



EQUINE HEALTH UPDATE

For Horse Owners and Veterinarians
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Fat Horses and Founder:

Weight Control and Dietary Management of the Horse with Equine Metabolic Syndrome (EMS)

By Stacy H. Tinkler, DVM, DACVIM, Purdue Equine Community Practice

The summer 2012 newsletter article “Is my horse at risk for laminitis?” discussed the relationship between horses, obesity, blood insulin levels, and the diet—particularly how sugars and starches in hay or grasses can all combine in some horses to cause laminitis or “founder.” The name for this condition is Equine Metabolic Syndrome (EMS). Our horses and ponies depend on us to make healthy choices for them. If you have one of these “easy-keepers”, there are certain steps you must take to reduce their risk of laminitis and help them live a healthy life.

Most cases of obesity reflect an imbalance between energy intake and expenditure—and, just like in people, “eating less” and “exercising more” are the key strategies to achieving a more ideal bodyweight and condition in horses and ponies. Here are 4 key steps to follow:

Step 1: Acceptance and acknowledgement

Recognize that the horse or pony in question is overweight or even obese. This is by far the hardest step in this process. Horses and ponies will never refuse an opportunity for a tasty meal when it is available so they have to rely on us to help them maintain an ideal body condition score (BCS) and to feed them appropriately. You are essential for the effectiveness of any weight loss program and achieving and maintaining a more ideal body weight for your horse is a long-term, probably even life-long commitment. *Don't get overwhelmed, your veterinarian can help you with the BCS grading scale and set you and your horse on the right track!*

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HORSEMAN'S EDUCATION FORUM

Purdue University College of Veterinary Medicine

Saturday, February 9, 2013 — 8:00 a.m. to 5 p.m.

Lynn Hall, 625 Harrison Street, West Lafayette, Indiana

The purpose of The Horseman's Forum is to educate horse owners and equine industry professionals about current horse health issues, ranging from preventive health care and husbandry topics to state-of-the-art medical advancements.

Come and share our passion for horses!

Register online now at www.conf.purdue.edu/horseman or visit www.vet.purdue.edu/ce for more information. Cost: \$40 per person

News & Notes

New Residents:



Dr. Mackenzie Adams

Dr. Mackenzie Adams is originally from a small town near Seattle, Washington. She received her undergraduate degree from Whitman College in eastern Washington and DVM from Colorado State University. Mackenzie grew up riding and showing American Quarter Horses which is how she became inspired to be a large animal veterinarian. After veterinary school she was an intern at an equine referral practice on the west coast for one year prior to becoming a Large Animal Surgery Resident at Purdue University. Her goal is to become board certified in large animal surgery and complete a PhD in equine orthopedics. In her free time she enjoys being outdoors (running, riding horses, biking, hiking, and snowboarding) and watching her new favorite show, “The Voice.”



Dr. Alex Bianco

Dr. Alex Bianco is originally from Minneapolis, Minnesota and grew up riding, breeding and training Tennessee Walking Horses for field trials. She graduated from the University of Minnesota College of Veterinary Medicine and did a rotating internship in equine medicine, surgery and ambulatory services at Kansas State University. Her research interests are critical care, neuromuscular disease, and pain management. She is happy to be at Purdue and is enjoying exploring Indiana with her bullmastiff, Hugo.

EMS *(continued from cover)*

Step 2: Document and monitor weight loss

Document your horse’s current body weight or BCS and girth circumference (measurement around the horse right behind the elbow) along with belly circumference (measurement around the barrel of the horse at the widest point) with a weight tape. Take these measurements monthly, and consistently in the same place, during the weight loss period and then every 2 months once desired BCS and body weight have been achieved. *Appropriate levels of weight loss may not always be accompanied by a detectable change in BCS in the first few months so don’t get discouraged!*

Step 3: Dietary management—go buy a scale.... not for your horse, for the feed!

