

PhD Studentship at the Royal Veterinary College

Improving the quality of life of cats following major orthopaedic trauma, including limb amputation

Supervisors: **Dr Sandra Corr** (scorr@rvc.ac.uk) and **Professor Christopher Wathes**, Department of Veterinary Clinical Sciences, RVC; **Ms Claire Bessant**, Feline Advisory Bureau (FAB)

Many major orthopaedic conditions are managed conservatively in cats, and little information is available on the welfare and quality of life of these animals in the following months and years. It has only recently been recognised that potentially painful osteoarthritis is common in cats of all ages, yet very few receive analgesia, in contrast to humans and dogs. Limb amputation is also relatively common, and owners often raise significant concerns as to how their pet will cope afterwards: ethical analysis is poorly understood by both practitioners and owners. No studies have been undertaken to determine whether cats experience phantom-limb sensation or pain, although on the basis of human cases, it seems reasonable to suspect that they do: phantom limb pain is a common sequela of limb amputation in people, occurring in 80-95% of cases, and described as being severe in 1 in 4 sufferers.

In this project, physical, behavioural and pharmacological tests will be developed to evaluate the welfare of cats following major orthopaedic disease, limb and tail amputation. These will then be applied in the RVC's Queen Mother Hospital orthopaedic clinic, participating veterinary practices and owners' homes by the student. A longitudinal study of welfare and quality of life of amputees will be undertaken, including post-operative adaptation, acceptance by the owner and conspecifics, and evidence of phantom limb sensation or pain. The efficacy of different analgesic protocols in the intra- and post-operative management of cats undergoing orthopaedic procedures will be investigated, and gait analysis of amputees will be subsequently be undertaken to describe musculoskeletal adaptation. Ultimately, pharmacological and behaviour tests will be developed to investigate the possible existence of phantom limb or tail sensations in cats, as part of a bioethical analysis of limb amputation.

This work will involve interacting with veterinary surgeons, owners and their cats. The animals under study will be clinical cases, and no cats will be hurt in the making of this PhD!

References

Kirpensteijn, J., van den Bos, R. and Endenburgh, N. (1999). Adaptation of dogs to the amputation of a limb and their owners' satisfaction with the procedure. *Veterinary Record*. 144, 115-118.

Flor, H. (2002). Phantom-limb pain: characteristics, causes and treatment. *The Lancet Neurology*, 1, 182-189. .

Rollin, B.E. (2007). Ethical issues in geriatric feline medicine. *J Feline Med Surg*. 9(4):326-34.

The supervisors and further background

This project is an ideal area for collaboration between the research groups of the supervisors, requiring expertise in welfare science, biomechanics, and clinical orthopaedics. Dr Corr is an orthopaedic surgeon with expertise in objective assessment of locomotion following orthopaedic procedures. The newly established RVC Animal Welfare group led by Professor Wathes has a remit to develop collaborations with the small animal clinicians in the hospital. Ms Bessant is Chief Executive of the Feline Advisory Bureau, the leading UK-based registered charity concerned with feline health and welfare.

Limb amputation is an emotive procedure routinely faced in general veterinary practice that has never been investigated scientifically. This collaborative project will explore fundamental questions in basic neuroscience that are highly relevant to clinical surgery and animal welfare. Demonstration of phantom limb pain or sensations in any non-human species could transform our view of the acceptability of many surgical mutilations of companion and farm animals e.g. tail docking of lambs and (lawfully) certain breeds of working dogs.

The project will provide training in biomechanics and assessment of quality of life and welfare, integrating with ongoing research projects in the Locomotion and Welfare groups, and enabling the student to interact with other scientists in these fields. Within the Structure and Motion lab there are over 16 staff and students, and working alongside other postgraduate students, s/he will receive hands-on training in the fundamental techniques of kinematics and gait analysis. The Welfare group comprises 15 staff and students with interests ranging from perception, cognition, and behaviour to welfare assessment: this project fits with the group's ambition to work with clinicians on topics relevant to companion animals. There is therefore an excellent mixture of skills and expertise to create a good academic environment and provide an excellent training in scientific research of direct relevance to clinical practice.

The Feline Advisory Bureau will be the CASE partner and, in addition to financial support for the student and the project, will: i) be responsible for communicating the results of the project to their supporters via their information service (literature and web-based); ii) assist with the studies of quality of life, in particular, recruitment of cat owners and veterinary practices; and iii) sponsor and organise the workshop on the welfare of cats following orthopaedic trauma at the end of the project. The student will spend at least 3 months working at the FAB.

Application Details

Applications must be made on the RVC's Postgraduate Application Form (www.rvc.ac.uk). We would be grateful if you could send as many of the accompanying documents requested in the application form as possible. Applications should be sent to The Graduate School, Royal Veterinary College, Royal College Street, London NW1 0TU, United Kingdom to arrive no later than FRIDAY 18th APRIL 2008.

The likely interview date is Tuesday 6th May at the Hawkshead Campus of the RVC.

This studentship will be awarded for a period of either 3 or 4 years.

Science applicants must be in possession of, or expect to obtain, at least an upper second class honours degree in a biological subject. Veterinary graduates must be in possession of, or expect to obtain, a veterinary degree this summer. A supplement of £2500p.a. will be added to the normal stipend by courtesy of the FAB. College scholarships are only available for students eligible for Home/EU fees (http://www.ukcosa.org.uk/student/fees_student_support.php for information on fee status).

Applicants wishing to discuss this studentship should contact Dr Sandra Corr (scorr@rvc.ac.uk; +44 (0) 1707 6615).