



# HORSES INSIDE OUT

## DISSECTION Series



Report by **Stephanie Martin**

These hands-on day courses offered an amazing insight into the anatomy of the horse and provided a rare and invaluable opportunity to look at the structures we influence by training and therapy. The information I learnt on these courses not only got me thinking, but I have been able to use with my day to day work with horses.

Dr. Andrew Hemmings, a Neuroanatomist and the Principal Lecturer in Equine Science and Production at the Royal Agricultural College, along with Gillian Higgins, Therapist, BHSII, Anatomist and Biomechanist led the dissections, although there were plenty of opportunities to get hands on both in palpation of the specimens, articulating joints and with dissection.

It was also good to know that no horse had been specifically compromised for the purposes of any of these dissection courses. Andrew collects the specimens from an abattoir as an offshoot of the now booming horse meat industry.



In the Cranial dissection we looked at all aspects of the head and poll area including the mouth, teeth, hyoid apparatus, the musculature of the jaw and the TMJ. Andrew's knowledge of behaviour led to an in depth examination of how brain mechanisms influence behavioural patterns and how malfunction can give rise to repetitive stereotypic behaviours such as crib-biting and weaving. We also saw how the horse responds to certain management regimes, training and new learning experiences. It also explained responses to certain outside stimuli such as touch related therapy. This demonstration paved the way for a deeper insight into the functioning of other anatomical structures.

The Spine dissection was so incredible and illuminating! Looking at the entire spine from poll to tail, Gillian led the dissection in detail about joint mechanics, spinal ligaments and musculature and their effect on movement, performance and posture in one room, whilst Andrew focused on the central nervous system, the neural plexus and the nerves and their effect on movement, learning and behavioural responses with another specimen in another room. As there was so much going on I went to this dissection twice! Once to spend the day listening to Andrew and the next time with Gillian! And intend to go again next year!



The Limb dissection included the forelimb skeletal and musculature from the shoulder. This meant we were able to study the stay apparatus of the forelimb, the thoracic sling musculature and therefore discuss the range of movement available within the forelimb. We looked at the entire hind limb from the pelvis enabling an in depth study of the superficial and deep muscles of the hind quarters, the stay apparatus, and the joints in the hind leg including the sacroiliac Joint. The strength and the stability of the sacroiliac joint really surprised and impressed me and it was great to discuss the implications of this with regards to movement. The tendons and ligaments of the lower leg and the hoof were also covered in much detail.

The Internal Organs dissection was a great success. With Catherine Hale Equine Nutritionist and Researcher also lecturing, studying the entire digestive tract was amazing albeit rather smelly! Andrew then led us through the female and male reproductive tracts. We discussed the effects of training on the cardiovascular and respiratory system with Gillian and had the opportunity to look at an in utero foal.

A great series of dissections! Thank you to Andrew, Gillian and Horses Inside Out for giving us these great learning opportunities and I'll look forwards to seeing you at Hartpury College next year!!