Horses with EMS are unique because they don’t metabolize carbohydrates the same way that normal horses do so we need to restrict calories and reduce the calories that come from simple carbohydrates. So how do you do this? You must avoid feeds that cause sugar (and insulin) spikes that may make insulin resistance (like type 2 diabetes) worse. Remember, your EMS horse is like a person with type 2 diabetes so excess sugar must be avoided, and caloric intake must be restricted until ideal body weight and BCS have been achieved. *In the case of obese horses at high-risk for laminitis, removal of calorically-dense feeds from the diet (this means sweet feeds, grains or any other commercial feeds/concentrates or treats you may be feeding your horse), and complete restriction from access to pasture (especially lush pasture) are critical.*

So, what can I feed my horse?

Forage (more mature grass hays) should be the primary component of the diet, and should initially be provided at no more than 1.5% of current body weight per day—just enough to meet energy needs.

So, this means we have to do some simple math here to figure out how much to feed your EMS horse. If your weight tape says you have a horse that weighs ~1000 lbs and we recommend you feed it 1.5% of its (BW) body weight in hay each day this means he or she should get $1.5\% \times 1000 = 15$ lbs hay each day. This is where your scale comes in—you *must weigh the hay* as flakes vary in weight. Bear in mind, every horse is an individual and some may need less and some more in order to meet their needs. *The goal is to get your horse or pony out of its obese state, but this doesn’t mean they all have to become underweight!*

If there has been minimal weight loss after 2 months, the feeding rate should be decreased to 1.25% BW and then to 1.0% BW. Never feed less than 1% body weight in hay as this may lead to hind gut dysfunction, gastric ulcers or wood-chewing from too little fiber in the diet. Substituting straw for up to 50% of the hay is one way to lower the energy of the diet

and allow for fiber intake to keep the hind gut functioning properly. Straw that is clean and with minimal cereal head should be selected. When mature grass hays are fed, certain vitamins and minerals may not meet requirements and provision of a vitamin-mineral supplement is recommended. Many feed companies sell a low calorie ‘ration balancer’ feed for this purpose. In addition to vitamins and minerals, these products contain sources of high-quality protein, are low in sugars and starch, and are usually designed to be fed in small quantities—talk to your veterinarian or equine nutritionist about these products.

What about NSC (non-structural carbohydrates)?

Hay should be analyzed for sugar content by testing for non-structural carbohydrates (NSC content), which are simple sugars, starch and fructans. *Ideally a horse with EMS should be fed hay with NSC content of less than 10-12%.* Unfortunately, NSC content is not provided on any label or feed bag, it can only come from a feed analysis. We recommend that you use Equi-Analytical Labs in Ithaca, New York to analyze your hay. They will provide a detailed analysis of your hay samples for reasonable cost and in an easy-to-read format. If you own hay with a higher than 10-12% NSC that you need to use up, you can soak the hay in water for 30 minutes (hot water) or 60 minutes (cold water) to help remove some of the sugars but as you soak your hay and sugars are pulled out so are a lot of vitamins and minerals so this should not be a long-term management solution nor is it a reliable method as you still have no idea what the NSC content is. Bagged forages with < 10-12% NSC are available for insulin resistant horses or ponies if you can’t get low NSC hay.

But, I only have pasture turn-out...what do I do?

Access to pasture must be restricted or eliminated when managing insulin resistant horses and ponies. It is tough to control sugar intake when horses are grazing on pasture. Pasture grass is one of the largest sources of sugar in the diet and the sugar content of pasture varies regionally, and depends on soil, climate, sunlight, season, time of day, and type of grass grown. Sometimes restriction is only necessary for a few months until

weight loss is achieved and then limited access may again be possible. However, there are some insulin resistant horses that must be permanently housed in dirt paddocks because they are extremely sensitive to changes in pasture grass nutrient content. *If your horse has suffered from repeated episodes of laminitis and requires special farrier care, it should be permanently housed in a dry lot.* Talk to your veterinarian about extra vitamin E supplementation if your horse or pony never has access to grass.

