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The applications of sub-Tenon’s anaesthesia for canine ophthalmic surgery

A thesis presented in fulfilment of the requirements for the degree of

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Abstract
Sub-Tenon’s anaesthesia is an indispensable anaesthetic technique in human ophthalmic surgery. It produces highly effective regional anaesthesia and has a significantly lower complication rate than the previously used peribulbar and retrobulbar injections. Although this technique has potential application to veterinary ophthalmology it has not yet been reported in clinical cases. This thesis reviews the literature that references local anaesthesia for ocular surgery in human and veterinary ophthalmology. A sub-Tenon’s block technique that was specifically developed for use in dogs is also described. This technique is assessed with a prospective controlled clinical study testing this technique across a variety of ocular surgeries including enucleation, intrascleral prosthesis, keratectomy with a third eyelid flap and cataract surgery. The effect of sub-Tenon's anaesthesia on specific parameters was recorded and compared to the controls such as; globe position and rotation, pupillary dilation, general anaesthetic monitoring parameters, intraocular pressure, vitreal expansion and post-operative pain scores. Analysis of these parameters has indicated that sub-Tenon's anaesthesia was an effective option for controlling post-operative pain when used in conjunction with systemic analgesics and was an excellent alternative to systemic neuromuscular blockade for canine cataract surgery.

Abbreviations
STB - Sub-Tenon's block
NMB - Neuromuscular blockade
IOP - Intraocular pressure
SK - Superficial keratectomy surgery
ISP - Intracral prosthesis surgery
ETCO₂ - End tidal carbon dioxide
Iso% - Isoflurane vapouriser setting
HR – Heart rate
RR – Respiratory rate
BPsys – Systolic blood pressure
BPmean – Mean blood pressure
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