

The Basil Capes Memorial Lecture
The University of Guelph
March 2004
Vince Molony
Royal (Dick) School of Veterinary Studies
The University of Edinburgh

Dr. Vincent Molony was recently the speaker at the Basil Capes Memorial Lecture at the University of Guelph. Dr. Molony holds a Personal Chair in Animal Welfare in the Department of Veterinary Physiology at the Royal (Dick) School of Veterinary Studies, University of Edinburgh. His current research focuses on the mechanisms underlying acute and chronic pain and pain in farm animals. He has been particularly prominent in investigating the pain associated with castration and tail docking.

Dr. Molony provided close to 100 participants with an overview of current understanding with respect to animal pain. Dr. Molony defined animal pain as an aversive sensory experience representing an awareness by the animal of damage or threat to the integrity of its tissues. Pain changes the animal's physiology and behaviour to reduce or avoid the damage, to reduce the likelihood of recurrence and to promote recovery. Unnecessary pain occurs when the intensity or duration of the experience is not appropriate for the damage sustained and when physiological and behavioural coping responses do not alleviate it. Dr. Molony spoke of his belief that we need to be able to assess animal pain to make a judgement regarding the significance of the pain to the animal – we can then use this understanding to help to assess the animal's welfare and to decide whether to treat the pain and/or its cause or to euthanize the animal because effective treatment is not available. We also need to assess animal pain to be able to compare the benefits of new and existing treatments.

Dr. Molony investigated what physiological and behavioural changes could be used to determine the severity of the pain suffered by animals. Dr. Molony had recently conducted an in-depth research study to develop a model for the assessment of acute pain in lambs. This research involved groups of male lambs exposed to six decreasingly severe treatments:

1. Castration and tail docking C*&TD (most severe).
2. Bilateral castration C*2
3. Unilateral castration C*1
4. Tail docking TD
5. Short scrotum castration without local C*0
6. Short scrotum castration with local C*0La
7. Handled controls H (least severe).

Lambs were observed for 180 minutes after the procedure and plasma cortisol was measured at 11 time points. Active behaviours (lying, abnormal lying, dog sitting, etc.) were recorded continuously (Figure 1) and postures were recorded every 2 minutes for 96 minutes, then every 6 minutes.

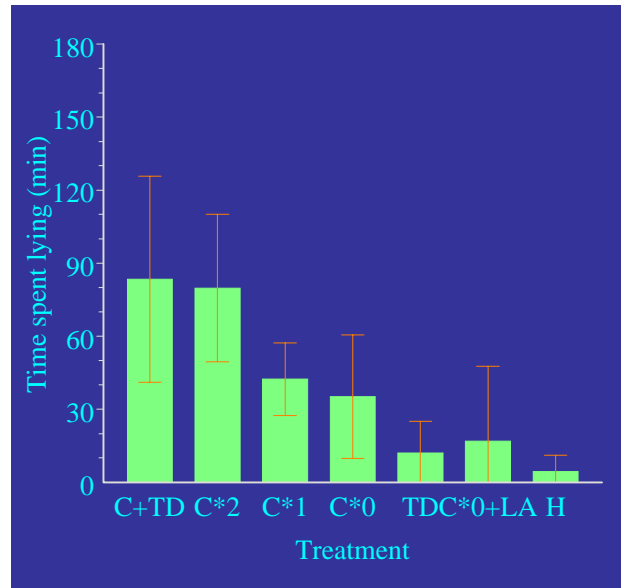


Figure 1: Effect of decreasingly severe treatments on time spent in abnormal lying behaviour by lambs in the first 180 min after treatment.

By analysing the behaviours and postures, Dr. Molony and his team were able to allocate individual lambs into pain categories:

1. Severe – were associated with the active behaviours such as restlessness, easing quarters, tail wagging, incidence of rolling and would require strong analgesics or euthanasia.
1. Moderate – were associated with vocalization, standing still, dog sitting and lying with only partial extension of the hind-limbs and would require analgesic.
2. Mild/no pain – were associated with normal postures and would require no treatment.

Dr. Molony concluded his discussion by providing details on how this model could be used to find less painful methods for castration and other procedures, to demonstrate when pain reduction techniques are successful and to persuade farmers to use less painful methods when procedures can be shown to be painful.

Further information on Dr. Molony's research can be found at:
www.vet.ed.ac.uk/animalpain/