



U of M Horse Newsletter

Providing research-based information to Minnesota Horse Owners

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Crooked Legs in Foals

By: Erin Malone, DVM, U of M

There are several types of leg deformities (commonly know as crooked legs) seen in newborn foals. Tendon laxity is commonly seen in newborn foals, particularly premature foals. With controlled exercise, this condition generally resolves itself. Controlled exercise includes, stretching the muscle-tendon unit, which can include trimming the feet, bandaging to stimulate relaxation and oxytetracycline to relax the muscle. If the limb is hitting the ground, a small bandage can help protect it, but a heavy support bandage will worsen the condition. Ligamentous laxity is common in newborns but is often self limiting. The legs can be manually straightened but weight bearing can cause crookedness. Controlled exercise will strengthen the ligaments and keep the legs in better alignment. Tendon contracture (club feet, fetlock contracture, carpal contracture) are a relative disparity between tendon length and leg length. Foals born with contracture should also be checked for undershot jaws, as this would likely indicate problems with iodine levels in the mare. These foals do not respond to treatment as well as other foals. Remember, young foals

respond best to medical treatment so do not avoid delaying treatment. In some cases, surgery may be an option. Surgical treatment depends on the site of contracture. If the deformity is not excessive, club footed foals respond well to inferior check desmotomy. In severe cases, the deep flexor tendon may be cut. Fetlock contracture may require cutting of both the inferior and superior check ligaments to allow the superficial and deep flexor tendons to stretch. Surgical treatment of carpal contracture is possible but is generally reserved for select cases. Generally, foals less than one year of age respond best to surgery, but it can also help in adults. Usually, these deformities occur because of premature birth or damage to the growth plate. Immature cuboidal bones is a dangerous deformity seen in premature foals. The bones are not solid when the foals are born and can be malformed by weight bearing. Foals need to be kept recumbent and/or wear splints or casts when standing so that the bones maintain the normal shape as they solidify. Prognosis is good if the bones do not deform, but the condition is

hard to correct if the bones deform. Foals with signs of prematurity should have hock and carpal x-rays taken to ensure this is not a problem. Inflammation or trauma to the growth plate can make one side of the leg grow faster than the other. In foals, the most common version leads to legs that turn out at the carpus (front knee). Fortunately this condition will often fix itself over time. However, hoof trimming and controlled exercise help prevent secondary problems. Periosteal stripping should be considered for carpal versions if foals are severely affected by damage to their growth plate or have not improved by three to four months of age. Other options are available for older foals, but the procedures are more invasive and run the risk for more complications. Again, it is best to catch these problems when the animal is young. If moderate to severe limb deformities are left untreated, they result in crippling problems as the foal matures and because of the associated pain, most will not become riding horses.

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PHOTOS

Photo 1: A week old quarterhorse foal with mild carpal contracture. The foal responded well to splinting for a few days.

Photo 2: X-ray of a foal with bilateral "carpus valgus". Note how the bone is different in length below the growth plate of the radius (*vertical yellow lines*). Growth is faster on the inside of the leg and this leads to the bone curving outwards. In this foal, this is due to trauma to the growth plate.

Photo 1

Photo 2





Can You Really Cut That Out?

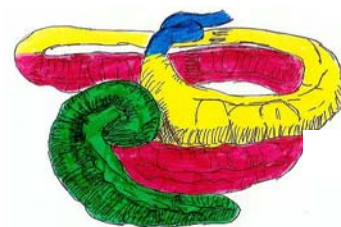
By: Krista Steffenhagen, DVM Student, U of M

Emma, a Thoroughbred mare, was treated twice for signs of colic by her veterinarian but when her pain returned a 3rd time she was referred the U of M Veterinary Medical Center (VMC) for further evaluation. At the VMC, the emergency team determined the large colon was gas filled and out of place. This suggested that Emma's large colon was twisted and she was going to need surgery immediately. When her abdomen was opened, a large colon volvulus (twist) was identified. After untwisting and repositioning the colon, it quickly returned to a normal color. Emma completely recovered from the surgery and 90 days later

she was back in regular exercise. Emma went a year and a half without having another major colic episode. Unfortunately, Emma's owners again needed to return to VMC because of colic. Similar to her previous visit, Emma needed surgery and another large colon volvulus was found. Since this was her second colon volvulus, it was suggested that either Emma's colon should be untwisted and sewn to the body wall (colopexy) or most of Emma's large colon should be surgically removed (a resection). Emma's owners opted to do a resection to minimize any chance of another

volvulus. About 80% (5-6 feet) of Emma's large colon was removed leaving only about one foot of her large colon. She recovered from surgery without any complications except for a plasma transfusion she received to keep the protein in her bloodstream in the normal range. Within a week of the surgery, Emma began passing normal feces, a sign that her intestines were healing well. Emma was able to go home 2 weeks after her surgery on a high fiber diet supplemented with fat to help provide extra calories. Today, Emma is doing well and her owners are very grateful that they had major

medical insurance to assist with the cost of surgery and treatments. Emma has since reentered the world of hunter/jumpers and is doing better than ever!



Above is a diagram of a normal large colon and cecum in the horse. The cecum is colored green, the ventral large colon red, and the dorsal large colon yellow.

Ask The Expert

By: Christie Ward, DVM, U of M

Q: In last months newsletter, you recommended Nolvasan® for dipping the foal's navel stump. What about iodine?

A: The Nolvasan® solution used at the U of M Veterinary Medical Center (VMC) contains 2% chlorhexidine, so 3 parts water must be mixed with 1 part Nolvasan® prior to use as an umbilical dip. Nolvasan Teat Dip Concentrate® may also be

used; since it contains 4% chlorhexidine, 7 parts water must be added to 1 part Teat Dip prior to use. As compared to dips containing povidone-iodine or tincture of iodine, 0.5% chlorhexidine kills more bacteria on the umbilical stump. Its effects persist for a longer period of time, and it is less likely to provoke skin irritation. Some foals develop severe skin scalding and even

sloughing in response to iodine dips, especially when very strong products are used (e.g. 7-10%). These products can also dry the stump out too quickly, causing premature breakage and a higher incidence of patent urachus (a condition in which urine leaks from the navel stump). At VMC, we believe that 0.5% chlorhexidine offers the best balance between disinfection and avoidance of tissue

injury. Iodine solutions are still considered good disinfectants, but at low concentrations (e.g. 2% tincture of iodine or 1% povidone-iodine solution) they fail to kill some important bacteria, and at high concentrations (e.g. 7% tincture of iodine) they can cause chemical burns to delicate foal skin. When iodine is used, attention must be paid to the product's concentration.

DOES YOUR HORSE HAVE AURAL PLAQUES? The Veterinary Medical Center at the U of M is evaluating the efficacy of Aldara (imiquimod) on equine aural plaques, which are caused by a virus. This is a topical medication that has recently shown to have very good efficacy in the treatment of sarcoids and has excellent anti-viral effects. If you are interested in participating in the trial, please contact Dr. Erin Malone at 612-625-6700 or malon001@umn.edu, for details about the study protocol. The medication can be applied by the owners at home after an initial examination performed at the U of M. The duration of the study will be 4 months, and the medication will be provided for free.

