

Miniature Horses – Special fellows with special needs!



At left: Students at the Australian College of Equine Podiotherapy watching a demonstration on the particular needs of trimming the Miniature horse. The Mini about to be trimmed also paying close attention!

Miniature horses have endured selective inbreeding over the past 350 years to possess a certain size and look.

The size of the Mini is a mixed blessing. Most of them are not expected to be athletic, although some are used as working cart horses. This altered job description however, makes them less likely to receive the routine veterinary care of their larger counterparts and also less likely to suffer from the work related musculoskeletal degeneration of larger horses.

On the other hand, the genetic alterations that have created their diminutive size have predisposed them to a subset of medical afflictions that are not as common in their larger counterparts.

We humans have selected traits that we admire in our animal companions and have bred similar individuals to produce more of the same. This is true in horses, both full size and miniature, and many of the diseases discovered over the past 10 years have been associated with inappropriate mating selections, or the overuse of a particular sire line.

In the miniature horse the propensity for dwarfism in the breed was a significant problem 25 years ago, but with genetic out-crossing the incidence of this problem has declined. However dwarfism can still occur. Responsible breeders have learned to avoid line breeding, which, over time, has contributed to the overall health of the Mini. As a rule, genetic diversity is good for a species. Mutations and genetic combinations that adversely affect health are less likely to occur when the parents do not share DNA.

The weight and the size of the Miniature Horse alter their susceptibility to certain types of medical conditions. Hyperlipemia and eclampsia are examples of problems that are not regularly identified in larger breeds. Both of these disorders are potentially life-threatening and difficult to treat

Unique Health Issues of Miniature Horses

Obesity: Miniature Horses are prone to obesity. They love to eat! Most owners of large-breed horses tend to overfeed the Minis, but one flake of hay would be equivalent to about six feedings for a Mini. In addition, pasture restriction and daily exercise are less likely to occur. Many of the medical challenges Miniature Horses face can be avoided by maintaining an ideal body condition (Henneke Body Condition Score of 5).

Ideally, Minis should consume approximately 1.5% of their body weight in hay daily. The average Mini weighs 250 lbs, and this translates to 3.5 lbs/day of hay. The backyard Mini does not expend a large amount of calories in exercise.

Those used as cart animals, show horses and lactating mares will have higher nutritional demands and can require up to 3% of their body weight in forage. Small amounts of concentrates or alfalfa should be given only during the breeding season or for exercising and showing horses.

Vitamin and mineral supplements may be required for Mini horses or foals, depending on the diet fed. Vitamin and mineral requirements are similar to large-breed horses on a per weight basis. Protein requirements mimic those of large-breed horses (per-weight basis) and **lower nonstructural carbohydrate content (NSC) hays, such as certain grass hays, are recommended for Miniature Horses given their propensity for obesity.**

Most owners and veterinarians underestimate the weight of a Mini by 20%, which equates to 50 lbs. weight tapes tend to be inaccurate and scales are not a common resource. However, de-wormers and other medications should be administered with caution and there are formulas to calculate body weight based on body length and girth width, as follows:

Estimated Body Weight (lbs) = (9.36 x girth inches) + (5 x body length in inches) – 348.5

Dental Issues:

Healthy teeth are important to the general health of all horses. The most common cause of death in aged wild horses is the inability to chew food; these horses either die of intestinal obstruction or weakness or are taken down by predators. In addition to the ability of the horse to process its feed, the health of the teeth also affects the health of the sinuses and the condition of the nasal passageway (Frankeny, 2003).

Miniature Horses have more problems with their teeth than do larger breeds of horses. This is likely due to the small size of their heads combined with the same number and size of teeth as found in a full-size horse, leading to overcrowding of the teeth. Overbites (brachygnathism) and underbites (prognathism) are common and can set the Mini up for years of abnormal dental wear if left untreated.

We recommend that newborn foals have their first oral exam shortly after birth to identify any bite abnormalities. For foals with abnormalities, periodic reduction of dental overgrowths should be done from several months of age on to improve the range of motion of the jaw. Otherwise, annual dental exams, starting at one to two years of age, should be performed.

The young Mini is prone to sinus infections because of overcrowding of the dental roots in the smaller sinus space. This affects normal sinus drainage, and these horses will often display tearing of the eye on the affected side, swelling of the facial area below the eye, and a unilateral nasal discharge.

Minis tend to retain their deciduous teeth (baby teeth), which are also called caps. They will drool and display difficulty chewing. Specialized equipment is usually required to examine and correct these abnormalities in their much smaller oral space. Many owners of Miniature Horses do not invest in regular dentistry, perhaps because their horse does not wear a bit and has a voluptuous body condition. However, years of abnormal alignment and wear can lead to severe dental malocclusions that will predispose the horse to colic and choke and possibly shorten its lifespan.

Yearly dental examinations are highly recommended. In addition to routine dental care, teeth should be evaluated any time a horse shows signs of possible dental disease (difficulty chewing, dropping partially chewed food or foul breath).

