Conclusions
The definitive diagnosis of dynamic respiratory tract abnormality due to the dynamic nature is not possible from resting endoscopy alone. For this reason over-ground endoscopy can be used in the diagnosis of dynamic obstructions of upper respiratory tract abnormalities in horses under normal racecourse conditions.

DEWORMING AND FAECAL EGG COUNTS IN ADULT HORSES IN THE NETHERLANDS

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Introduction
As result of concerns for drug resistance, anthelmintic medications in the Netherlands were recently classified as “prescription-only”. Interval dosing every 6-8 weeks is common practice rather than strategic dosing in response to worm egg counts. This study evaluates the relationship between pasture access, deworming strategy and worm egg count (EPG), and the incidence of Strongylus vulgaris infestation.

Material and methods
This study focuses on 25 racehorses (Thoroughbred, n:22 and Arabian, n:3), who were admitted to the Racehorse Hospital of the Turkish Jockey Club with complaints of abrupt fades and/or abnormal respiratory noise during the last 400 meters of the race. Mobile endoscopies of the upper respiratory tracts of these selected horses were made on a polytrack racecourse (1870 meters), during canter (800 meters) and gallop (over 1000 meters; last 600 meters run full force) by mobile endoscopy unit Dr. Fritz® -Equine Training Laryngoscope.

Results
During the mobile endoscopic examination, dynamic upper respiratory tract abnormality was found in 23 horses (92%) suffering from abrupt fades and/or abnormal respiratory noise. In this study, mobile endoscopic examinations revealed palatal instability, axial deviation of aryepiglottic folds, left laryngeal hemiplegia, vocal cord collapse, dynamic pharyngeal collapse, ventroaxial luxation of the corniculate process of the arytenoids, and dorsal displacement of the soft palate. No abnormalities were observed endoscopy at rest except palatal instability and laryngeal hemiplegia.

UNDERSTANDING THE LAST 400 METERS OF THE RACE BY MOBILE (OVERGROUND) ENDOSCOPY

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Introduction
One of the complaints received by our jockeys after races is that the horses fade abruptly and/or make an abnormal respiratory noise during last 400 meters of the race. This study probes into the relationship between the reported problem and the upper respiratory tract by mobile (overground) endoscopic examination.

Material and methods
This study focuses on 25 racehorses (Thoroughbred, n:22 and Arabian, n:3), who were admitted to the Racehorse Hospital of the Turkish Jockey Club with complaints of abrupt fades and/or abnormal respiratory noise during the last 400 meters of the race. Mobile endoscopies of the upper respiratory tracts of these selected horses were made on a polytrack racecourse (1870 meters), during canter (800 meters) and gallop (over 1000 meters; last 600 meters run full force) by mobile endoscopy unit Dr. Fritz® -Equine Training Laryngoscope.

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In 12.8% of the samples with a negative EPG cystostomin larvae were detected (3-68 larvae per 25g faeces). In 2 samples this was already within the ERP. No Strongylus vulgaris larvae were found.

Conclusions
Over 40% of the horses were dewormed within the ERP, Not many farms (14%) deworm based on Egg Counts. Horses are dewormed unnecessarily and shortening of the ERP was found.

OUTCOME OF THE TREATMENT FOR FRACTURES OF THE DISTAL PHALANX. A RETROSPECTIVE STUDY OF 285 CASES.
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Introduction
Fractures of the distal phalanx can be treated in different ways. The aim of this study was to determine which treatment has the best long term outcome.

Materials and methods
Data were gathered from clinical records and by means of telephonic interviewing. Descriptive statistics and a logistic regression test were used to compare the variables with the long term outcome.

Results
Horses with a non-articular type I fracture had a better prognosis (91.7%) for return to original or expected level of use than horses with an articular type II or III fracture (69.6% and 71.4%, respectively). The prognosis for type IV and V fractures was fair (57.7% and 57.1%, respectively) and for type VI good (80%). Hindlimbs had a significantly greater chance of a successful outcome than frontlimbs. No significant association between age or time to start of treatment and success rate was noted. The best treatment option for type I, II and III fractures was a conservative approach (box rest). Type IV fractures were best treated by arthroscopic removal of the fragment. Radiographic and clinical healing were not accurately correlated. Immobilisation of the hoof did not seem to influence outcome.

