

Report on Trip to Rood and Riddle, Kentucky USA 10 July 2011 to 22 July 2011

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Introduction

After approximately 20 hours flying time with an 18 hour stopover in San Francisco, we arrived in Lexington Kentucky to what is a very pleasant Airport after Chicago and San Francisco. The impact of the horse culture was immediately evident, particularly of the thoroughbred with famous horses dotted all around the airport in bronze statues and the TB lineage breeding chart tiled into the main lobby. Lexington is the hub of the Kentucky horse scene with a population of 300,000 people and about 12,000 foals born per annum (approximately one third of the total USA TB crop).



Lexington Airport

Our hosts were the Rood and Riddle Equine Hospital Podiatry department headed by Dr Scott Morrison. The department is part of a large multi discipline private equine hospital employing over 60 vets (total staff 200) and a capability of housing up to 200 horses. It has all the latest and greatest facilities for surgery, imaging, sports medicine, lameness work ups, general medicine and the area we were focused on podiatry.



Podiatry Department - Rood and Riddle

The podiatry department had four vets (also qualified farriers) five farriers, a fabricating engineer and three further administrators. Podiatry had a stand alone air conditioned facility with a workshop, three large rubber floored work areas, day boxes and offices. Much of the work was also ambulatory so there were six fully equipped farrier/vet trucks containing all manner of equipment, i.e., cutting, grinding, drilling, heating....



Vet Farrier Trucks



Vet Farrier Trucks



Farrier Workshop

As well as servicing the large number of thoroughbred studs and racing yards in the Kentucky area, there were a large number of clinic referrals of all types of horses, Tennessee walking horses, sport horses, Arabs and western horses, many of which came from out of state. The department also regularly serviced several large racing and breeding operations in Europe and South America.

Cases Attended

1. Foal trims



Foal Trimming

At the time of our visit there was one of the routine monthly visits going on at a large local stud. On this stud every four weeks all foals were assessed and trimmed by the team of Rood and Riddle. Strict records are maintained, particularly on any requiring corrective measures and these are all followed up on by the technicians to ensure treatment programmes were scheduled. At each visit about 90 foals were examined by a team of 6 vets/farriers and the abnormal cases videoed. All the foals were just being weaned and the emphasis for this time was to encourage all foals to “toe out” and limit the fetlock and knee varus confirmation. I.e. have the front legs point outwards. This was encouraged by having a slightly lower inside heel trim in all foals and making a very pronounced rolled margin on the hoof wall. Some of the problem foal owners were offered manipulations involving glue on extensions and surgeries such as transphyseal bridging and periosteal strips.



Foal Lateral Extensions

2. Yearling trims

The main Keeneland sale was about 6 weeks from starting so a great deal of work was going into maintaining the “correct” foot structure and limb confirmation for the sale. At this time the yearlings we saw were under a great deal of pressure in terms of feed intake and regulated work.

The same principles used in the foals applied as to the desired toed out, mildly valgus conformation (angled inwards at the fetlock and slightly in at the knee).

In the yearlings examined, many of the problems we encounter here in New Zealand coming up to the sale time, such as pushing knees out, physitis and club feet were seen in Kentucky but to a far greater extent. For the larger clients of Rood and Riddle, all yearlings are assessed monthly and many simply need a trim. Any needing remedial work such as lateral extension shoes for toed in horses, or spring shoes for contracted heels, 2 degree wedges and rolled toes for club feet, was carried out with entirely glued on shoes. No yearling was shod with a nailed on shoe until 3 – 4 days before shipping to the sale.



Spring Shoe



Polyflex Glue On Extension Shoe



Aluminium Lateral Extension Shoe

In some severe cases of limb deformity transphyseal screws were being used as late as 2-3 months out from sale particularly on the lateral aspect of the distal radius with good success.

3. Mare and old horse salvage procedures

a. Laminitis

A large number of cases of laminitis were dealt with on the farm and at the clinic. It was difficult to pin point the main risk factors for this problem however it no doubt has some links to the very high quality of the pasture and general management practices.

In all cases the essence of returning the pedal bone to the correct position within the hoof capsule is the aim of therapy. To achieve this many techniques were used but it was essential to get good radiographs in all cases. In some cases contrast radiography i.e. where a dye is injected into the blood vessels of the foot to assess blood supply was used to give a pointer to outlook. However, usually plain X-rays were used to get a base line of pedal bone angles.



