EFTBA Veterinary Newsletter 18

Roy Miller "Into the Sun"

Business and Ethics of Racing

Part II

December 2015

. *Pre-purchase examinations at sales are of great importance for the integrity of our business and for the welfare of the horse as well*

. The radiographic and endoscopic examination at sales is a responsible task and requires great expertise

. Outstanding expertise is also an imperative condition for managing the transport of racehorses and breeding stock

"Many thanks to Mrs. Eva-Maria Bucher-Haefner, Moyglare Stud Farm, for her valued sponsorship of this newsletter."

Welcome to EFTBA's veterinary newsletter

Dear European breeders,

At our last fall meeting, we insisted on the responsibility for the industry to endorse ethics and sustainability issues. This is why I feel the initiative of Dr Hanspeter Meier to report on the presentations held in Baden-Baden in August is more than useful.
The recent publication of guidelines on foal endoscopy has already allowed benefical enhancements at breeding sales. We should hope that the subjects studied here will contribute to the same input for yearling pre-sales examination.
I also take this opportunity to extend to all of you my warmest wishes for a most successful breeding season.

With kind regards

Hubert Honoré

Hubert Honoré

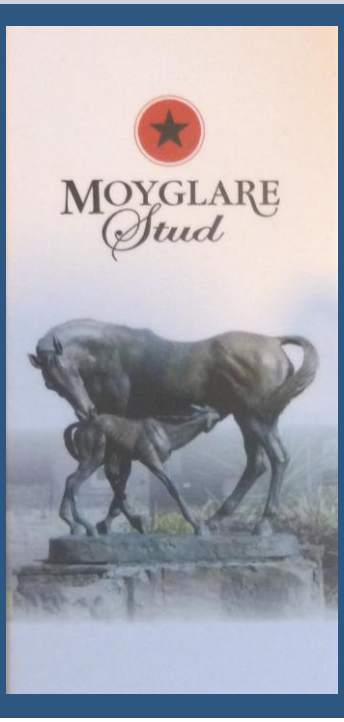
Chairman, EFTBA

Editorial

In our 17th newsletter, we summarized some presentations of the conference "Business and Ethics of Racing" in Baden-Baden, and in the second part of the report, with this issue, we become acquainted with further three subjects of importance in our work: veterinary matters at sales, the transport of horses and aspects of optimized recovery for them after exertions. Once more, these subjects were presented with the intention to improve economical requirements of our endeavors and ethical aspects for our horses – two things which normally go hand in hand.

Dr Hanspeter Meier

EFTBA veterinary advisor & Newsletter editor



Introduction

Soundness is an indispensable prerequisite for performance and a buyer doesn't want to purchase a horse with an obvious problem. The time from August to December therefore is a very busy time not only for breeders but for veterinarians as well, examining horses before and at the sales. In Baden-Baden, two presentations informed about the routine of this demanding task: the pre-purchase examination at the sales in regard to radiography and endoscopy.
Other most important aspects of health and welfare in our industry are the transport of horses and the quality of their recovery after exertions. Our chairman of the veterinary advisory committee, Des Leadon, delved in these two high-brow fields.

The Role of the veterinarian in:

- pre-purchase exams
. radiography
. endoscopy
- transport
- recovery after exercise

Behind the scenes of the yearling pre-purchase examination

Robert Dallas, Rossdales, Newmarket

Selection Process

Although individuals are allocated to a particular sale in the summer of that year, the selection process actually begins much earlier. Factors which influence the sale in which a particular yearling may be entered include:
- Pedigree
- Physical appearance
- Consignors preference,
- Sales representative assessment
- Radiography results

Pre-Sales Screening Radiographs

Early in the spring, individuals being considered for sale later that year undergo a routine radiographic screening. The standard protocol consists of 36 views of fetlocks, carpus, hocks and stifles.
Each individual's radiographs are then examined and allocated a grade, based on the below grading system.

• Grade 1: no radiographic abnormalities detected.
• Grade 2: radiographic abnormalities detected to be of little or no significance and unlikely to interfere with sales revenue or racing potential.
• Grade 2-3: mild radiographic abnormalities which some vets may comment on at sales but in our opinion are considered low risk.
• Grade 3: moderate radiographic abnormalities that vets will discuss with a purchaser at sales and may have some impact on sales revenue and are considered a moderate risk for racing.
• Grade 4: Marked radiographic abnormalities that are likely to have a significantly detrimental effect on sales revenue and are considered a high risk for racing.

