Could maggots be the way forward for wound healing? Clinicians in France and Mali have been using maggot debridement therapy (MDT) to manage chronic wounds. They presented their findings at the 2012 convention of the American Association of Equine Practitioners.

Over a four year period, Dr Olivier Lepage and colleagues treated forty-one cases (35 horses, 4 donkeys, 2 ponies) in the Equine Clinic at the veterinary campus of Lyon (France) and in the SPANA veterinary centre, Barnako (Mali).

The maggots used were sterile larvae of *Lucilia sericata* (common green bottle fly maggots), which have been used in human medicine to clean long-standing, infected or necrotic wounds. Maggots digest fibrin and necrotic tissue, along with bacteria, and secrete proteolytic enzymes and antimicrobial agents into the wound.

Interestingly these are the same species of fly larvae that are the most common cause of fly strike in rabbits and sheep. In horses (and humans) it appears that healthy tissue is able to inactivate the proteolytic enzymes so that only diseased tissue is digested. In contrast, sheep and rabbits can not inactivate the enzymes.

Maggots were applied either directly onto the wound or retained within a polyester net containing small pieces of foam. They were kept in place with cohesive, but not occlusive, bandage – maggots need oxygen.

Other local treatments were stopped before the maggots were applied. Systemic antibiotic treatment was stopped as well (except in cases of infection of the navicular bursa.)

Between 300 and 900 maggots were used for each wound, depending on its size. They were left in place for three days. In 5 cases the response to the initial MDT was inadequate and so a second treatment was applied for a further 3-4 days.

Conditions treated included limb lacerations, deep seated foot infections and soft tissue abscesses.
The eggs of the large roundworm of horses, *Parascaris equorum*, are particularly resistant to extremes of climate and may survive for many years in stables and on pasture. Composting is becoming a popular method of dealing with waste from equine premises. How likely are *P. equorum* eggs to survive in composted manure?

A study carried out by researchers from the University of Kentucky Department of Animal and Food Sciences on a central Kentucky horse farm investigated the viability of *P. equorum* eggs in manure subjected to windrow composting. For the purposes of this study, a single windrow approximately 42.3m in length, 2.7m in width, and 0.9m in height was built. It contained equine manure, soiled bedding and other waste material, which came from stables occupied by adult stallions and mares. Temperature and carbon dioxide levels within the row were monitored daily. The compost would be mechanically turned and aerated as necessary to maintain optimum conditions.

Previous experience had shown that it took 10-12 weeks for the windrow to decompose completely. Sentinel chambers were used to expose 3g samples of feces to the composting process. The faeces, collected from a weanling foal, had an average of 2216 *P. equorum* eggs per gram. Sentinel chambers were used to expose 3g samples of feces to the composting process. The faeces, collected from a weanling foal, had an average of 2216 *P. equorum* eggs per gram. The chambers were made of mesh that kept the *P. equorum* eggs inside, whilst allowing liquids and bacteria to pass through.

Chambers were exposed to one of three treatments.

- **Constant exposure.** The chambers were placed within the centre of the windrow. Each day after the windrow had been turned, the chamber was placed back in the centre of the windrow.
- **Intermittent exposure.** The chambers were placed in the centre of the windrow. On alternate days, after the windrow had been turned, the chamber was placed back in the centre, or placed on the outside of the windrow.
- **Control chambers** were kept at 4°C.

Chambers treated with constant exposure contained about 10% viable eggs on day 2 and 0% by day 8. Intermittent treatment resulted in 16% viable eggs on day 2 and 0% by day 6. In contrast, control chambers had average *P. equorum* egg viabilities of 79% throughout the 18 days of the study.

The researchers concluded that not only was the windrow composting system effective in eliminating viable *P. equorum* eggs, it did so rapidly.

For more details see:

The effects of windrow composting on the viability of *Parascaris equorum* eggs.

Donkeys may find transportation more stressful than do horses according to research from Italy, which found that donkeys show an increase in ACTH and cortisol in response to transportation.

Researchers from the Department of Morphology, Biochemistry, Physiology and Animal Production, University of Messina, Messina, Italy conducted a small study to compare the stress responses of donkeys and horses to transportation. Lead researcher was Dr Esterina Fazio.

Six healthy Ragusano donkey stallions and a similar number of healthy San Fratellano horse stallions were included in the study. The Ragusano and Sanfratellano breeds are native to Sicily where the study was conducted.

