

Animal Welfare Training at the Ontario Veterinary College

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ABSTRACT

The University of Guelph is internationally recognized as a leader in animal welfare and is home to the Colonel K.L. Campbell Centre for the Study of Animal Welfare and to numerous faculty with expertise in the discipline. However, while animal welfare receives significant attention within the agricultural college, its didactic teaching within the veterinary curriculum has been limited. Veterinary students receive four hours of instruction in animal ethics and apply their knowledge within the communication lectures and laboratories, totaling 11–15 hrs. Compulsory coursework explicitly addressing factual components of animal welfare science, welfare assessment, and associated animal-related policy constitute only 12 hrs throughout the four-year Doctor of Veterinary Medicine curriculum. However, an elective final-year clinical rotation and a graduate course specific to animal welfare were offered for the first time in 2004/2005. Student interest in animal welfare is evident through their participation in summer research projects in animal welfare, an animal welfare mentor group, and a student-run animal welfare club that organizes an Animal Welfare Forum each October. Veterinarians have important contributions to make in decision making about animal welfare issues, at clinician and policy levels. Although motivated individuals can seek out opportunities to expand their knowledge of animal welfare, a compulsory senior-level course in animal welfare is needed to develop the necessary depth of understanding of this discipline if veterinarians, as a profession, are to meet society's expectations about animal welfare.

BACKGROUND

The University of Guelph is home to the Colonel K.L. Campbell Centre for the Study of Animal Welfare¹ and has a strong international reputation for its expertise in animal welfare. In particular, the Department of Animal and Poultry Science has strong faculty expertise in animal welfare science, with ethologists Dr. Tina Widowski, Dr. Ian Duncan (University Chair in Animal Welfare), and Dr. Georgia Mason (Canadian Research Chair in Animal Welfare). Dr. Frank Humnik developed Guelph's first undergraduate course in animal welfare, Principles of Farm Animal Care and Welfare, and this course, revised and now taught by Dr. Duncan, is a compulsory senior-level course in the Animal Biology degree, a popular pre-veterinary program.

However, the Ontario Veterinary College (OVC) is similar to most veterinary colleges in North America in that animal welfare as an academic discipline in its own right is a minor component of the curriculum, although specific aspects of animal welfare, such as the important issues of pain assessment and pain management, are explored as they arise in individual courses. This approach may reflect traditional production-based definitions of animal welfare within the veterinary profession and assumptions that animal welfare is inherent to veterinary medicine. However, animal welfare has evolved as an ethical and a scientific academic discipline,² with recognition that affective states, such as suffering and pleasure,³ as well as the animal's evolved nature, or *telos*,⁴ are integral components that must be understood. Animal welfare, as a utilitarian ethical position, is defined in terms of an animal's quality of life and is rooted in behavioral and neurophysiological sciences relating to affective states, such as fear, pain, and contentment. Hence, the full concepts of animal welfare should be considered as distinct or as extending beyond the

concepts of human–animal bond, which are more concerned with exploring the impacts of animals on humans (and vice versa). Similarly, components of veterinary medicine, such as development of surgical techniques or treatment of disease conditions, that do not directly affect an animal's quality of life are not aspects of animal welfare, but the line between the two can be blurred in specific instances. Greater attention to animal welfare within the veterinary curriculum is critical, since this issue is an increasingly important consideration in policy, retail, and trade matters. International organizations, including the World Organization for Animal Health (OIE) and the World Trade Organization, and multinational food retailers such as McDonald's and Burger King have made animal welfare a priority.

In 1993, OVC began a restructuring of the veterinary curriculum for implementation in 2000. Animal welfare is explicitly stated in the mission statement of the college, and knowledge and skills in this area are intended outcomes of the program.⁵ As with any academic discipline, a key component for the college to meet this new goal was the addition of faculty with this expertise. Explicit instruction in animal welfare is a relatively new addition to Guelph's veterinary program, and it is expected to expand through its developmental stages. To date, only limited contact hours with faculty in the compulsory curriculum specifically pertain to animal welfare instruction, and these components are spread amongst courses and academic years rather than being presented as an integrated package (see Table 1). Training in animal welfare falls within three main program areas of the DVM curriculum. Animal-based aspects and scientific concepts are presented in the Health Management and Laboratory Animal Medicine programs, whereas aspects associated with the humanities are presented in the Art of Veterinary Medicine program. The decision to

Table 1: Breakdown of faculty contact hours explicitly exploring animal welfare concepts