Discussion
In our study we found that the non-articular type I fracture has a better prognosis than articular type II and III fractures. Conservative treatment without immobilisation had an better prognosis than treatment with a cast or bar shoe. Horses with partial bony-union can return to their previous level of performance. Contracted heels after treatment do not influence the outcome.

Conclusion
In case of a fracture of the distal phalanx (type I,II and III) complete stall rest is indicated. The start of training should be based on clinical rather than radiological findings. Complete osseous union of the fracture was not essential for successful return to athletic activity.

Presenting author: Kim de Graaf

SUBCLINICAL ULTRASONOGRAPHIC ABNORMALITIES OF THE SUSPENSORY LIGAMENT BRANCH OF THE THOROUGHBRED FORELIMB: A SURVEY OF 60 RACEHORSES
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Introduction
Suspensory branch desmopathy is an important injury of athletic horses. Ultrasonographic (US) evidence of previous or current desmopathy can have considerable implications in the context of pre-purchase examinations, however no information exists on the prevalence of subclinical US abnormalities at this site in the Thoroughbred racehorse.
Materials and Methods

US examination of the forelimb suspensory ligament branches (SB) of 60 Thoroughbred flat racehorses in a single training yard was undertaken using a standardised protocol. All horses were free from history and clinical signs of SB desmopathy. Images were viewed independently by 2 experienced clinicians blinded to patient identity on a DICOM workstation. Ultrasonographic appearance of each SB was graded using a 0-3 scale. Abnormality location and signs of sesamoid bone margin disruption at ligament insertion were also recorded.

Results

Mean prevalence of grade 1 (mild) SBs was 65.5/240 (27.3%) and grade 2 (moderate) SBs 7/240 (2.9%). US abnormalities of moderate severity (grade 2) were present in (5/60) (8.3%) of horses. There was an even distribution of abnormalities between left and right limbs but medial branches were overrepresented. Agreement between observers was good with concurrence in grading of 213/240 (88.75%) SBs (Kappa= 0.743; 95% CI 0.652 - 0.834). In 52/60 (86.7%) horses there was observer agreement on presence or absence of US irregularity.

Conclusions

US abnormalities of the suspensory branch of the Thoroughbred forelimb can exist without history or clinical indication of injury. In this population, a significant proportion of animals had US findings that could negatively impact market value. Further investigation into the clinical relevance of such findings is warranted.

WIDE TOE NARROW HEELS (WTNH) SHOEING REDISTRIBUTES HOOF PRESSURE FROM THE TOE TO THE HEEL IN SOUND WARMBLOOD HORSES AT THE WALK AND TROT

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Introduction

A toe wedge has been shown to decrease the strain on the superficial digital flexor tendon (SDFT) and suspensory ligament (SL), whereas a shoe with a wide toe and narrow heels (WTNH) is presumed to result in similar effects, at least in a soft bedding. Pressure plate analysis would quantify the load distribution underneath this shoe on a solid surface, thus providing a step towards evidence-based application of this shoeing procedure.

Materials and Methods

Six Warmbloods, shod with standard shoes and WTNH shoes were led at the walk and trot over a pressure/force plate. Hoof prints of both forelimbs were divided in a toe and heel region and toe versus heel balance was calculated. Moreover, different kinetic variables were analyzed, like: stance duration (ST), time (tPVP) and peak of vertical force (PVF) and pressure (PVP), vertical impulse (VI), total vertical pressure (TVP) and contact area (CA).

Results

There were no significant differences between both shoes for the toe-heel index of ST, PVF and VI. For the shoe with a wide toe, the toe-heel index of both PVP and tPVP appeared lower, but not significant. However, the shoe with a wide toe showed a significantly larger CA and a lower TVP in the toe region (p<0.05).
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Conclusions

The pressure distribution underneath the WTNH shoe warrants further investigations into the effects of the WTNH shoe on sinking of the heels in a deformable surface, since this might provide a rationale for the application of this type of shoe in SDFT or SL injuries.