The animals were transported 50km by road to a breeding station. They travelled six at a time in a trailer with partitions dividing it into individual stalls. Three animals travelled in stalls facing forwards; three travelled backwards. All six donkeys were transported together. The horses were transported together on a separate occasion.

Blood samples were collected one week before transportation and immediately before loading. Further samples were collected after transportation and unloading. The samples were assayed for β-endorphin, ACTH and cortisol, all of which have been used as markers of stress in horses.

Publishing the work in the Animals Science Journal, Dr Fazio and colleagues report that, compared to basal and pre-transport values, donkeys showed a significant increase in circulating ACTH (P < 0.001) and cortisol (P < 0.0005) levels after transportation. Donkeys also had higher ACTH (P < 0.01) levels than horses after transportation. β-endorphins levels did not show a significant change.

In contrast, horses only showed a significant increase in cortisol (P < 0.005) levels after transportation compared to basal and pre-transport values. No significant differences were detected for ACTH and β-endorphin levels.

The authors conclude: “The results indicate that short transportation induces a preferential activation of the hypothalamus-pituitary-axis (HPA), with significant release of ACTH and cortisol in donkeys and only of cortisol in horses, suggesting that transportation for donkeys may be more stressful than horses.”
**Treating Rhodococcus equi infections**

*Rhodococcus equi* is the cause of “rattles”, a potentially lethal disease of foals, characterized by chronic broncho-pneumonia with abscesses in the lungs.

Affected animals show signs of fever, cough, rapid breathing, and nasal discharge. Typically the disease occurs in foals up to 6 months old. Ultrasonography can be used to identify pulmonary abscesses.

Treatment is difficult. The organism is resistant to many common antibiotics. It lives inside the cells (alveolar macrophages and neutrophils) that are supposed to destroy it. This presents an added problem for treatment, as it is necessary to use antibacterial agents that can get into these cells to reach the bacteria.

A long course of suitable antibiotics - such as erythromycin and rifampin - and/or immune plasma, is required to effect a cure. If the infection is diagnosed too late, antibiotics are often no longer sufficient to cure the disease, and death may occur within weeks.

Many farms on which the infection is endemic have adopted the practice of mass antibacterial treatment of foals. Foals with small pulmonary abscesses that are visible on ultrasonography are treated even if they show no signs of illness. But is it necessary? Concerns over antibiotic resistance and unnecessary use of antibiotics have led to this practice being questioned.

Dr Monica Venner and others conducted a clinical trial during the 2011 breeding season on a Warmblood stud farm in Germany, on which *R. equi* infection was endemic. A full report of the study is published in the Journal of Internal Veterinary Medicine.

Weekly examinations were performed until the foals were five months old. Any foals with a temperature >39.5°C, respiratory rate >80/min, coughing, abnormal lung sounds, or a WBC count >13.0 x 10^3/L were examined by thoracic ultrasonography.

The clinicians recorded the number of abscesses and added their diameters together to give an abscess score. Foals with an abscess score between 5cm and 10cm were included in the study, giving a total of one hundred and eight foals. These were randomly assigned to five treatment groups:

- tulathromycin IM;
- doxycycline PO;
- doxycycline with rifampin PO;
- azithromycin and rifampin PO, and
- saline IM as a placebo.

Foals which showed worsening signs of disease were removed from the study and treated with azithromycin/rifampin. The proportion of foals with evidence of disease progression in the different treatment groups did not differ significantly.

The researchers conclude: “this study has shown that the majority of foals with pulmonary abscesses recover without antimicrobial treatment and that treatment of affected foals does not provide a clear benefit over the administration of a placebo and might result in problems of antibiotic resistance in *R. equi*."

“Mass antimicrobial treatment of all foals with subclinical pulmonary abscesses (score of 5–10 cm) is unnecessary.”

For more details see:

Efficacy of mass antimicrobial treatment of foals with subclinical pulmonary abscesses associated with Rhodococcus equi.
M. Venner, K. Astheimer, M. Lämmer and S. Giguère
Journal of Veterinary Internal Medicine (2013) 27, 171–176
doi: 10.1111/jvim.12030
Tapeworms are a potential problem amongst working donkeys in Ethiopia research has revealed.

The work, carried out by Dr Mulugeta Getachew formed part of his PhD studies and was funded by the Donkey Sanctuary.

He conducted a serological survey of donkeys from four different geographical regions of Ethiopia. Blood samples were collected from 797 donkeys, that had been naturally exposed to tapeworm infection. None had never been treated for tapeworms.

