

Equine Parasites

By Michelle Pinney, DVM

Equine parasites can create a significant financial burden and source of stress for horse owners. For horses, they can certainly cause distress, difficulty gaining weight, an inability to reach full growth potential, other medical problems, and even death. Let's take a closer look at the life cycle, diagnosis, treatment, and prevention of the common types of parasites that we find in our horses.

We can break the more significant equine parasites down into three general groups:

1. Roundworms: which includes strongyles and ascarids. Strongyles can be more specifically classified as large (one of which is the bloodworm), and small strongyles.

2. Tapeworms

3. Bots

Commonly, we see the stomach and intestines of horses affected by parasites; however, they can also migrate through other tissues in the body.

Let's take a closer look at the life cycles of these groups of parasites:

1. Roundworms:

This group includes Strongyles and Ascarids, which both have similar life cycles. Eggs are passed in feces, thereby contaminating the ground. Both eggs have an outer protective skin that helps them to survive in the environment for months. Once conditions are optimal, strongyle eggs hatch and become infective larvae. This process takes about one week for strongyles. The larvae can crawl up grass or gain access to water, where they can be ingested by horses. Ascarids, on the other hand, are ingested while they are still eggs and hatch once inside the horse's stomach.

Once inside the horse, large strongyle larvae migrate within the walls of the arteries that are responsible for supplying blood to the gastro-intestinal (GI) tract. Once here they wreak havoc on the GI tract by forming blood clots in the arteries, thereby blocking the blood supply to intestines and causing colic. If the blockage is complete, the intestine can die and kill the horse. The large strongyles require about six months to

fully develop, which is much more time than is required by small strongyles. Once sexually mature the large strongyles will attach to the inside of the large intestine where they lay eggs and suck blood. The small strongyle larvae also migrate, but instead of affecting the arteries they form nodules in the walls of the intestines, where they can cause digestive problems. Small strongyles are sexually mature in about six weeks; they also attach to the intestinal lining and lay eggs, but they do not suck blood.

Ascarid larvae migrate through the walls and into the bloodstream where



Above: Roundworms in intestine
Below: Tapeworm



they travel to the liver and lungs. After arriving in the lungs, the larvae are coughed up and then swallowed. Full development occurs in the small intestine and takes about ten weeks. Although ascarids don't suck blood, they can grow to 10-12 inches in length, group together in the small intestines, and in doing so cause the intestine to rupture.

2. Tapeworms

Tapeworm eggs are also passed in feces and contaminate the ground. Once the eggs are on the pasture, they mature inside oribatid mites (which do not affect horses). These mites are typically common on pasture ground and are easily ingested by horses. After gaining access to the horse's intestines the tapeworm matures where the large and small intestine meets and can cause weight loss, poor weight gain, and colic.

3. Bots

Bots from affected horses are shed in feces onto pasture ground. Adult flies form from the shed bots. These flies then deposit eggs on the legs, chest, mouth, and neck of horses. Bots gain access to the inside of the horse in one of two ways: the horse ingests them when the horse bites or chews on an affected area or alternatively the larvae migrate on their own. Once inside, the larvae further develop in the tongue or gums (approximately 1 week). They then emerge and are swallowed into the stomach where they attach.

How do we diagnosis parasitism?

Routinely, horses receive dewormer without a diagnosis of parasites. However, since we are seeing more resistance to dewormers, performing fecal examinations to determine if and what type of parasites your horse has is highly recommended. Once the type of parasite has been determined, the appropriate dewormer can be selected.

Treatment for parasites

The recommended treatments could be an article all by itself, so this will be a very brief listing of different options.

Continued on page 53

“Parasites;” *(Continued from page 4)*

The most common medications used are paste tube dewormers. These include ivermectin, pyrantel pamoate, fenbendazole, praziquantel, and other similar drugs. There are also daily feed-through pelleted dewormers that can be added to feed. Different deworming protocols are recommended, depending upon a horse's life style as well as a barn's management technique.

Consult your veterinarian for recommendations on appropriate deworming protocols for your horses.

Prevention of parasites

Picking up manure from pastures, paddocks, and lots can help to reduce the parasitic burden. Raking areas to expose any remaining feces to the sun will help to expose the eggs and "bake" them.

About the Author:

Michelle Pinney, DVM

I grew up in Southeast Iowa and graduated from Winfield-Mt. Union High School in 2000. Growing up, I showed Quarter Horses in as many events as I could participate, but mainly in western performance events. My summers were also filled with numerous 4-H projects and activities, and FFA competitions.

I received my Bachelors of Science in Biology from Truman State University in Kirksville, Missouri, and then attended veterinary school at Iowa State University College of Veterinary Medicine in Ames, Iowa, where I graduated in May of 2008. While in veterinary school my main area of focus was equine medicine and surgery.

Since graduation, I have worked in a mixed animal practice in Fairfield, Iowa, and in an equine and small animal practice in north Texas. During this past summer (2010) I received additional training in veterinary chiropractics from Parker College of Chiropractics, and did become certified in veterinary chiropractics.

Currently, I am a volunteer on the Birmingham Volunteer Fire Department and am going on 11 years as a 4-H leader. This summer I will be volunteering as a vet at the Wapello FFA rodeo and at local county fairs as a way to give back to programs that I greatly enjoyed in my childhood. I am currently doing relief veterinary work and mobile work in southeast Iowa.

All species compose my practice, but horses are my favorite patients! I am truly blessed to love what I do!