Academic Year	Animal Welfare Science & Welfare Assessment	Laboratory Animal Welfare	Animal ethics & Communication Skills in Animal Welfare
1	Lecture = 1		Lectures = 4 Laboratories = 3
2	Lecture = 1 Laboratory = 2 Tutorial = 2	Lecture = 1	Lectures = 2 to 4 Laboratories = 2 to 4
3		Lecture = 1 Tutorial = 4	
4 (clinical rotations)	“Animal welfare” = 1-week elective (~40 hrs)	“Laboratory animal medicine” = 50% of 1-week elective (~20 hrs)	“Community medicine” rotation may involve welfare cases as they arise
Total hours of instruction in the DVM curriculum	Minimum = 6 Maximum = 46	Minimum = 6 Maximum = 26	Minimum = 11 Maximum = 15+
Graduate courses	Applied animal welfare = 24	Laboratory animal science = 8	
Distance education		Laboratory animal medicine = component of online course	

base animal welfare science primarily within the ethology segments of Health Management is based on faculty expertise and on the recognition that animal behavior is the primary discipline that provides scientific understanding of animal suffering. Student interest is evident in their support for the animal welfare components of the curriculum, as communicated in evaluations, requests for further educational opportunities in animal welfare, and participation in an animal welfare mentoring group and the student-run Animal Welfare Club.⁶ Similarly, practicing veterinarians express support for continuing education opportunities in animal welfare.

COMPULSORY COURSEWORK

Animal Welfare Science and Animal Welfare Assessment

During the first year of the DVM curriculum, the discipline of applied ethology is introduced, focusing on biological underpinnings of behavior and basic principles of learning. Students gain knowledge about motivation, behavioral needs, and the biology of affective states such as fear, pain, and frustration, as well as scientific approaches to answering these sorts of questions. A one-hour lecture specifically addresses animal welfare, exploring what science can and cannot contribute to decision making about animal care. The supporting role of science in ethical decision making is discussed in terms of answering questions about animal suffering and pleasure. Evaluation is based on multiple-choice examination questions.

The bulk of compulsory animal welfare training occurs during the second year of the applied ethology section in the Health Management program, and student evaluation is based on short-answer and longer-format case-study examination questions. Knowledge of causation and ontogeny of behavior is expanded upon so that students develop

skills to diagnose, treat, and prevent common behavioral problems in companion animals, large animals, and laboratory animals. Case studies, in addition to peer-reviewed publications, are used to present information. Although animal welfare may be considered inherent in the presentation of this material, it is also presented as subject material in its own right. A one-hour lecture explores animal welfare assessment, with applications to international legislation and food animal welfare auditing programs designed by animal producer organizations and by food retailers, such as the National Council of Chain Restaurants and the Food Marketing Institute. Similarly, Dr. Patricia Turner, a faculty member in the Department of Pathobiology with board certification in laboratory animal medicine, presents a one-hour lecture on environmental enrichment, animal welfare assessment, and legislation pertaining to laboratory animals. A two-hour tutorial gives students opportunities to tease apart the scientific and ethical aspects of animal welfare viewpoints, and to sort these out from strictly emotional responses, by watching and discussing an investigative video recording presenting animal cruelty allegations. A two-hour interactive practical exercise then provides opportunities to conduct behavioral observations of swine and cattle in the large animal teaching barn. Students are asked to explore how equipment and housing designs affect animal behavior and welfare. Specifically, the pros and cons of traditional battery cages for laying hens, farrowing crates for swine, and tie-stalls for dairy cattle are investigated in terms of behavioral needs and possible design improvements. This practical session helps students to understand the challenges associated both with comprehensive on-farm welfare assessment protocols and with possibilities to score welfare parameters using direct and indirect measurements, such as hock lesions and stall sizes respectively. Small groups facilitate informal

discussions with the lecturer and with other students during this laboratory. Critical thinking is encouraged by challenging students to support their opinions with objective observations and factual information.

During the third year of the program, animal welfare is explicitly discussed within Comparative Medicine. Dr. Turner presents a one-hour lecture and a two-hour tutorial on environmental enrichment, pain assessment, pain management, humane endpoints, and legislation pertaining to laboratory animal care and use.

Animal Ethics and Communication Skills in Animal Welfare

During the first year of the Art of Veterinary Medicine program, guest lecturer Dr. Ian Duncan presents animal welfare in four one-hour lectures. This material is presented in a lively and interactive lecturing format that challenges students to consider other viewpoints and think critically about their own opinions. Although students are not directly evaluated on this material, they may use it in answering examination questions.

In the four-year Art of Veterinary Medicine program, veterinary students are trained on the impacts of communication on outcomes for animal patients during lectures and laboratories by Dr. Cindy Adams of the Department of Population Medicine. In the first year, students participate in practical sessions during which they apply clinical communication skills in their interactions with simulated clients and live patients.⁷ Faculty and veterinary practitioner volunteers coach small groups of students in these practical sessions, prior to which the coaches receive training in an eight-hour workshop. Case-specific objectives are discussed, with emphasis on integrating knowledge of animal welfare science and animal ethics and communicating these concepts effectively to clients. Three hours of practical instruction is specifically associated with animal welfare case scenarios. Peers and coaches evaluate students using a model for feedback entitled "Agenda-Led, Outcome-Based Assessment"⁸ and a critical appraisal of their interactions with the client.