The tapeworm ELISA test, developed for use in horses, was used to detect parasite-specific serum antibody, IgG(T), in the serum of donkeys. A pilot study had confirmed that the test was suitable for use with donkey sera.

Dr Getachew found substantial serological evidence that donkeys were potentially infected with the tapeworm *Anoplocephala perfoliata*.

Overall, most animals harboured few parasites and a few donkeys were infected with large number of parasites. The results indicated that 26% and 8% of the donkeys were moderately and highly infected, respectively. The remainder had low infection intensity or were negative for *A. perfoliata* infection.

He reports that sex, age and body condition of the donkeys had no significant effect either on the prevalence of infection or on the serum antibody level.

However, when the results from different regions of the country were compared, he found a marked difference. Bereh, a mountainous region, had significantly more moderately (51.2%) or highly (23.5%) infected donkeys, than the other midland or lowland regions.

He explains that, in contrast to the other regions studied, Bereh is characterized by pastures that are low-lying and wet, with wide areas of permanent pasture specifically kept for animals and for haymaking. This is likely to result in favourable environmental conditions for the survival and development of both the oribatid mites that are the tapeworm's intermediate host and the tapeworm eggs.

Dr Getachew found substantial serological evidence that donkeys were potentially infected with the tapeworm *Anoplocephala perfoliata*.

He concludes that “The finding of high sera-prevalence of cestode (tapeworm) infection, which is consistent with the results of coprological and post-mortem findings clearly indicates that cestodosis is one of the major parasitic problems in the donkey population of Ethiopia.”

For more details see:

Equine cestodosis: a sero-epidemiological study of *Anoplocephala perfoliata* infection in Ethiopia.


Veterinary Research Communications (2012) 36, 93-98.

doi:10.1007/s11259-012-9516-z

Endoparasites of working donkeys in Ethiopia: Epidemiological study and mathematical modelling. PhD thesis University of Glasgow 2006

Getachew, Mulugeta Adak Dr

http://theses.gla.ac.uk/1444/1/2006getachewphd.pdf
It seems that some breeds are better at losing weight than others.

A new study has confirmed that different breeds have different capacities for weight loss, with Standardbred horses losing condition much more readily than Andalusians or ponies. The findings will help to improve the effectiveness and safety of weight loss programmes in the future.

The study, Comparison of weight loss, with or without dietary restriction and exercise, in Standardbreds, Andalusians and mixed breed ponies, was conducted by the University of Melbourne’s Faculty of Veterinary Science in Australia, in collaboration with the Waltham® Equine Studies Group. It will be presented at the Equine Science Symposium, New Mexico in May 2013.

Twelve obese animals, comprising four Standardbreds, four ponies and four Andalusians, all with body condition scores (BCS) of 7-9 out of 9, were initially kept on ad lib hay for 20 weeks and then fed individually on a restricted diet of 1.25% bodyweight of hay for up to 12 weeks. Two from each breed group were exercised daily on a horse walker. Dietary restriction was stopped when each horse reached a BCS of 5, which occurred between 4-6 weeks in the Standardbred group. However, even after the full 12 weeks of dietary restriction, the ponies only dropped from a BCS of 7.1 to 5.9 and the Andalusians from 6 to 5.2.

Clare Barfoot research and development manager at Spillers® said: “The ponies and Andalusians retained condition on ad-lib hay and were relatively resistant to body fat loss even when hay was reduced to 1.25% body weight. Daily exercise also didn’t have much impact on these two groups. However, the Standardbreds lost significant amounts of weight and body condition when maintained just on ad-lib hay and subsequently lost weight much more rapidly on the restricted diet. Further work is planned to find out whether these breed variations are related to insulin sensitivity or other hormonal differences.”

1. Comparison of weight loss, with or without dietary restriction and exercise, in Standardbreds, Andalusians and mixed breed ponies: S.J. Potter, N.J. Bamford, and S.R. Bailey, Faculty of Veterinary Science, The University of Melbourne, Victoria, Australia, P.A. Harris, Equine Studies Group, Waltham Centre for Pet Nutrition, Leicestershire, UK

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Anthelmintic resistance in Brazil

Anthelmintic resistance is an increasing problem, with similar patterns of resistance being found around the world.

Recent research in Brazil found that resistance to fenbendazole among cyathostominis (small strongyles) was widespread. On almost half of farms studied pyrantel was not fully effective.

On each farm, horses were divided into four treatment groups, and were treated with fenbendazole, pyrantel ivermectin or moxidectin. Faecal worm egg counts were carried out 10d before treatment, on the day of treatment and 14 day later.

