

A Virtual Reality Simulator for Training Veterinary Students to Perform Rectal Palpation of Equine Colic Cases

Sarah Baillie MRCVS, *The Royal Veterinary College, University of London, UK*

Contact: sbaillie@rvc.ac.uk

David Rendle MRCVS, *Faculty of Veterinary Medicine, University of Glasgow*

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Veterinary surgeons use palpation as a valuable diagnostic tool in many procedures
For example...

- Equine colic (abdominal pain)
- Bovine pregnancy diagnosis
- Feline abdomen and many more...

Learning and teaching palpation skills is difficult because...

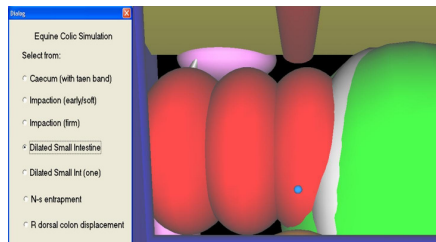
- Opportunities for students to practice palpation skills are limited
- Often the student's hand is not visible to the instructor
- Instructor's knowledge / skill is tacit and difficult to explain to students



To address this for equine colic, a virtual reality haptic (touch feedback) simulation has been developed

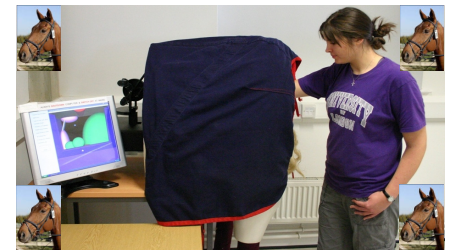


A Colic Simulation



- Virtual models were created of the horse's intestines, other organs & colic cases e.g. twisted gut, impaction (constipation)
- Students are trained to perform a systematic examination of the abdomen
- Colic case simulations are used in role-play exercises and to compliment clinical material

The Equine Colic Simulator



The simulator has been evaluated as a teaching tool and is used to train students at the Royal Veterinary College...

Validation

- The performance of simulator trained students was compared with a group who received a tutorial
- Simulator trained students were significantly better when performing an examination on a life size model horse

Outcomes:

- Simulator training is included as part of the clinical rotations at the Royal Veterinary College, London
- As well as the advantages the simulators provided to students, animal welfare also benefits

"the role-play made me think on my feet"

Clinician Feedback

- The Equine Colic Simulator was useful supplement to clinical teaching
- Being able to "see inside the horse" made teaching easier
- Overall, clinician feedback and student comments have been positive



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In the future the range of simulations will be expanded to include other species and procedures...