Grazing muzzles have been shown to dramatically reduce pasture consumption. These muzzles have a small hole at the bottom that limits the amount of grass the horse or pony can eat, but they can drink through them. Some horses do not tolerate grazing muzzles, and they can affect herd dynamics so be aware of this when you first put your horse or pony in a muzzle, and make absolutely sure they are eating and drinking appropriately and seem comfortable before turning them out indefinitely. Other ways to restrict pasture forage intake include strip grazing behind other livestock or with an electric fence, mowing and removing grass clippings before grazing, and applying a deep layer of woodchips over a small paddock.

Step 4: Increased physical activity—exercise!

Increased physical activity promotes weight loss by increasing how much energy your horse uses daily. Exercised muscle uses glucose more efficiently, which can improve insulin resistance and lower the EMS horse’s risk for laminitis. Exercising your horse under saddle or on a long line 4-7 days/week for a minimum of 30 minutes at a trot or canter (excluding warm up and cool down time) is a good starting point. *Patients that are laminitic should not be exercised until hoof structures have stabilized (this usually means at least 4 weeks from the most recent episode) so please discuss this with your veterinarian.*

Remember—obesity, insulin resistance and too much sugar in the diet can put your horse or pony at risk for laminitis. Diet changes and exercise are key components in any management plan for EMS horses, and restricted pasture access is the key to success when trying to induce weight loss and prevent laminitis. *Your horses and ponies depend on YOU to make good choices for them and to help them live long, healthy lives!* 🌀



Equine castration is the most common elective surgery in the horse but there are many myths surrounding this procedure. Castration is also known as gelding, cutting, or emasculating and involves the removal of both testicles which renders the horse infertile. The testicles are the organs responsible for producing testosterone, the main hormone that produces the physical features and behavior of a stallion. Castration is recommended in horses with undesirable genetic traits or unwanted behavior such as stallion-like behavior around mares and other horses, fighting, poor racing performance, and aggression towards humans. Unilateral (one testicle) or complete castration can be used to treat testicular inflammation, tumors or testicular damage caused by trauma, twisting (torsion) of the spermatic cord, or entrapment of the bowel (hernia). Castration can also minimize the number of unwanted horses and help salvage infertile breeding stallions.

MYTH or FACT? Once castrated all "stallion-like behavior" will cease

MYTH: The age of the horse at the time of castration usually plays a big factor in residual stallion-like behavior. Older stallions which have been in a breeding program are much more likely to retain their stallion behavior than those gelded as yearlings. Even though the horse will not be able to reproduce, the behavior of mounting mares in the pasture in an attempt to breed may remain. Once castrated, aggression towards other horses may continue. Castrating older stallions will tone down the stallion-like behavior; just not necessarily eliminate the behavior completely. This occurs because the majority of stallion like behavior is learned and not necessarily related to the presence of testosterone.

MYTH or FACT? The age of castration may alter the conformation of the horse.

FACT: A horse can be castrated any time after the testicles have descended, but the most common age is between 6 and 18 months. Stallions castrated prior to puberty may grow to a greater height because castration delays closure of the growth plates of the long bones. The stallion may also have more feminine features such as a delicate head, and less muscular features due to the lack of testosterone. If a horse is gelded after puberty, he may exhibit more stallion-like features. This includes a shorter and blockier appearance, heavier jowls, a thicker neck, and more defined musculature.

Castration can be performed by multiple techniques depending upon the facilities, time of year, veterinarian preference. All successful techniques have these principles in common: adequate restraint, safety, effective anesthesia, clean surgery, control of hemorrhage, and adequate postoperative drainage. Castration can be performed in the standing horse

after sedation and administration of local anesthesia or in the recumbent horse under general anesthesia in the field or in a hospital setting. Technique of castration depends on veterinarian's preference, horse age, temperament, testicular pathology, and reason for castration. There are two types of castration, open and closed where a layer of tissue (vaginal tunic) is either opened or left closed around the testicle. The main advantages that closed castration has over open castration are fewer complications such as the reduced risk of infection, lower incidence of evisceration (when intestines or other abdominal tissues move through the castration site outside the body), and enhanced control of hemorrhage. Standing castration is preferred by some because the procedure can be performed without general anesthesia. As an open castration method is used with standing castrations, there is more risk for the complications mentioned above.