The faecal egg count reduction test was used to determine each product’s efficacy. Faecal culture demonstrated that the resistant worms were cyathostomins (small strongyles).

The research team identified management practices that appeared to be associated with the degree of resistance. “At the horse farms where we found resistance to two drugs, the management data revealed that horses in the yard were treated at 2-month interval or less and the farmer did not rotate pastures.”

“In contrast two horse farms that we found anthelmintic resistance only to fenbendazole and a high efficacy to pyrantel, reported that the main management strategy was to dose the animals after long treatment intervals of more than 90 days.”

The macrocyclic lactones (ivermectin and moxidectin) retained high levels of efficacy. However, marginal levels of efficacy for ivermectin were found on three farms. The detection of suspected resistance to these products was a cause for concern.


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Tendon structure and ageing

Why are tendon injuries more common in older animals than in younger ones? Is it a matter of wear and tear, or is it simply due to age related changes in the tendons? Recent investigation into tendon structure may provide an answer.

Most tendons simply transfer force from the contracting muscle to bone, resulting in limb movement. An example of such a low-strain positional tendon is the common digital extensor tendon (CDET). Some tendons also store and release energy – an example being the superficial digital flexor tendon (SDFT). Most tendon injuries occur to high-strain energy storing tendons, such as equine superficial digital flexor (SDFT). In contrast, the low-strain equine common digital extensor (CDET) is rarely injured.

Muscles are composed of bundles (“fascicles”) of muscle fibres, which are bound together by the interfascicular matrix (IFM).

Scientists at Queen Mary University of London, along with colleagues from the University of Liverpool and University College London, have been working on a project, in which they have been dissecting tendons from horses in order to better understand the role of the IFM.

A report of the work, which was funded by the Horserace Betting Levy Board, was published in the Royal Society journal Interface.

The research team examined the mechanical properties of whole tendon, fascicles and interfascicular matrix, comparing the differences obtained from SDFT and CDET. They found that fascicles from the SDFT failed at lower loads than did those from the CDET. Despite that, the SDFT as a whole was more extensible than CDET.

The greater extensibility of SDFT (as a whole) compared to CDET could be explained by differences in the IFM. Stiffness of IFM was lower in SDFT allowing the fascicles to slide past each other.

Dr Hazel Screen, senior lecturer in medical engineering at Queen Mary, University of London, said: “we have now found that the matrix which binds the fascicles together in the tendon, the IFM, is essential for tendon function and that changes to this structure may be responsible for tendon injury.”

Lead author Dr Chavaunne Thorpe from the School of Engineering and Materials Science at Queen Mary, University of London explained: “We tested how the components within the SDFT worked to enable the tendon to stretch and function effectively.

“When we looked at its capacity to stretch, we found that the IFM, previously thought to be unimportant in tendon function, was essential to SDFT extension in horses. We found that tendons with a stiffer IFM were not able to stretch as far before they failed.”

“Sliding between fascicles prior to fascicle extension in the SDF, may allow the large extensions required in energy-storing tendons while protecting fascicles from damage.”

Further work by the same research team identified age-related changes in the IFM that could help explain the increased risk of tendon damage in older animals.

They studied age-related changes in mechanical properties of whole tendon, fascicle and interfascicular matrix, comparing the differences between SDFT and CDET. They found that the amount of sliding at the fascicular interface in the SDFT decreased with increasing horse age. Although there was no change in the mechanical properties of the whole SDFT or its constituent fascicles with increasing age, age related changes to the IFM did occur.

They explain: “This matrix becomes stiffer in aged tendons, which is likely to result in the fascicles within the tendon being loaded at an earlier point during tendon extension. The subsequent higher loads experienced by the fascicles during use may predispose these fascicles to damage and subsequently lead to increased risk of fatigue-induced tendon injury.”

In contrast, there was no relationship between fascicle sliding and age in the CDET.

Although this work has been carried out using tendons from horses, the findings are relevant to human medicine as well. The Achilles tendon in humans can sustain similar injury to that seen in the equine SDFT.

For more details see:

Specialization of tendon mechanical properties results from interfascicular differences
Thorpe CT, Udeze CP, Birch HL, Clegg PD, Screen HR.
J. R. Soc. Interface. (2012) 9 , 3108-3117

Capacity for sliding between tendon fascicles decreases with ageing in injury prone equine tendons: a possible mechanism for age-related tendinopathy?
Thorpe CT, Udeze CP, Birch HL, Clegg PD, Screen HR.
Eur Cell Mater. 2013 Jan 8;25:48-60.