X-Ray of Severely Rotated Pedal Bone



Trimmed, sole packed, heel plate, glue on shoe wrapped with gladwrap while setting

The priorities in treatment were:

- i.) Improve the comfort of the horse by trimming the hoof to correct pedal bone angle and to give the bony column support through sole and frog packs and the use of glue on rocker shoes. There were many shoe options used in different cases. Such as sigafoos, a type of slipper, and full round shoes with heel plates and a rocker profile to give earlier break over.



Sigafoo Shoe for glue on

- ii.) Where there is still reasonable vitality of the laminae then the use of regional perfusion of stem cells (both allogenic and autogenous) was giving very encouraging results.



Regional perfusion

- iii.) In severe cases where the mechanical correction is optimised the use of deep digital flexor tendonotomy is found to be very useful so was a very common procedure.

b. Pedal bone infections

Several cases were observed requiring curetting of the pedal bone. Such cases were generally operated on standing with regional perfusion of antibiotics, following bacterial culture of the wound and sensitivity testing to antibiotics, the method of choice for medication post surgery. Such cases usually had special hospital shoes manufactured on site with affected areas floated (trimming the affected wall so it is non weight bearing) to reduce weight bearing and hospital plates applied. The use of sterile surgical maggots was favoured to encourage healthy clean granulation tissue in the wounds with very good results.



Sterile maggots used in a pedal osteitis

4. Referral Lameness

- i.) Quarter cracks. Normally the affected areas were floated (trimmed so not weight bearing in that area) with heart bars or other full support shoes glued on. The cracks were opened to clean tissue and then anchored together with cobra strips (fibreglass), wire sutures and then glued.
- ii.) Sheared heels. These were usually treated very successfully with spring shoes glued on.
- iii.) Navicular disease/ Caudal heel pain. Generally these horses had the dorso-palmar balance (weight of the horse central between heel and toe) looked at closely with a huge emphasis on the use of rocker shoes and good heel support. Full round wedge shoes were used in some cases, however no exact formula was used in every horse. Many of the horses treated with heart bar shoes were unable to tolerate

- the loading on the frog and a more mild support such as that given by heel plates and soft sole compound were better.
- iv.) Sinkers (where the pedal bone drops within the hoof capsule not necessarily with any rotation of the pedal bone). Many cases of unilateral sinking or lamina collapse were seen caused by a variety of reasons. One such case involved a young thoroughbred stallion which had sunk as a result of a painful condition of the medial aspect of the foot. These were very challenging cases requiring the need to support the bony column. This was usually achieved by using sole support with such things as dental impression putty and floating the painful areas. This is a condition we don't believe has been recognised well in New Zealand.

Main Principles

1. Good diagnosis

Examining the horse carefully and where necessary using radiographs intelligently to assess the starting point for a hoof problem.

2. Creating a good plan

Involving a good team approach with the vet, farrier and owner in decision making.

3. Maintaining the plan.

This requires good records, predetermined follow up visits and good communication.

How does New Zealand improve Equine Podiatry Standards?

1. Education
 - a. Client education. Through all media, horse owners need help to better understand what good hoof care is and what is not: We need to encourage breeders to assess foals and yearlings earlier and more regularly and to proactively address problems; understand the principles of hoof balance, and know when horses need to have feet trimmed and or shoes refitted and what a good shoeing job looks like.
 - b. Vets and Farriers. The promotion of combined education events such as the NZERF scholarship. The encouragement of initiatives directly from NZ Farriers Association and the NZEVA: Work on better identification of qualified farriers and promotion of quality work with the public.

2. Introduction of new technology.
New Zealand has limited access to some of the special therapeutic shoes we have seen but wider availability of the following would be helpful.
 - a. Better access to the latest glue on products
 - b. Specialist shoes such as Sigafos, kegs, polyflex shoes, spring shoes,
 - c. Better sole support products.
 - d. Easier access to sterile maggots.
 - e. Development of better stem cell generating systems.

In short we believe that New Zealand needs to develop the equine podiatry discipline, the mission statement might read something like: *Too lift the awareness of equine hoof health and help develop techniques to improve welfare and performance of New Zealand horses through better hoof care.*

We would like to thank the NZERF for giving us the opportunity to travel to Rood and Riddle Equine Hospital in Kentucky and to all the staff at Rood and Riddle. We were made most welcome there and have come home inspired by the experience to improve the way we deal with the horses hoof and to hopefully encourage others to do the same.