Surgical Intervention

Although the majority of yearlings will have radiographic changes that require no further intervention, some may have abnormalities which are considered for surgical treatment. Often, such lesions have no current clinical significance, however the individual may still undergo surgery for cosmetic reasons in an attempt to prevent a negative impact on their future sales price. Surgery performed at this time of the year allows an adequate period of recovery before the animals undergo yearling preparation later in the year.

Yearling Preparation

Generally the majority of consignors will begin yearling preparation between 8 and 10 weeks prior to the sale. Yearling preparation involves a change in both dietary management and exercise routine. Some individuals thrive during the preparation, whilst others are unsuited to this pressure early in their career. Such individuals may end up being withdrawn from the sale.

Sales Radiography and Video Endoscopy

For the majority of select yearling sales throughout North America, Europe and the southern hemisphere, most individuals will be presented for sale with a full set of radiographs taken within 21 days of the sale. The protocol is the same as the pre-sales screening radiographs taken in the spring. In addition, many vendors also now prefer to submit a video-endoscope of the horse's upper respiratory tract (larynx) at the same time. Both of these are presented for veterinary examination at the sale (repository system).

Veterinary Examination at the Sales

The veterinary examination of Thoroughbreds at the sale can consist of up to three stages:

Stage 1: The physical examination includes assessment of: eyes, heart, teeth, external genitalia (Rig?), surgical scars, limbs, conformation and gait evaluation at the walk (Fig. 1)

Fig. 1 Gait evaluation at the walk

Stage 2: Endoscopic examination of the upper respiratory tract (larynx). The examining veterinary surgeon will either perform a standing, resting endoscopy of the yearling or examine the video-endoscope, if one is provided. Several laryngeal grading systems exists, however the authors personal preference is the 'Lane classification' as detailed below (Fig. 2).

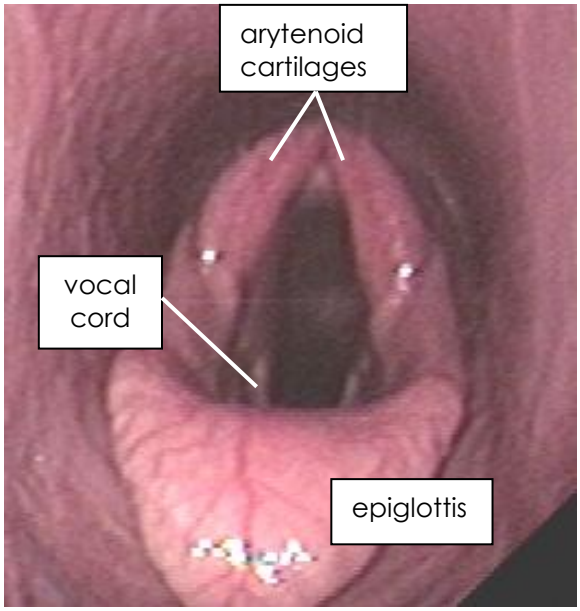


Fig. 2 Endoscopy of the larynx (grade 1)

• Grade 1: Full and symmetrical abduction of arytenoid cartilages is seen.
• Grade 2: Some mild resting asymmetry is noted but full and symmetrical abduction is seen and maintained. This is a clear pass.
• Grade 3: Full and symmetrical abduction of arytenoid cartilages may briefly be obtained, particularly after a nostril closure or some other stimulatory movement. Grade 3 does generally require discussion with a potential purchaser.
• Grade 4: Full abduction of the arytenoid cartilage never achieved and is a fail.
• Grade 5: No movement of the left arytenoid noted and is a fail.

Stage 3: Radiographic Assessment: The final part of the vetting procedure involves assessment of the individuals' sales radiographs. Several sales companies now offer a repository service where the radiographs and video-endoscopes may be submitted for viewing by vets. This has been well accepted by vendors in North America but is still not fully utilised by European consignors. Radiographic grading at this stage uses the same system discussed previously. Rarely does an individual fail on radiographic findings alone. Instead it is more likely that radiographic findings form part of the overall discussion and decision making process with the client on the suitability of the horse for purchase.

Post Sale Blood Analysis

This is not compulsory at the majority of sales and is performed at the purchasers' request and expense. Which drugs are tested for may vary from sale to sale and are generally outlined in the conditions of sale. Non-steroidal anti-inflammatory drugs (NSAIDs) are tested for most frequently. However, corticosteroids and indeed anabolic steroids are both generating much current interest.