Full text available free online
The researchers also found that the pour-on permethrin product was poorly distributed around the body. Twenty-four hours after routine treatment of 10 donkeys with the product, they collected hair tufts from the middle of the back and from the flanks. The tufts taken from the flanks were not significantly insecticidal compared with those taken from the midline where the permethrin was applied. They comment that exposing lice to sub-lethal doses risks encouraging the development of resistance.

Another study\(^a\) raised the possibility of using essential and non-essential oils in the control of biting lice. Rose Talbert and Richard Wall examined the toxicity of six plant essential oils to the chewing louse, *Bovicola (Werneckiella) ocellatus* collected from donkeys.

The six oils assessed were: tea-tree (*Melaleuca alternifolia*), lavender (*Lavandula angustifolia*), peppermint (*Mentha piperita*), eucalyptus (*Eucalyptus globulus Labillardiere*), clove bud (*Eugenia caryophyllata*) and camphor (*Cinnamomum camphora*).

Talbert and Wall found that all oils except camphor showed high levels of toxicity. Fifty percent mortality was achieved at concentrations below 2% (w/v). Concentrations of 5-10% resulted in 100% mortality. Two essential oil components: eugenol and (+)-terpinen-4-ol, showed similar levels of toxicity.

They suggest that these botanical products may offer environmentally and toxicologically safe, alternative veterinary treatments for the control of ectoparasitic lice.

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Horse and ponies come in all shapes and sizes. Domestication and intense selection has resulted in wide variation between breeds.

Work in humans has shown that height is controlled by a vast number of genes, each with only modest effect. What about horses?

Researchers at Cornell University, New York, have been investigating the genetic control of equine size.

Shokouh Makvandi-Nejad and colleagues in the Department of Clinical Sciences, found that in horses, like other domestic mammals, a small number of genes was responsible for controlling size.

They conducted genome-wide association scans (GWAS) on DNA from 48 individuals from 16 breeds of both extremes of size, ranging from the American Miniature and Falabella to Shire, Percheron and Suffolk Punch, as well as 48 Thoroughbreds.

They found that genetic variation at just four points (“loci”) on the chromosomes could explain most of the variation in size between breeds.

The loci, on chromosomes 3, 6, 9, and 11, together accounted for 83% of the variation in size differences of the breeds in the study.

“Unlike humans, which are naturally reproducing and possess many genetic variants with weak effects on size,” the researchers comment “we show that horses, like other domestic mammals carry just a small number of size loci with alleles of large effect.”

Furthermore, three of our horse size loci contain the \textit{LCORL}, \textit{HMGA2} and \textit{ZFAT} genes that have previously been found to control human height.”

They add that “the simplicity of the genetic control of horse size contrasts greatly with the complexity of human size genetics but is similar to results for the domestic dog.”

For more details see:

Four loci explain 83\% of size variation in the horse.
Can you spare a few minutes to complete a questionnaire to help research into saddle slip? Scientists at the Animal Health Trust are trying to understand more about the reasons for a saddle to slip persistently to one side in some horses. Follow the link for more details...

To this end they have devised a questionnaire to examine the interactions between horses, saddles and riders.

Saddle slip is a problem seen in all sorts of horses and ponies and can contribute to back pain. It may also be a sign of hindlimb lameness.

A recent study by Line Greve and Sue Dyson at the Animal Health Trust Centre for Equine Studies in Newmarket, found that that saddle slip is not necessarily due to an ill-fitting saddle or asymmetric shape of the horse's back.

Sue Dyson said: “Detection of saddle slip provides an opportunity for the owner, riders and trainers to detect low-grade and subclinical lameness, with important welfare consequences.”

Greve and Dyson are continuing their investigations, trying to understand more about the reasons for a saddle to slip persistently to one side in some horses. To this end they have devised a questionnaire to examine the interactions between horses, saddles and riders.

The questionnaire should only take a few minutes to complete, and will help reveal the frequency of occurrence of saddle slip and the risk factors involved.

http://www.aht.org.uk/cms-display/premise_questionnaire.html

David Rendle from the Liphook Equine Hospital in Hampshire, will present "a live online broadcast on how the veterinary profession's understanding of this debilitating and devastating disease has been completely revolutionised over the past five years.

The programme will update horse owners on the major changes that have occurred in our understanding of the causes of laminitis, and will focus on endocrine disease.

