

- SOP No:** AHP 90
- SUBJECT:** Hypothermia (cryotherapy) of the distal limb of horses
- POLICY:** This procedure may only be performed by operators skilled in the technique.  
Horses must be monitored constantly throughout the experimental period. At the onset of any persistent clinical discomfort, euthanase horses immediately.
- PRECAUTIONS:** Boots, overalls
- EQUIPMENT:** Rubber boot (Bigfoot Ice boot)  
Light harness with saddle bags to house data loggers,  
Data loggers  
Thermistor probes and cable  
Cubed ice
- PROCEDURE:**
1. Two hours prior to commencement of the experiment and 10 mins after removal of the ice boot at experiment termination evaluate the horses for lameness. All horses are walked toward and away from the observer and circled to the right and left. If mild or no lameness is detected at the walk then trot the horses toward and away from the observer. Lameness of the forelimbs is graded from 1-5 with five being the most severe. The presence or absence of hind limb lameness is also recorded. Following the post trial lameness examination, all horses are subjected to euthanasia by overdosing with barbiturate to effect, and the fore and hind feet removed and processed according to the experimental aims.
  2. Confine horses to stocks in pairs (for companionship) for the duration of the 24 h experiment with free access to feed and water.
  3. Place the hoof temperature thermistor probes on the surface of the hoof and tape in place. Lightly tape the cable connecting the probe to the data logger to the horse's limb with electrical insulation tape. The data logger is housed in a small saddle bag attached to light harness that the horse wears throughout the experiment.
  4. Place the left forelimb of each horse into the rubber boot (Bigfoot Ice boot) containing a mixture of 50% cubed ice and 50% water. The level of ice and water should be just below the carpus (knee) to improve

- distal limb cooling efficiency. The boot should be open at the top so that the limb is free to move within the boot. Ice and water levels are adjusted continuously during the experiment.**
- 5. Forelimb hoof temperature (HT), ambient temperature, and internal ice boot temperature are logged continuously. Data from the data loggers is downloaded to computer software that graphs the recorded temperature against time.**
  - 6. Recorded rectal temperature at 2 h intervals. Monitor appetite, demeanour, oral mucous membrane capillary refill time, faecal output, heart rate and pulse quality every 2 hr as indicators of clinical status.**
  - 7. Following the post trial lameness examination, all horses are subjected to euthanasia by overdosing with barbiturate to effect, and the fore and hind feet removed and processed according to the experimental aims.**

#### **RECOMMENDATIONS:**

**DATE ISSUED:** 28 October 2009

**REVISED:**

#### **REFERENCES**

- 1. Pollitt, C.C. and van Eps, A.W. (2004) Prolonged, continuous distal limb cryotherapy in the horse. *Equine Vet J* 36, 216-220.**
- 2. van Eps, A.W. and Pollitt, C.C. (2004) Equine laminitis: cryotherapy reduces the severity of the acute lesion. *Equine Vet J* 36, 255-260.**