Post Sale Wind Test

The criteria, which may allow a horse to be returned to the vendor following purchase are outlined in the conditions of sale. These may include return of an individual due to undeclared vices or an upper respiratory tract (wind) problem. As a result some purchasers choose to have their yearlings "wind tested" following purchase at their own expense. This involves the individual being lunged on both reins while the clients' veterinary surgeons listen for a characteristic inspiratory noise. If found to make such an inspiratory noise, the yearling is then subjected to endoscopy. Based on both results, the

horse may then be represented to the sales company whereby an independent panel of three vets will repeat the procedure and the outcome of this examination is final.

Common radiographic changes detected in Thoroughbred yearlings and their significance

Robert Dallas, Rossdales, Newmarket

Pre-sale radiography forms an important part of the veterinary examination when horses of all types are being sold, both privately and at public auction. The purpose of such examinations are to detect any bony abnormalities, which may influence that animals' ability to perform its intended function.

Radiographic Acquisition

A standard screening set of 36 views are taken for assessment at the sale as follows:

- **Fetlocks**: lateromedial (LM), dorsopalmar (DPa), dorsal lateral palmar medial oblique (DLPMO), dorsal medial palmar lateral oblique (DMPLO)
- **Carpus**: lateromedial (LM), dorsopalmar (DPa). dorsal lateral palmar medial oblique (DLPMO), dorsal medial palmar lateral oblique (DMPLO)
- **Hocks**: lateromedial (LM), dorsopalmar (DPa), dorsal lateral palmar medial oblique (DLPMO), dorsal medial palmar lateral oblique (DMPLO)
- **Stifles**: caudocranial (CD-CR) and caudo-lateral-craniomedial oblique (CDL-CRMO)

Examining the Radiographs

Radiographs may be presented for assessment at the sale in either film or digital formats (repository system), with the latter now being the most common. - Veterinary surgeons assessing the radiographs should ensure that they have an accurate system for recording their results. All images should be present and each one should be clearly labelled with the horse's identity, date of acquisition, which limb it is and the radiographic orientation. The easiest way to ensure this is using a simple tick sheet as illustrated below:

- Grade 1: no radiographic abnormalities detected.
- Grade 2: radiographic abnormalities detected to be of little or no significance and unlikely to interfere with sales revenue or racing potential.
- Grade 2-3: mild radiographic abnormalities which some vets may comment on at sales but in our opinion are considered low risk.
- Grade 3: moderate radiographic abnormalities that vets will discuss with a purchaser at sales and may have some impact on sales revenue and are considered a moderate risk for racing.
- Grade 4: Marked radiographic abnormalities that are likely to have a significantly detrimental effect on sales revenue and are considered a high risk for racing.

Radiographic Abnormalities

The most common radiographic abnormalities observed on routine yearling examination include:

- bone modelling, osteophytes, enthesophytes
- developmental orthopaedic diseases, osteochondrosis dissecans (OCD), osseous cyst-like fragments
- fractures, chips
- sesamoiditis

The significance of each of these findings may differ depending on the joint or joints affected together with the size and location of the lesion within the joint. Some individuals may frequently have more than one abnormality and this may influence the final radiographic grade. Rarely does an individual fail on radiographic findings alone. Instead it is more likely that the findings form part of the overall discussion and decision making process with the client on the suitability of the horse for purchase.

A review of long distance elite horse transport and its effects and consequences

Des P. Leadon, Irish Equine Center, Johnstown

Short distance transport of racehorses is, as every trainer knows, almost always of very little consequence. The only significant exception are the "bad travellers" that may or may not respond to repeated exposure to transport and a patient approach. Longer distance transport presents a much greater challenge and months of work and planning can be undone in the course of a few hours. There is **much focus on the duration of the journey**. However this often fails to take door to door time and allowances for delay into consideration. In fact, there is a personal maxim – "the only certainty in transport,.....is delay."

Scientific evidence shows very clearly that measurable journey effects can be detected after eight hours of transport. These effects include weight loss and changes in the cells and biochemical components of circulating blood. The longer the journey, the greater the challenge.

Some of adverse effects of transport can be related to the **"head-held-high" position** that horses have

to adopt, when they are confined in road vehicles and in jet stables for air transport. Horses are, by nature, free-ranging pasture grazers. Roaming and constant eating (from the ground) is a prerequisite for normal clearance of the respiratory system of the horse. Interference with this clearance system, by holding the head high for protracted periods, allows the micro-organisms that normally inhabit the throat, to spread downwards into the deep respiratory system, resulting eventually, in pleurisy and pneumonia (Fig. 3). This transport associated problem is known colloquially as **"Shipping Fever"** and has been documented in the veterinary literature since the time of Horace Hayes's descriptions of sea transport of military horses to the Crimea and Boer Wars. Those journeys took many days. Similar journeys now take hours. **The important time lines in journeys occur at about 8-12 hours, 24 hours and at 36 hours and beyond**.