MYTH or FACT? A castration is best performed according to the phases of the moon

MYTH: The correlation behind this thought is between the gravitational pull of the moon and subsequent changes in barometric pressure. The belief is that bleeding is lessened during the waning phase of the moon (towards the end of the lunar cycle) and worsens during the waxing phases of the moon. Many people are firm believers; however there is no scientific data to evidence this theory.

Castration under general anesthesia is preferred by most veterinarians. This technique involves the administration of intravenous drugs which temporarily anesthetizes the horse (15-25 minutes). The procedure is typically performed outside in a clean, grassy area with enough room for the horse to return to a standing position following the procedure. There are two techniques for castration under general anesthesia: routine closed castration or closed castration in combination with scrotal ablation. In a routine castration an incision is made over each testicle. The testicle is "stripped" from the connective tissue and a ligature of suture material is placed around the cord to control hemorrhage and eliminate the chance of evisceration. Next, the emasculator is used to crush and cut the cord for removal of the testicle and then repeated for the opposite testicle. The scrotal incisions are then left open for drainage and to heal. An alternative to this technique is to surgically remove the entire scrotum (scrotal ablation technique). In this approach the testicles are removed through one incision and then at the end of the procedure the skin is surgically closed. This technique minimizes postoperative hemorrhage, swelling, and speeds healing following the procedure. It is associated with a higher cost because general anesthesia and hospitalization are required but fewer complications make it worth it.



MYTH or FACT? Horses should be exercised 24 hours after surgery

FACT: Horses should be confined and observed for 24 hours after castration to avoid hemorrhage from the severed testicular and scrotal vessels. After these 24 hours, the horse should be exercised for 30 minutes twice daily to promote wound drainage. Poor drainage can lead to postoperative swelling of the prepuce, sheath, and penis. If the skin closes prematurely, it can be opened with a gloved finger. Full work can be resumed in 7 to 10 days if no complications are encountered. The technique of scrotal ablation minimizes the chance for postoperative complications and should be considered in valuable horses or in circumstances when the owner wants to minimize postoperative complications.

Following surgery your veterinarian will instruct you in what antibiotics and anti-inflammatories will be administered to the horse. The most common antibiotics used include penicillin (injectable) and trimethoprim sulfa (oral) and phenylbutazone is usually given as an anti-inflammatory. Horses should be exercised following the procedure to minimize postoperative swelling. Immunization for tetanus is also given at the time of castration. Horses which are cryptorchid (testicle not fully descended into the scrotum) should be referred to a surgical center for further evaluation. However, some veterinarians will remove the non-descended testicle as a field procedure. Your veterinarian can advise you about how to proceed when your horse is diagnosed as a cryptorchid.

MYTH or FACT? Only a veterinarian should perform a castration on your horse

FACT: Your veterinarian has spent a minimum of 4 years being educated in veterinary medicine. They have the expertise to properly perform the surgical procedure and treat the horse if any complications develop. It is certainly not in the best interests of a horse owner to have a lay person perform a castration on your horse.

Although castration is the most commonly performed surgical procedure performed by a veterinarian, it should never be considered routine due to the number of serious complications mentioned above. Your veterinarian should be contacted immediately if any of these complications develop following the surgical procedure. In addition the incision site should be monitored for any sign of tissue or intestine coming through the castration site. If this is noticed it is an emergency and requires immediate veterinary care.



Keep an Eye Out: Ocular Trauma in Horses

By Allison Volpe, DVM Student (Class of 2013)
Edited by Wendy Townsend, DVM, DACVO

A squinting and tearing eye may seem insignificant when looking at your horse on a daily basis, but this could be a sign of a potential disaster. Any type of ocular trauma in your horse could become devastating almost overnight. These types of injuries must be attended to by your veterinarian immediately. Waiting overnight or longer could put your horse at higher risk for losing the eye.



