your deworming program. Tapeworms or encysted small strongyle may require a more specific dewormer.

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DEWORMERS

NO **deworming product is 100% effective in ridding the horse of all internal parasites.**

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DESIGNING A DEWORMING PROGRAM

There are three basic types of deworming programs:

1. *Continuous* – feeding a daily dewormer year-round or throughout the grazing season. This effectively prevents new infections from larvae picked up during grazing. This method *does not* kill bots.
2. *Interval* – deworming at regular intervals of 1,2 or 3 months, depending on the product and management system.
3. *Strategic* – deworming at only certain times of the year or when the fecal egg count rises.

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DESIGNING A DEWORMING PROGRAM

Rotating products too often could create strains of parasites that are resistant to multiple products. The ideal program for your horse depends on the type, number and ages of the horses on the farm, pasture management and your geographic location.

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METHODS OF ADMINISTRATION

There are three ways to administer dewormers:

1. Oral paste syringe
2. Feed additive (powder, liquid or pellets dressed over the grain)
3. Nasogastric (stomach) tube

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A COMPLETE MANAGEMENT PROGRAM

As parasites are primarily transferred via manure, good management is essential.

- **Keep the number of horses per acre to a minimum to prevent overgrazing and pasture contamination with parasite eggs and larvae.**
- **Dispose of manure regularly (at least twice a week for both dirt or sand yards).**

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A COMPLETE MANAGEMENT PROGRAM

- **Do not spread manure on fields that are to be grazed by horses; compost it in a pile away from the pasture.**
- **Mow and harrow pastures periodically.**
- **Larvae can survive freezing temperatures, but cannot tolerate extreme heat and dryness.**
- **Keep foals and weanlings away from yearlings to reduce exposure to ascarids and other parasites.**

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A COMPLETE MANAGEMENT PROGRAM

- Use a feeder for hay and grain rather than feeding on the ground.
- Remove bot eggs regularly from the horse's hair coat.
- Set up an effective deworming program with your veterinarian and monitor its effectiveness.

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Photos courtesy of
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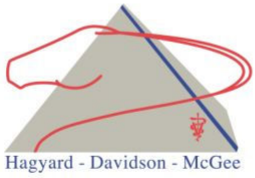
and *The Horse* magazine



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