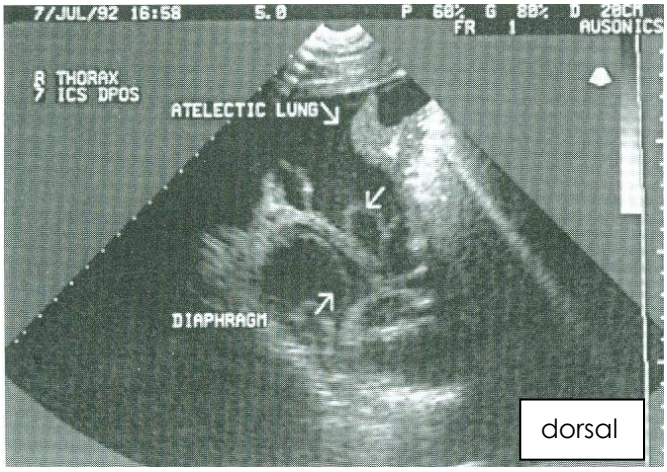


Fig. 3 Sonogram of the right side of the thorax of a 4-year-old filly with pleuropneumonia, with pleural fluid (black) in the thorax and a compressed tip of the lung (arrow). The right side of the ultrasound picture is dorsal and the left side is ventral (Reef 1998).

The Japan Racing Authority commissioned studies on the high incidence of "Shipping Fever", and it commenced at about eight hours in a small minority of the horses, increased to just under 10% by 24 hours and rose to almost 50% of horses by 40 hours.
The condition is well known in the breeding sector of the horse industry and also, in racehorses in Continental Europe. It becomes a real issue for every trainer and breeder, when planning long distance road journeys. It is not possible to predict which horses will succumb to "Shipping Fever" and which will not. However, one of life's few certainties is encapsulated in another maxim **"sick horse onto a lorry – very sick horse off"**. This is particularly true of pre-existing respiratory disease.
There is great value in ensuring that everything possible is done to prevent horses with respiratory disease (or a pre-disposition to it) being subjected to long journeys. It could be argued, for example, that long distance transport of horses with a known history of "Bleeding" is contra-indicated.

Viral respiratory disease, that well known "thief in the night" that so damages the viability of training establishments, is a very potent predisposing factor in the development of "Shipping Fever". This disease has a particular relevance to colts and entire horses. **Episodes of fever in entire males are associated with subsequent reduction in sperm cell production**. Extreme fever for protracted periods can permanently impair male fertility. This is the reason why Veterinary Surgeons accompany the shuttle stallions to Australia. Prompt detection of "Shipping Fever" at altitude has saved many an important stud career.
Respiratory disease is always the primary focus of veterinary attention in relation to horse transport, but confinement in either a road vehicle or an aircraft, does not convey any immunity from all of the myriad other problems that are inherent in horse-keeping. The data shows that **colic** also occurs during journeys and that stress-induced **diarrhoes** including Salmonellosis are also transport associated.

The intuitive anxiety of lay people and of the horse industry, is of trauma. **Frenzy** does occur in the course of transport. There are many documented instances of very high profile horses killing themselves. Although road-side unloading is an option in land transport, this is unavailable while at sea on Roll-On/Roll-Off ferries and in aircraft. Sedatives and tranquilisers are very potent medicines and access to them and their use is controlled by law. Insurers reserve the right to refuse claims which are based on the administration of medicines by unlicensed personnel. The use of medicines to try to control frenzy is always a difficult judgement call. These drugs are not as effective or are ineffective, when given to an already frightened horse. The need to race "medication-free" is another issue that has to be taken into consideration, when selecting the drug of choice for any given instance.

Recovery period: The Hong Kong Jockey Club commissioned a study by the Irish Equine Centre into the effects of journeys for horses travelling in

their international races. These studies showed that most horses, i.e healthy horses, needed a five to seven day recovery period to return to their pre-flight status, after air journeys to Hong Kong from Europe, the USA or Australasia. Only a very small minority of horses recovered more quickly than this. The recommendation that horses should be transported to Hong Kong some 10 days or so prior to racing was based on the need for post arrival treatment for journey effects to be eliminated prior to racing. Forward planning and preparation, with an allowance for delays and for the elimination of appropriate medication should be part of any breeder or trainers management of their transport programme.

Fig. 4 Horse stalls being loaded on to a cargo plane (Photo: IRT, Magee 2015).