Common injuries in horses include eyelid lacerations, ocular foreign bodies and corneal ulcers (scratches to the surface of the eye). These can happen for numerous reasons and may spontaneously resolve, but there is a definite possibility for an eye injury to get dramatically worse.

Clinical signs to look for in your horse with an injury include ocular discharge that is purulent (green-yellow in color), holding the eye shut, and rubbing at the eye. These are all serious signs and indicate that a veterinarian should examine the eye promptly.

Often your veterinarian will prescribe topical medications such as antibiotics, antifungals, dilating drops (atropine) and systemic anti-inflammatories to treat and/or prevent infection, relieve pain, and minimize inflammation. These medications will often have to be given 4-6 times daily to be adequately absorbed into the eye.

If corneal trauma is not treated, or is treated inappropriately, horses are very prone to developing corneal fungal infections (fungal keratitis), often with a stromal abscess. A stromal abscess is a pocket of pus within the cornea, the clear outermost layer of the eye. Fungal keratitis and stromal abscesses can be very painful and very difficult to treat with medications alone. Medical therapy can be very intensive and hourly topical medications are often required. To facilitate application of the eye medications, a sub-palpebral lavage system (SPL) might be placed. An SPL is a tube that runs from under the eyelid and down the neck. Medications are placed through a port at the far end of the tubing and then can be flushed into the eye without having to handle the head or open the eyelids. If the infection is severe or not responding to therapy, then surgery has to be performed to remove the infected area and place a graft on the weakened area of the cornea to help it heal. The earlier these infections are recognized and aggressive management is started, the better the chance that vision will not be severely compromised.

Ocular trauma and injury in most cases can resolve with careful management and diligent following of treatment instructions. Do not hesitate to call your local veterinarian to assist you if you feel your horse is exhibiting signs that an injury has occurred or with any questions related to treatment or. Please also feel free to call the ophthalmology service at the Purdue University Veterinary Teaching Hospital (765-494-8548) or ask your veterinarian if a referral to see the ophthalmologists at Purdue University would be warranted. The ophthalmology service is available both during regular working hours and also on emergency.



Horses and Heaves

By Katie Prickel, DVM Student (Class of 2013)

Edited by Dr. Laurent L. Couët, Large Animal Internal Medicine Service

Last summer, your 12 year-old horse didn't seem to be competing as well as he used to. Over the winter,

you bring him in from the pasture, rest him in his stall, and feed him hay. This spring, you plan to start his conditioning early. When you start training him, you notice he is still resisting exercise and now has a cough. After putting him back in his stall, it seems to take him a longer time to recover with added respiratory efforts. You call out your veterinarian and she diagnoses him with Recurrent Airway Obstruction.

Recurrent Airway Obstruction (RAO), also known as “heaves”, is a non-infectious respiratory condition that cannot be transmitted between horses. It is similar to human asthma. Typically, horses have a genetic predisposition to RAO and have been chronically exposed to airborne, environmental allergens such as dust, or mold spores contained in hay. As these airborne irritants are inhaled, they travel to the smallest airways in the lung (the bronchioles). Here, they trigger an allergic response resulting in excess mucus production, inflammation, and constriction (narrowing) of the airways. These changes deep in the lung make it harder for a horse to breathe, particularly to exhale, as the airways become obstructed and narrowed. With repeated exposure to these allergens, the airway inflammation recurs and the airway walls become irreversibly thickened and obstructed, making it more and more difficult for air to flow in and out the lungs—similar to us trying to breathe through a straw.