RADIOLOGICAL DIFFERENCES BETWEEN UNEVEN FEET IN FOOT LAME HORSES ADMITTED FOR MRI TO A UNIVERSITY HOSPITAL (2003-2010)


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Introduction

An important feature of foot conformation is unevenness, as this seems to lead to early retirement of elite sporthorses from a warmblood population. The goal of this study was to relate the radiological differences between uneven feet to the MRI findings in a hoof lame horse population, to improve our understanding of the mechanism behind asymmetric locomotor-development in sporthorses.

Material and methods

In the period 2003-2010 a number of 55 horses was admitted to Utrecht University for both MRI (of one or both front feet) and objectively comparison of radiographical images of the distal limb. Statistical software was used to test for a significant difference between the upright and the weak foot (p<0.05).

Results

It appeared that 60% was lame at the upright and 40% at the weak foot. In 84% of the upright foot lame horses the navicular bone had a more osteoporotic (radiolucent and the fibers more coarse in structure) structure (p<0.05). In 80% of the horses the upright foot showed a more pronounced dorsal navicular border and deep flexor tendon, illustrating its experienced biomechanical challenges. On MRI most injuries to the proximal ligament of the navicular bone were diagnosed in the upright foot, possibly illustrating its predisposition for more easily developing this lesion.

Conclusions

It appeared that the navicular bone had a more radiolucent and coarser structure in the upright foot, suggesting less limb loading than in the weak foot for a longer time period. The upright foot had a more pronounced dorsal navicular border and deep flexor tendon, illustrating its experienced biomechanical challenges. On MRI most injuries to the proximal ligament of the navicular bone were diagnosed in the upright foot, possibly illustrating its predisposition for more easily developing this lesion.

PHENOTYPIC CHARACTERISTICS OF HYDROCEPHALUS IN FRIESIAN STILLBORN FOALS

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Introduction

Hydrocephalus seems an uncommon disorder in the horse, even though the calculated incidence is similar to the incidence in humans. The Friesian horse breed has shown a higher incidence of hydrocephalus than other breeds with an estimated incidence rate of approximately 2.5 affected foals per 1000 births and 12 stallions may be carrier of a gene causing hydrocephalus in foals. The objective of this study is to give a morphological characterization of hydrocephalus in the Friesian horse with the purpose of supporting the genetic research on this topic.

Material and methods

Four Friesian stillborn foals and 2 control animals were examined macroscopically (post-mortem examination, latex perfusion of cranial blood vessels and CT) and microscopically.
Results and conclusions
All cases showed a tetraventricular dilatation (sometimes combined with hydromyelia). On CT all cases presented malformation of the petrosal bone and the jugular foramen. Microscopic images of the brain cortex showed dilated blood vessels, which suggests an elevated venous pressure. The combination of these observations indicates communicative hydrocephalus with a disturbed absorption of cerebrospinal fluid in the systemic circulation at the venous sinuses, possibly due to impaired blood drainage from the cerebral venous to the jugular vein caused by a stenosis of the jugular foramen. This condition is recognized in humans as a defect in the fibroblast growth receptor 2 (FGFR2) and is also linked with chondrodysplasia. Chondrodysplasia has previously been recognized as another hereditary defect in Friesian horses and FGFR2 may be a possible candidate gene for this defect as well.

AORTO-PULMONARY FISTULATION IN THE FRIESIAN HORSE: CLINICAL CHARACTERIZATION OF 31 CASES COMBINED WITH HISTOPATHOLOGICAL FEATURES. LIFTING A TIP OF THE VEIL.
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Introduction
Ruptures in the aortic arch near the ligamentum arteriosum are uncommon in domestic animals. However, four cases have been described in Friesian horses (1) and many cases have been admitted to the Utrecht University Faculty of Veterinary Medicine (n=15), Wolvega Equine Clinic (n=13) and the Ghent University Faculty of Veterinary Medicine (n=3) over the course of several years. Our aim was to clinically characterize these cases and to histologically investigate the site of fistulation with special attention for collagen features.

Material and Methods
Clinical and autopsy reports of 31 cases (1997-2010) were reviewed. Histopathology was performed on 20 cases (7.2 ± 3.3 years old; 9 ♀, 11 ♂), at the level of the aortic rupture, at a more distal part of the aortic arch and compared with 4 controls.