Colic

Minis have robust appetites, but their predisposition for dental problems can impair their chewing capacity. Minis are prone to three distinct types of colic: fecaliths, enteroliths and sand colic. The root "lith" means "stone". Fecaliths are accumulations of long-stem feed, twine or hair and manure that create a hard, rock-like obstruction in the small colon. These obstructions cause gas to build up and cause moderate pain. Similarly, trichophytobezoars, which is an accumulation of feed and hair, are sometimes seen in Minis that spend a lot of time standing around and grooming each other. It is much less commonly seen in horses that are pastured.

Enteroliths are mineral stones that form in the colon of horses. Alfalfa hay is rich in magnesium, protein and phosphorus, and these components combine as magnesium, ammonium and phosphate around a central nidus such as a piece of wire or foreign material to form a stone.

Arabian horses are the most common enterolith formers, and Minis are also at increased risk. Although horses can pass small enteroliths, surgery is often required to remove larger stones that cause obstruction. Abdominal radiographs have a 90% detection rate for enteroliths in a fasted horse. The small abdominal diameter of the Mini makes radiographic diagnosis a valuable tool and radiographs are recommended for any Mini experiencing multiple colic episodes or unrelenting abdominal pain.

Sand colic is also common in Minis because they tend to be scavengers and vacuum their surroundings. Sand settles in the colon, weighs the colon down and abrades the lining of the colon to produce inflammation and diarrhea. Sand is readily visible on x-ray and a fecal float for sand should be a regular part of the colic exam for a Miniature Horse.

Hyperlipemia:

The most significant metabolic difference between large-breed horses and Minis that puts them at risk is their propensity for hyperlipemia. Miniature Horses, donkeys and small ponies have a tendency to mobilize fat when their body senses an energy crisis and they are not able to meet their metabolic demands. Late-term pregnancy, lactation, stress, illness or any factor that impairs appetite for more than 24 hours can initiate a crisis.

This disorder of lipid metabolism causes fat to be released from lipid stores and transported to the liver where it is converted to glucose. Obesity increases the risk of hyperlipemia. When the horses are off feed or stressed, then the lack of insulin stimulates a cascade of events, which triggers fat breakdown.

This breakdown of fat leads to fatty acids that are taken up by the liver. These are reformulated into triglycerides that are released into the bloodstream, and the horses develop “fatty” blood. The fat influx often overwhelms the liver and causes hepatic lipidosis, which is an excessive amount of fat inside the liver cells as well as infiltrating organs. The fat infiltration interferes with normal liver function, leading to failure or rupture of the liver. Rapid intervention with intravenous glucose and nutritional support, coupled with insulin therapy, is necessary to prevent this.

Affected Minis will often show a decline in appetite, lethargy and weakness and will progress to incoordination, abdominal pain, tremors, diarrhea, jaundiced coloration, seizure, head pressing and, if left untreated, death. Hyperlipemia should be suspected in any Miniature Horse that has been off feed for more than 24 hours.

Even aggressive treatment can be ineffective once the liver is overwhelmed; there is a 70% mortality rate associated with delayed treatment, whereas early medical treatment can be associated with a good outcome.

Ref: Much of the above article is taken directly from an article online from the Centre of Equine Health – School Veterinary Medicine – University California – Davis 2012. Thank you to the University for offering this information to the public.

Footnote!



Hoof Care: Often hoof care is often not a major consideration for many Mini owners who have purchased these little horses for lawnmowers.

Just like any horse they do require regular hoof trimming to keep their hooves healthy and in a form that does not hinder their gaits and cause secondary musculo-skeletal issues.

Minis, like all small horses, easily become over weight and insulin resistant which predisposes them to bouts of sub clinical laminitis and even life threatening founder. Sub clinical laminitis quickly changes their hoof form to an abnormal shape and creates flaring at the toes, contracted feet or collapsed heels. These little hooves are windows into the over-all health of these horses.

Because they are not ridden the associated lameness and laminitis issues may go unnoticed until the horse is very tender indeed or has actually foundered. Rings growing down the hoof wall and toes that are turning into ski jumps (forefeet or hinds) are clear indications that the horse is in trouble and diet and hoof care must be addressed quickly but remember that Minis are prone to **hyperlipemia** so do not suddenly remove them from their food source without veterinary advice on alternative feeding regimes.

Keeping Miniature Horses – considerations.

Cute yes, and very tempting to the horse lover who does not have the ability to have larger breeds, but if you are considering taking on a Mini as a pet remember these little horses can live up to 30 years and more. It is up to their owners to provide them with the conditions (for their entire life) that allow them to have a pain free, healthy and fulfilling life. They are not dogs and should not be kept under the hills hoist and alone in the backyard. They are still a horse, with all the needs of a full sized horse, a prey animal at heart. They need the access to pasture and the companionship of a herd situation, just as larger horses do so they can remain physically and emotionally healthy for life.

Question: What fits on an iPhone & is strong enough for a horse to stand on?



Answer: The new ULTIMATE style hoof boot from Equine Fusion

Equine Fusion is a Norwegian company providing hoof boots to Europe since 2005. They have developed a new type of horse boot using a totally different concept. The Equine Fusion Boot is now available in Australia through Hoof Boots Australia. The latest release in this line is the ULTIMATE. Highly flexible so it is able to suit a wide range of hoof shapes it is also strong, light and durable. Sizing covers larger breeds right down to the very small breeds that are often not catered for by other boot manufacturers. Ideal for laminitis rehab, injury protection and hoof protection for the small carriage horse.



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