

Haptic Simulators as Tools to Assess Veterinary Clinical Skills

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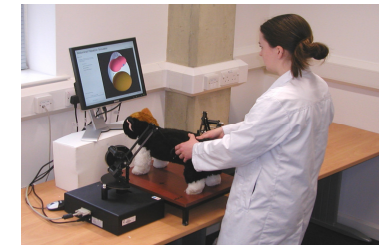
Haptic Simulators have been developed for teaching a number of palpation skills For example...



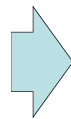
- Equine colic (Haptic Horse)
- Bovine fertility (Haptic Cow)
- And some new small animal simulators e.g. ...



The Haptic Cat



Assessment of palpation skills is challenging because...

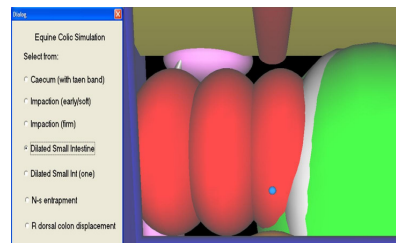


- Many veterinary palpation-based procedures are internal & out of sight, which makes it hard to assess the student's technique
- Standardising the test environment for all students can be difficult
- Issues relating to 'uses of the live animal' (ethics and welfare)



How Could Haptic Simulators be Used in Assessment?

Diagnosing Equine Colic



- Evaluating skills for palpation related examinations e.g. rectal palpation of equine colic and bovine pregnancy
- Comparing a student's technique to that of an expert e.g. when palpating a cow's uterus, a cat's abdomen
- As part of a role-play exercise e.g. a simulated farm visit in tutorials (formative) and in OSCEs (summative)

Simulated Fertility Visit

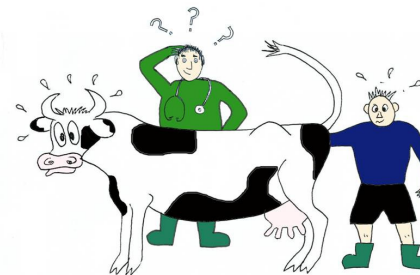


Work at the RVC to Incorporate Haptic Simulators into Formative and Summative Assessment

Formative

Haptic Cow & Horse

- Being able to see & follow the student's hand movements has enabled teachers to give more feedback on performance
- Role-play exercises provide safe 'trial & error' environments where mistakes have no serious consequences & can be corrected



Summative

Work in progress

- Test diagnostic skills e.g. bovine pregnancy. Establish construct validity - will simulator discriminate skill levels (vets > students)?
- Record experts' techniques e.g. path and force (in Newtons). Will be used as a metric to assess student performance

LIVE

LIFELONG
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EDUCATION



Take home messages: Haptic simulators have a useful role in formative assessment and potential to provide objective summative assessment but further work is required...