Results
A persisting high (60-80 BPM) and bounding arterial pulsation was reported in all cases. Interestingly many cases show evidence of slow progressing rupture over the course of several weeks to even months before progressive manifestation of cardiac failure. Recurrent bouts of colic, dyspnoea, coughing and/or epistaxis and complaints of poor performance are typical case history features of these patients. In many cases aortic dissection was accompanied by aorto-pulmonary fistulation with left to right shunting. Chronic liver congestion was often reported at autopsy emphasizing the slow progressive evolution.

HE staining revealed significant presence of degeneration, collagen fibre fragmentation, necrosis and inflammation at the site of rupture. Van Gieson’s stain showed no significant difference in collagen fibre density and thickness, however a significantly pronounced waved pattern in ruptured cases. Picro-sirius red stain demonstrated no significant differences.

AORTO-PULMONARY FISTULATION IN THE FRIESIAN HORSE: CLINICAL CHARACTERIZATION OF 31 CASES COMBINED WITH HISTOPATHOLOGICAL FEATURES. LIFTING A TIP OF THE VEIL. A persisting high (60-80 BPM) and bounding arterial pulsation was reported in all cases. Interestingly many cases show evidence of slow progressing rupture over the course of several weeks to even months before progressive manifestation of cardiac failure. Recurrent bouts of colic, dyspnoea, coughing and/or epistaxis and complaints of poor performance are typical case history features of these patients. In many cases aortic dissection was accompanied by aorto-pulmonary fistulation with left to right shunting. Chronic liver congestion was often reported at autopsy emphasizing the slow progressive evolution. HE staining revealed significant presence of degeneration, collagen fibre fragmentation, necrosis and inflammation at the site of rupture. Van Gieson’s stain showed no significant difference in collagen fibre density and thickness, however a significantly pronounced waved pattern in ruptured cases. Picro-sirius red stain demonstrated no significant differences.
Conclusions
Aorto-pulmonary fistulation in Friesian horses seems to be a slowly progressing event which finally culminates into overt cardiac failure. This slow progression makes early recognition of these patients very important and even could open interesting considerations on treatment options like vascular stenting. Several collagen features seem to be aberrant in attained cases.

References

USE OF A TRANSCATHETER OCCLUSION DEVICE IN A 9-YEAR OLD FRIESIAN GELDING WITH AORTOPULMONARY FISTULA
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Introduction
Aortopulmonary fistula (APF) is a rare but severe condition occurring more frequently in Friesian horses. It was attempted to close the fistula using a catheter-delivered occlusion device.

Materials and Methods
A Friesian gelding (9y) was presented for cardiac evaluation because of signs of heart failure. The horse showed a bounding arterial pulsation and a left-sided 3/6 holosystolic and early-mid diastolic murmur. Echocardiography revealed an APF with left-to-right shunting. 2D and 4D ultrasound showed a bi-lobar fistulous tract of which the aortic origin was estimated to be at least three to four cm in diameter.

Results
Under general anesthesia, using ultrasound guidance, the tip of an 85 cm 14F introducer sheath (Mullins Transseptal Check-Flo Introducer, Cook) was introduced in the left common carotid artery, and maneuvered into the APF. A self-expandable, double disk device made from a Nitinol wire mesh (Occlutech Figulla ASD Occluder40, Occlutech) was inserted. The distal disk (55 mm) was deployed in the fistula and pulled back against the outer aortic wall. The second disk (50 mm) was deployed inside the aorta. Correct device position was clearly visible on ultrasound but despite repeated attempts, the device failed to remain in place when relieving tension on the delivery cable. Because of the grave prognosis of APF the horse was euthanized. Autopsy confirmed the diagnosis and showed that the fistula origin was larger than presumed (55 mm in diameter).

Conclusion
The largest commercially available occluder, intended for closure of a 40 mm defect, was used. As the current APF was 55 mm, the occluder failed to remain in correct position. Application of an ASD occluder to close APF in an adult Friesian horse proved to be technically feasible. The technique is likely to be effective in horses with a smaller APF.