Clinical signs of heaves are caused by resistance to airflow in the lung. During the early stages, heaves horses tend to have a cough and may be exercise intolerant. As the disease progresses and with increased exposure to the allergen, the horse will have an increased respiratory effort at rest. If left untreated, breathing becomes increasingly difficult with affected horses standing with the head and neck extended, the nostrils flaring, and utilizing forceful contraction of its abdominal muscles to help push air out of the lungs. When persistently affected, the constant abdominal effort required to exhale leads to abnormal muscle development along the horse's flanks, resulting in a visible “heaves line”. If the condition is severe enough, the horse will lose weight as eating interferes with the ability to breathe.

Diagnosis of heaves is often done by physical examination by your veterinarian. Your veterinarian will listen to the entire lung field for abnormal sounds such as crackles or wheezes. He or she may also hyperventilate your horse by putting a bag over your horse's nostrils to amplify the sounds coming from the airways. For a more definitive diagnosis, a bronchoalveolar lavage (BAL) may be done to sample the deep airway mucus through repeated washes of a small portion of the lungs.

The cornerstone of effective treatment for RAO is reduced contact to airborne dusts through improved stall ventilation and provision of low dust feed and bedding. Most horses do well by just making simple adjustments and typically do not require prescription medications. The most effective method for managing RAO is to keep horses out on good pastures 24/7 with no hay supplementation. If removing hay is not feasible, hay may be soaked in water at least 30 minutes prior to feeding to decrease the dust load. A complete feed may also be used to provide balanced nutrients and needed fibers while decreasing dust if grass is not adequate. If the horse must be stalled at any point, the stall should be bedded with a low-dust, low-moisture bedding such as wood shavings, or shredded cardboard or paper. The most important is to implement those environmental changes in the affected horse's stall however, the surrounding stalls in the barn should be managed the same way to maximize results. Simple environmental management will result in a reduction of airway inflammation and a dramatic improvement in clinical signs within a couple weeks.

Reducing airway inflammation is paramount and if it cannot be reduced by environmental modification, prescription medications must be utilized. For some horses with severe RAO or acute episodes of respiratory distress, short-term corticosteroids are beneficial. Corticosteroids, such as dexamethasone, are potent anti-inflammatory medications that target inflammation in the lower airways, but must only be used short-term as one rare but potentially devastating side effect is founder or laminitis. Corticosteroids can be safely administered by aerosol using masks specifically designed for horses; however, this mode of therapy is more expensive. Bronchodilators, such as albuterol or clenbuterol, are also helpful in dilating constricted airways and relieving the clinical signs of heaves, but they do not treat airway inflammation. Antihistamines and non-steroidal anti-inflammatories, such as “Banamine” or “bute”, are poorly effective at treating RAO. Always discuss the use of drugs with your veterinarian prior to administration.

There is no cure for heaves. Once a horse's airway has become sensitized to a certain allergen, they will be at risk for flare-ups their entire life. With this being the case, you can see that the best treatment for an RAO horse is long term environmental management. Medications are useful to treat a flare-up until the environment can be fixed. If environmental changes cannot be made, affected horses will continue to have trouble breathing unless medications are used continuously. If you have a horse with RAO, your veterinarian can help you decide on the best management plan for minimal exposure to environmental triggers. ↻

Winter Weight Loss Woes

By Lisa Hepworth, DVM Student (Class of 2012)

Edited by Stacy H. Tinkler DVM, DACVIM, Purdue Equine Community Practice

Is your horse slimmer than you would like this winter? Are you concerned about how quickly your horse has lost weight? Reasons for weight loss vary based on the animal's age, exercise or performance demands, breed, any concurrent disease and diet. Many horses often lose weight in an Indiana winter, as the cold climate requires a lot of energy to maintain normal body temperatures.

It is important to contact a veterinarian if you have observed significant weight loss in any of your horses. Important places your veterinarian will start include evaluation of your feeding program, your feed quality and overall herd health.

Insufficient caloric intake is the primary cause of inadequate body condition in horses.