Quarantine and Isolation regulations

We are all often frustrated by the seemingly endless bureaucracy that accompanies international movements. However, very important diseases are readily spread by transport. Exotic disease can result in the complete "shut-down" of any racing stable and of the entire industry. The 2007 outbreak of Equine Influenza brought about the total cessation of racing and breeding in New South Wales and Queensland, cost millions upon millions of dollars and resulted in the loss of many jobs within the industry. Quarantine and isolation regulations are designed to protect us all from this sort of catastrophe. These regulations and their enforcement are often imperfect, but they are all that we have, and we all share a common responsibility to the industry as a whole. They must be approached with respect, tolerance and consideration.

International travel regulations are a reminder that our very best protection is in our own hands. The gate of the racing establishment must be regarded as a personal frontier. The health status of the horses and the "**Biosecurity**" of the training stable **must always be a priority**. Every yard must have stables that can be used as an effective quarantine and isolation facility. New arrivals must be screened for infectious diseases and kept isolated until they have been cleared. Visitors, especially those who have been to other stables in the course of their work, should be regarded as a potential high-risk. Hand washing, disinfection and protective clothing are everyday measures which are themselves essential and carry the added benefit of heightened awareness. Ours is an industry that needs "Heroes" if it is to survive and prosper. International racing provides a significant number of them each year. Transport is essential for international breeding racing and its festivals. Transport associated risks need to be recognised, but they can be managed and should never be a deterrent.

A review of Co-enzyme Q10 as an enhancer of recovery in exercised horses

Des P. Leadon, Irish Equine Center, Johnstown

Coenzyme Q10 (CoQ10), or ubiquinone as it is also known, is a naturally occurring compound with properties similar to those of vitamins. It is found in virtually all tissues and plays a vital role as an electron carrier or acceptor in the final stage of aerobic respiration in the mitochondrial electron transport chain. As such it has been regarded as an ergogenic (performance enhancing) aid. Maximal oxygen consumption and the time to complete fixed exercise tests have reportedly been improved in some human athletes following its supplementation. Addition of diets with CoQ10 in people has also been reported to prolong exercise time and distance to exhaustion. The fully reduced form of CoQ10 (ubiquinol) is a major cellular antioxidant that functions as a first line of defence against oxidative stress and, as such, is consumed before other important antioxidants like a-tocopherol.

Exercise-associated arthritic and locomotory soft tissue injuries and pulmonary conditions like EIPH and pneumonia are frequent precursors to horses being spelled from training, or their premature retirement. The role of oxidative stress in these events has received increased attention in recent years. Horses that are undergoing detraining under such circumstances are known to suffer a progressive loss in cardiopulmonary and metabolic adapta-

tions to training and it is unknown whether the ongoing effects of the oxidative stress associated with racing are contributing factors. The potential benefits of providing antioxidants as a means of slowing these effects of detraining have not been evaluated in depth. Supplements developed for equine athletes invariably consist of multiple products and claim to maintain or improve fitness and/or recovery from competition, although such claims are often unsubstantiated by controlled studies. CoQ10 has not been well studied in equine athletes despite claims that it promotes aerobic energy production regardless of fitness level and, in North America and Australia, is becoming used in equine supplements. CoQ10 cannot be legitimately used as a feed additive in the EU because there is no license for its use in food producing animals, which include the horse. The licensing agency for animal food products is the EFSA and the lead-in time from product development, essential studies and research to eventual marketing of high quality contaminant free products is prohibitive at present.

European Federation of Thoroughbred Breeders Associations

257 Avenue le Jour se Lève

92655 Boulogne CEDEX

France

Phone:

+33 4 71 58 49 17

Fax:

+33 4 71 58 41 15

E-Mail:

info@eftba.eu

Web Site:

www.eftba.eu

References

Dallas R. (2015): Behind the scenes of the yearling pre-purchase examination. Pferdeheilkunde 31 (5, September/October), 503-504

Dallas R. (2015): Common radiographic changes detected in Thoroughbred yearlings and their significance. Pferdeheilkunde 31 (5, September/October), 510-511

Leadon D. (2015): A review of long distance elite horse transport and its effects and consequences. Pferdeheilkunde 31 (5, September/October), 500-501

Leadon D. (2015): A review of Co-enzyme Q10 as an enhancer of recovery in exercised horses. Pferdeheilkunde 31 (5, September/October), 506-507

Magee S. (2015): How flying vet Des Leadon helps horses cope with the hazards of air travel. Thoroughbred Racing Commentary, February 5

Reef V.B. (1998): Equine Diagnostic Ultrasound, W.B. Saunders Company, Philadelphia, 192

www.hippiatrika.com