Tissue Doppler Imaging and Two-dimensional Speckle Tracking Detect Left Ventricular Hypocontractility in Horses Exposed to Ionophores
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Introduction
Tissue Doppler imaging (TDI) and two-dimensional Speckle Tracking (2DST) are new echocardiographic techniques for quantifying left ventricular (LV) function. The aim of this study was to evaluate LV function by TDI and 2DST in horses following ionophore intoxication.
**Material and Methods**

Repeated plasma cardiac troponin I (cTnI) measurements and echocardiographic examinations (Vivid 7 Pro, GE Healthcare) were performed on seven horses accidentally intoxicated with lasalocid. Images were recorded from right parasternal short-axis (TDI and 2DST) and long-axis (2DST) views. Peak radial myocardial strain (deformation) was measured by TDI in the interventricular septum (SRivs) and LV free wall (SRLV), by 2DST, global radial (SR2DST), circumferential (SC2DST) and longitudinal (SL2DST) strain was measured. Fractional shortening (FS%) was calculated for comparison.

**Results**

All horses showed elevated cTnI levels at admission (range 1.39–816 ng/mL) which decreased during follow-up. In total, 31 exams were performed between 1 and 370 days after admission. Five horses showed severely decreased SRivs (4.93–25.41%), SRLV (5.81–16.88%), SR2DST (11.04–33.13%), SC2DST (-5.32–15.29%), SL2DST (-9.15–21.00%) and FS% (5–24%) at one or more occasions, indicating LV hypocontractility. During long-term follow-up, strain and FS% increased. In one horse, it took six to twelve months before measurements returned to reference values for SRivs (49.58±6.34%), SRLV (74.63±16.09), SR2DST (63.64±3.13%), SC2DST (-19.65±1.87%), SL2DST (-24.80±2.36%) and FS% (37±3.9%). Overall, SR2DST, SC2DST, SL2DST and FS% showed significant correlations with cTnI (p<0.01). All TDI- and 2DST-measurements were correlated with FS% (p<0.001).

**Conclusion**

TDI- and 2DST-measurements allowed accurate detection and quantification of LV dysfunction and correlated with cTnI and FS%.

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**WEIGHT ESTIMATION OF HORSES AND PONY’S USING A COMMERCIAL HORSE WEIGHT TAPE**

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**Introduction**

It is important for owners and vets to accurately estimate their equines weight in order to administer anthelminitics and antibiotics. Our hypothesis is: the Virbac PAVO Horse Weight Tape will be less accurate estimating the weight of ponies compared to horses.

**Materials and methods**

20 adult horses, mean age 10 yr (± SD 5), and 20 adult ponies 13 yr (± SD 6) of various breeds were included. The horses were divided into two groups based on height at the withers. The weight was estimated using the Horse Weight Tape followed by weighing on a weight bridge.

**Results**

The mean weight of the horses and ponies was 566.45 kg (± SD 66.70) and 331.35 kg (± SD 153.07), respectively. In horses, the average deviation of the estimation using the Horse Weight Tape was 2.77 % (± SD 2.46%) and the Pearson correlation between the estimate and the real weight was 0.955 (P<0.01), in ponies this was 8.41 % (± SD 10.93%) and 0.990 (P<0.01). We have calculated correction factors: for horses this is: real weight = 0.963 x estimated weight + 26.3. For ponies this is: real weight = 1.099 x estimated weight -36.47.

**Conclusions**

The correlation for the ponies is higher, probably due to a higher SD of weight with less outliers, in contrast to our hypotheses. The results imply that the Horse Weight Tape is more accurate for horses than for ponies and can lead to under or over dosage of anthelminitics and antibiotics particularly in ponies.
CHAPTER 7

RETIROSPECTIVE STUDY OF SPERMATIC CORD INFECTIONS (SCI) IN HORSES
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Introduction
An important complication after castration is spermatic cord infection (SCI). To gain more insight, we examined retrospectively 49 referred cases with SCI.

Material and Methods
Data were collected of the castration procedure and the post-operative recovery. Clinical presentation of SCI, and treatment were recorded. Follow up (at least 1 year) information was collected by telephone.