A normal, healthy horse needs to eat a minimum of 1.5-2% of its body weight daily in forage to maintain its body weight. A vitamin and mineral supplement or diet balancer may also be necessary to round out the nutrient profile of the diet, as hay quality varies from bale to bale and cutting to cutting. So if we do a little math, an average 1000-pound horse that is on a hay-based diet would then require 15-20 pounds of hay or forage a day. This requirement applies to the average horse that does not have high metabolic demands, such as extremely active performance horses, lactating mares, growing horses (weanlings), or cold-stressed horses, as you might find in winter. In winter, horses need at least 1.5-3% of their body weight in some form of forage and there will be some individual horse variability with these requirements as metabolic rates vary. In addition, as a horse's metabolic demands increase, a concentrate feed may be necessary to supply additional calories and should be fed according to manufacturer's recommendations.

Another reason for weight loss includes bad teeth; more specifically overgrowths that, if left unattended, result in malocclusions (malalignment of the teeth).

Horses chew in a side-to-side, grinding fashion and their teeth continuously erupt or grow throughout their life. Overgrowths can alter the grinding action and impact normal chewing. These changes often result in difficult or even painful chewing, ulcerations within the mouth or dropping of feed. When feed is not properly chewed or is dropped, the horse cannot utilize all of the nutrients in that feed and may suffer from malnutrition secondary to dental problems. Infections, fractured teeth and poor oral conformation can also cause reduced feed intake. Careful observation of the eating habits of a horse will likely reveal a dental problem. Slow eating, reluctance to drink cold water, tilting the head while chewing, balling up food in the mouth, and dropping feed may suggest a tooth problem. However, some horses may not exhibit abnormalities in food

intake or chewing but may still be losing weight from a chronic tooth issue. A thorough oral examination is an important part of evaluating a horse suffering from weight loss to rule out this potential cause.

Parasites are another culprit of weight loss in horses.

Common de-worming practices of the past have selected for resistant populations of parasites in horses. Many parasites can infect a horse and the types vary with the age of the animal. Some common parasites that infect horses include roundworms, small and large strongyles, and tapeworms. Parasites contribute to weight loss in several ways: first, by competing directly for nutrients in the digestive tract, and second by causing damage to the intestinal lining making it difficult to absorb nutrients. A fecal egg count is recommended prior to de-worming any horse; however, this same test may be helpful in a horse suffering from weight loss. A horse that has lost a lot of weight may simply have a heavier parasite load than the average horse, or may be infected with resistant parasites that are not being killed by dewormers anymore.



If these 3 “easy fixes” are not behind the cause of weight loss, a long list of systemic diseases may be at the root of the underlying problem. Causes can include Equine Cushing's Disease, muscle disease, a number of infectious diseases, kidney disease, cardiac disease, chronic respiratory disease such as “heaves”, gastro-intestinal disease, or liver disease. If this sounds like your horse, talk to your veterinarian about possibly having blood work or a further diagnostic work up performed to help find a cause for the weight loss. Other diagnostic tests can include analyzing abdominal fluid, abdominal ultrasound, rectal examination, and gastroscopy to look carefully at the upper GI tract for signs of disease. Contact your veterinarian if your horse has lost weight so you can discuss the next steps needed to find the cause and improve the health of your horse.

EQUINE HEALTH UPDATE

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**College of Veterinary Medicine
Equine Sports Medicine Center**

1248 Lynn Hall
West Lafayette, Indiana 47907-1248

ADDRESS SERVICE REQUESTED

Phone: 765-494-8548

Fax: 765-496-2641

www.vet.purdue.edu/esmc/

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The **Equine Sports Medicine Center**

Purdue's Equine Sports Medicine Center is dedicated to the education and support of Indiana horsemen and veterinarians through the study of the equine athlete. The Center offers comprehensive evaluations designed to diagnose and treat the causes of poor performance, to provide performance and fitness assessments, and to improve the rehabilitation of athletic horses. Other integral goals of the Center are to pioneer leading-edge research in the area of equine sports medicine, to provide the highest level of training to future equine veterinarians, and to offer quality continuing education to Indiana veterinarians and horsemen. For more information visit our website:

www.vet.purdue.edu/esmc/



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