

Analgesia for Surgical Procedures in Large Animals

Project Licence Constraints

All project licences are granted with a set of general constraints for anaesthesia and surgery that apply to all protocols. Regarding analgesia for surgical procedures the following is stated:

- *Peri and post-operative analgesia will be provided; agents will be administered as agreed in advance with the NVS;*

Therefore it is required that all animals undergoing surgical procedures will receive analgesia appropriate to the procedure being conducted. Analgesia may only be omitted where there is specific scientific justification included within the relevant protocol of the project licence. This includes non-recovery surgical procedures.

Recommendations

Surgical anaesthesia requires both loss of consciousness and loss of pain sensation. Some drugs only provide loss of consciousness and therefore need supplementing with analgesic agents to provide surgical anaesthesia. Inhalational agents have poor analgesic effect. The practice of using multiple anaesthetic and analgesic agents also reduces the unwanted effects associated with those agents.

The NVS recommends that, in line with Project Licence General Constraints, analgesia is used during surgical procedures and post operatively. For non-recovery surgical procedures the 'during surgery' recommendations should be followed to meet the Project Licence General Constraints in these cases.

Advised protocols, based on type of procedure are:

Expected pain level	Example procedures	During Surgery	Post Operatively
Low	Skin biopsy, blood vessel catheterisation; not entering a body cavity	Non-steroidal anti-inflammatory drug (NSAID) +/- local anaesthetic (dependent on procedure)	NSAID if showing signs of pain in days following surgery
Medium	Laparotomy, craniotomy	NSAID and opioid, +/- local anaesthetic	NSAID for at least two days post-op
High	Orthopaedic surgery, thoracotomy	NSAID, opioid and local anaesthetic	NSAID and opioid for at least two days post-op

The analgesic needs of individual animals can vary so it is essential to continue to monitor the animal for signs of pain and provide additional analgesia as required.

References

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3. Flecknell, P. A. *Laboratory Animal Anaesthesia and Analgesia*. Fifth. 2023. Print.
4. LASA 2017 Guiding Principles for Preparing for and Undertaking Aseptic Surgery. A report by the LASA Education, Training and Ethics section. (E Lilley and M. Berdoy eds.).