Results
Of 49 horses 26 were Dutch warmbloods, and 23 were other breeds. Mean age at castration was 38.2 months (range 12-72). Castration was performed recumbent (56%) or standing (44%). In 19%, an open technique, and in 81%, a half-closed technique was used. In 50%, vicryl 7 metric (USP 5) was used as ligature. No antibiotics were used pre-operative. Mean time between castration and symptoms of SCI was 8 months. Dutch warmbloods, and older horses (>36 months) suffered more from generalized illness. SCI surgery included funiculectomy or drainage and were performed in respectively 45 and 4 patients. SCI surgery was successful in 95% of the cases.

Conclusion/discussion
Several studies have demonstrated that older horses are more prone to develop complications after castration, which might explain the higher mean age in our study group [1]. Our study also identified a significant increased incidence of generalized illness in older horses in conjunction with SCI. None of the horses in our study was treated with antibiotics pre-castration, whereas application of antibiotics peri-operative has been shown to be associated with a lower incidence of postoperatively infections [2]. The most frequently used ligature was vicryl 7 metric (USP 5), and might have increased the risk on SCI. Papers on equine castration complications associate ligatures with a higher incidence of SCI and, if used, they recommend an absorbable ligature (USP 0 or 1)[1,2]. Prognosis of SCI surgery was very good.


A NEW, STANDING-MRI SILENT, OSTEOCHONDRAL FLAP (OCD) LOCATION, IN THE DISTAL INTERPHALANGEAL JOINT OF EQUINE FEET
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Introduction
Osteochondral cartilage flaps of the navicular bone are rare. (ref.1)

Materials and methods
2 Swedish Warmblood horses, with bilateral front limb lameness of several months duration, were treated at the University Hospital in Sweden. Lameness work ups as well as radiographic exams and a standing-MRI of the lower front limbs were performed. Intra-articular coffin joint injections with Hyaluronic acid and corticosteroids did not result in lasting effects. Subsequent diagnostic palmar coffin joint arthroscopy bilaterally were performed. Necropsy was performed in 1 horse.

Results
Palmar digital nerve anaesthesia as well as intra-articular coffin joint anaesthesia confirmed bilateral palmar foot-pain in both horses. Coffin joint arthroscopy showed bilateral cartilage flaps, on the proximal-dorsal articular surface (with the second phalanx) of the navicular bone in 2 horses. The cartilage flap was not diagnosed with a standing-MRI exam prior to surgery. Necropsy in one horse, showed articular cartilage flap lesions approximately 14 by 19 mm in size. Histological changes in the cartilage flap and subchondral bone were consistent with osteochondrosis (OCD) (ref. 2)

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Results
The majority of lesions found on MRI involve soft tissue injuries (86%). Bony deformities like oedema or micro fissures were detected in a minor number of cases (11%). Joint cartilage damage was found in only six horses (3%). The most common lesion detected involved the deep digital flexor tendon (DDFT 48% of the horses), followed by the superficial flexor tendon (SDFT 24%) and the collateral ligament of the navicular bone (CL 19%).

Discussion
In this study it was found that in the 93% of the cases in which regular lameness- and radiological examination failed to give a diagnosis, it was possible to detect critical tissue lesions in the foot using MRI. Structures most commonly involved were the DDFT en SDFT. A similar incidence of DDFT injury was found by Dyson et al. 2005, however SDFT injury was not detected in their study. This study illustrates the relevance of MRI to obtain a specific diagnosis in foot pain horses for adequate treatment and follow up.

References

MAGNETIC RESONANCE IMAGING FINDINGS IN HORSES WITH CLINICAL FOOT PAIN ADMITTED TO A UNIVERSITY CLINIC IN THE NETHERLANDS
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Introduction
A retrospective study was performed to determine the additional value of magnetic resonance imaging (MRI) in a large group of continental horses with clinical foot pain and to determine the type and prevalence of identified lesions.

Materials and methods
Data were analysed of 138 horses that underwent MRI (low field, 0.27T) examination under general anaesthesia at the Equine Clinic of Utrecht University between January 2003 and July 2010. Horses included in this study were selected for having lameness diagnosed in the foot from a positive high palmar/plantar perineural analgesia.