"Historically laminitis has been viewed as solely a nutritional problem, frequently occurring as a result of horses grazing lush pasture," Rendle explains. “However, recent studies indicate that up to 90% of horses may develop laminitis due to an underlying hormonal disease such as Equine Cushings’s Disease or Equine Metabolic Syndrome, and the ingestion of sugars, for example in lush pasture, may just be a trigger factor for laminitis in horses with these diseases."

The online broadcast characterises Equine Cushings’s Disease and Equine Metabolic Syndrome and offers practical tips and advice on the diagnosis, treatment and management required to help prevent laminitis in horses with these conditions. Central to this is the importance of testing all horses and ponies with laminitis for these hormonal diseases so that veterinary surgeons are fully informed about how to treat and manage the horse in the future.

“Unless the underlying cause of the laminitis is addressed, horses will continue to be at risk of painful recurrent episodes which is a significant welfare issue to the horse and extremely frustrating for owners. As our knowledge of the two hormonal diseases responsible for the majority of cases of laminitis improves, veterinary surgeons can offer their clients more comprehensive advice on treatment options to prevent laminitis. For many owners who have struggled with this condition, this is an absolute relief and revelation,” continues David Rendle.

The online broadcast is part of Boehringer Ingelheim’s nationwide ‘Talk About Laminitis’ disease awareness initiative, supported by the British Horse Society, World Horse Welfare and Redwings.

The Laminitis Revolution programme is broadcast live online on Wednesday 10th April at 8pm (and afterwards on demand).

To register go to: http://www.bi-learn.co.uk/categories/equine

Researchers at University of Minnesota have been a studying the role of factors such as breed, gender, age, environment (diet and exercise) and genetics in Equine Metabolic Syndrome (EMS)

The investigation involved more than 600 horses located throughout the US. In a webinar presented January 29, 2013, Dr Nichol Schultz highlighted findings from the study...

To view the recording of the (Free) webinar go to .. http://www.myhorseuniversity.com/resources/webcasts/emsrisk
Developmental joint disease in Norwegian Standardbreds

A research project carried out at the Norwegian School of Veterinary Science has revealed that 50.7% of Norwegian Standardbred yearlings suffer from loose bone fragments and lesions in their joints.

Developmental orthopaedic disease is well recognised in the horse, and can result in lameness or poor performance. It can appear in various forms such as: osteochondrosis (OC)/osteochondrosis dissecans (OCD), palmar/plantar osteochondral fragments (POF or “Birkeland fractures”), ununited palmar/plantar eminences (UPE) and dorsoproximal first phalanx fragments.

The aim of the study, led by Sigrid Lykkjen, was to assess the prevalence, development and interrelation of the various forms of developmental orthopaedic disease (DOD) affecting the tarsocural, metacarpophalangeal (MCP) and metatarsophalangeal (MTP) joints in Standardbred trotters.

This work formed the basis of her PhD thesis entitled “Genetic studies of developmental orthopaedic joint diseases in the Standardbred trotter.” The research was carried out as a collaborative project between the Horse Clinic and Department of Disease Genetics at The Norwegian School of Veterinary Science, the University of Ås and the University of Minnesota.

Tarsocural and MCP/MTP joints of 464 Norwegian Standardbred yearlings, born in 2006 and 2007, were examined radiographically.

Lykkjen assessed the prevalence of osteochondral lesions and also looked at the interrelation between affected sites.

She found osteochondral lesions in 50.7% of the horses. OC/OCD of the tarsocural (hock) joint occurred in 19.3%. Of the lesions in the hock joint, OCD of the distal intermediate ridge of the tibia (DIT) was the most common. The prevalence of OC/OCD in MCP joints was 3.6%, whereas the prevalence of POF and UPE in MCP/MTP joints was 23.1% and 3.9%, respectively.

It was common for horses to have similar lesions on the opposite leg. There was an association between OCD of the distal intermediate ridge and OCD of the lateral trochea ridge, and between POF and UPE.

The research project also included analyses of the horse’s whole genome to try to identify variations in DNA that could be linked with the occurrence of osteochondrosis and Birkeland fractures. Lykkjen found areas of DNA associated with these two diseases in several chromosomes, showing that these are complicated ailments influenced by many genes.

The high prevalence results for tarsocural OC/OCD (which were, in fact, higher than in a previous study of Swedish Standardbreds) emphasise the need for breeders to take account of these diseases in planning their breeding programme.

For more details see:


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