During the second year, further training is provided for communication skills during lectures and practical sessions. Violence toward animals and animal cruelty are presented during guest lectures, comprising two to four hours of instruction depending on the year and the availability of speakers. Animal welfare case scenarios are used in 30% of the laboratory exercises, totaling approximately two to four hours of laboratory instruction. Students are asked to respond to simulated clients on issues such as a downer cow, a suffering dog in need of treatment that the owner does not wish to pursue, or an exotic pet that is suffering neglect because of its owner's inexperience. Student evaluation is again based on feedback and critical appraisal of their interactions with the clients. An objective structured clinical exam is used during which students are assessed on specific communication skills and the ability to address case-specific objectives, such as animal abuse or animal welfare concerns. Student self-awareness concerning personal biases, values, and beliefs pertaining to animal welfare and ethical maturation are fostered through the communication laboratories and related assessment strategies.

ELECTIVE COURSEWORK

In response to student requests, a final-year clinical elective rotation in animal welfare, developed and taught by Dr. Millman, was offered for the first time during the 2004/2005 academic year. This one-week course consisted of readings in animal welfare science and animal ethics, a trip to the provincial Society for the Prevention of Cruelty to Animals to discuss the role of veterinarians in animal cruelty investigations, and an on-farm animal welfare assessment using the Certified Humane certification protocol. Similarly, student requests facilitated the development of a second-year elective course that Dr. Millman offered for the first time during the 2005/2006 academic year. In this seminar course, students lead and participate in discussions based on assigned readings in animal welfare science and ethics, as well as a presentation on an animal welfare topic of their choosing. A graduate-level independent study course, Special Topics in Population Medicine: Applied Animal Welfare, was offered for the first time in the autumn 2004 semester in response to student interests. This course involves weekly meetings to discuss assigned readings, primarily based on the required text *Animal Welfare*.⁹ Students are evaluated on their participation in discussions and on a literature review exploring an animal welfare topic relevant to the student's research interests.

In recognition of the fact that one of the primary roles of the laboratory animal veterinarian is to oversee animal welfare in the research setting, animal welfare constitutes a significant component of the laboratory animal medicine program taught by Dr. Turner. Approximately 50% of a final-year clinical rotation in laboratory animal medicine is devoted to animal welfare. Students are presented with a number of case scenarios during tutorials for discussions concerning animal welfare assessment, environmental enrichment, and humane endpoints. At the graduate level, formal training in animal welfare is provided in didactic lectures, readings, assignments, and applied clinical components in the post-DVM laboratory animal science programs (PhD, Diploma, and DVSc degree) and in the recently developed distance education certificate in laboratory animal medicine. Legislation and regulations regarding research animal use, animal welfare assessment, pain management, and environmental enrichment are discussed.

Opportunities exist for motivated students to seek out animal welfare research projects with individual faculty at OVC and other colleges at the University of Guelph, during the academic year or in the undergraduate summer research program. Students may present their research work for academic credit as a component of the second-year Special Topics coursework in the DVM curriculum. Extracurricular opportunities in animal welfare also exist through the animal welfare mentor group and the student-led Animal Welfare Club. Public lectures in animal welfare are presented annually through the Colonel K.L. Campbell Centre for the Study of Animal Welfare and the day-long Animal Welfare Forum organized by the Animal Welfare Club each September.

CONCLUSIONS

The Ontario Veterinary College is similar to others in North America in that animal welfare has received limited

academic attention because of an apparent assumption that welfare is implicitly taught throughout the programs. However, this view is increasingly outdated, as animal welfare has evolved and undergone rigorous scientific and philosophical scrutiny. Veterinary students must receive adequate training in this discipline if they are to speak to a variety of audiences about animal welfare issues. At present, students receive snippets of information about animal welfare in a variety of contexts but lack opportunities to integrate concepts to develop a fundamental understanding of this discipline. As a result, students develop a superficial understanding of animal welfare, despite having excellent skills in certain aspects of animal welfare, such as diagnosis and treatment of diseases or pain management.

Animal welfare is explicitly identified as an area of veterinary competency within the DVM curriculum at OVC. Since veterinarians are often expected to communicate with clients, policy makers, and the general public about animal welfare concerns, students must develop skills in recognizing and discussing ethical and scientific aspects of animal welfare issues. However, in the absence of a compulsory senior-level course in animal welfare and explicit reinforcement by faculty and veterinary practitioners about the veterinarian's role in addressing animal welfare, students are unlikely to achieve these levels of competence in animal welfare knowledge and communication. These conclusions are in accord with the recommendations of an expert panel and workshop discussing animal welfare in the veterinary curriculum during the recent OIE Global Conference on Animal Welfare.^{10,11}

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