Conclusion
To the knowledge of the author this is the first report of OCD at this particular anatomical location. Articular surface, osteochondral flaps of the navicular bone should be implemented in the differential diagnosis list with regards to causes of palmar foot pain.

One horse did improve over time with regards to lame-ness, but is still not sound 6 months after surgery.

Introduction
A follow up retrospective study regarding the clinical efficacy of medical treatment of horses with presumptive or confirmed synovitis in the distal limb showed a poor outcome for horses in which the distal interphalangeal joint (DIPJ) was involved. As it has been shown that intra-articular anaesthesia of the DIPJ alleviates lameness caused by pain that is localized outside this joint the present study was performed to specify the causes of the lameness.
for a negative effect of treatment of clinical synovitis of the DIPJ in a cohort of clinical patients.

Materials and methods
Data were analysed of 16 horses that underwent a clinical lameness examination at Utrecht University (2003-2010). Inclusion criteria were a positive DIPJ block, negative radiological findings and a negative response on systemic application of NSAIDs in combination with intra-synovial deposition of glucocorticosteroids. The horses were examined using MRI (low field, 0.27T) under general anaesthesia.

Results
In 2 cases the MRI scans indicated articular cartilage abnormalities in the DIPJ (13%). In one patient, no obvious abnormalities were found (6%). In the remaining 13 patients lesions were found in the soft tissues outside the DIPJ (81%). The typical diagnoses were tendinitis of the communis extensor tendon (6%), desmitis of the collateral ligament of the DIPJ (13%), tendinitis of the DDFT (44%), desmitis of the impar ligament (19%), navicular bursitis (13%), desmitis of the proximal collateral ligaments of the navicular bone (13%), desmitis of the lateral axial palmar ligament (6%), and chronic tenosynovitic changes in the distal recess of the DFTS (6%). In 44% of the cases, multiple changes on the MRI scans were visible.

Conclusions
Horses with a positive block of the DIPJ and negative radiological findings have pathological changes in the soft tissues outside the DIPJ in the vast majority of the cases, which is in line with previous experimental data (2,3) and which explains the poor response of systemic and intra-articular medical treatment of the DIPJ (1).

Potential relevance
 Owners of lame horses with the typical findings of a positive DIPJ block and negative radiology should be encouraged to have an MRI scan performed prior to medical treatment.
Conclusion
Horses with carpal flexor sheath pathology have a more than fair chance of returning to sound athletic performance. There is an inverse relationship between the duration of clinical signs and outcome, and therefore, prompt surgical attention is advised.

Long-term Outcome in 27 Horses; With Meniscal Tear Diagnosis and Arthroscopic Suture-Repair in the Stifle Joint
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Objective
There is little published information available describing arthroscopic meniscal tear repair and long-term post op prognosis in horses.

Materials and Methods
Medical records of horses with stifle lameness that had arthroscopic exploration were reviewed. Lameness duration varied from several weeks to months prior to surgery. Diagnostic confirmation was obtained with diagnostic imaging (ultrasound/radiographs) and/or arthroscopy. Horses with osteochondrosis lesions, intra-articular fractures, or osseous cyst-like lesions were excluded. In each stifle joint (n=27) meniscal lesions were found, debrided (n=7) and/or repaired (n=20) with the use of an “outside in” suture technique as described in literature. (ref.1) Following surgery a 4 month period of rest and controlled exercise was implemented. Pertinent case information was analyzed and short- and long-term outcome was assessed.
Results
Diagnostic ultrasound was the most sensitive diagnostic tool for identifying meniscal injuries. Follow-up information was available for 27 horses over a period of up to 2.5 years post surgery. All horses that underwent meniscal lesion debridement, improved after surgery and were sound within 6 months after surgery. Of the 20 sutured menisci, 6 horses (30%) improved and 14 horses (70%) were sound and returned to their previous level of function. Time between onset lameness and surgery being viewer than 2 months showed a shorter convalescent time and better prognosis long-term.

Conclusions
A less favorable prognosis was associated with increasing time between onset lameness and surgical repair. Arthroscopic exploration and repair provides a valuable treatment option with regards to meniscal injury in horses.

Reference