

USE OF ANIMALS IN EDUCATION

The goal for veterinary education is to provide professionals, at any stage of their career development, the knowledge and skills needed to offer quality animal care that is effective, safe, ethical, and respectful for all involved. The AAVMC recognizes the important role animals play in the education of veterinarians whether in their initial professional training, subsequent advanced study for a clinical specialty and/or a graduate degree, and wet labs offered by continuing education programs. Animals may likewise play a necessary role in the training of veterinary technicians and non-veterinarian graduate students.

The AAVMC further recognizes that not all educational objectives can be met through the use of client-owned animals, thus it is necessary to develop and utilize alternative approaches. These approaches include full theoretical training, clinical skills labs containing full-task/part-task simulated training manikins, simulated cases/models, video media, cadavers, care of animals from shelters and some live animals that are obtained through ethical sourcing by purchase and used for research or procedure development experiments. Some of these may be terminal in nature, however, alternatives to terminal procedures should always be actively sought. That said, the AAVMC emphasizes that the use of animals other than client-owned or from shelters must be at the minimum level necessary to meet the educational and research objectives and in compliance with all applicable regulations and guidelines (U.S. Department of Agriculture (USDA), National Institutes of Health's Office of Laboratory Animal Welfare (OLAW), and AAALAC International).

Cadavers of small companion animals for dissection in anatomy teaching or for research can be sourced using a client donation program in an affiliated teaching hospital. Terminally ill cats or dogs donated by owners after discussion with attending clinicians can be humanely euthanized and embalmed for anatomy dissection. Larger animals that are ill can be donated by well-informed owners, humanely euthanized, and embalmed. Donation programs can help inform clients and the public about teaching needs and make use of animals destined for euthanasia.

In striving for the best possible training, the AAVMC also encourages an evidence-based approach to evaluate the methods and models used to teach the principles and clinical skills required for providing outstanding care to the public.

While increasing participation in the provision of care for client-owned animals and shelter animals can likely provide all of the required training on live animals, in cases where other animals are needed, they should be limited to trainees requiring specific skills for their intended professional direction. For example, a student planning on following their DVM degree to train in the assessment of behavior, pathology or research (e.g. basic, computational, epidemiological) need not consume live animal resources learning a principle or procedure. Some schools keep colonies of animals for less invasive training such as dogs, mares or cows used for palpation and/or radiographic training. Evaluation of their benefit versus simulated models/manikins or client cases should be determined and their welfare, environmental enrichment, and humane disposition should be carefully considered.

Finally, it is imperative that all animal use in non-clinical teaching is reviewed and approved by the Institutional Animal Care and Use Committee constituted and run in accordance with USDA, OLAW, and AAALAC International guidelines and regulations. This will ensure that the principle of the "3 Rs" is uniformly followed across different institutions and that innovations in complying with these principles are more quickly exchanged among different training programs.

The "3 Rs" refer to a study published in 1959 (Russell WMS, Burch RL. *The Principles of Humane Experimental Technique*) and more recently cited (Fenwick N, Griffin G, Gauthier C. 2009. The welfare of animals used in science: How the "Three Rs" ethic guides improvements. *Can Vet J* 50(5): 523-530.)

(1) **Replacement** of live animals with client-owned, cadavers, less sentient and/or non-animal instructional methods such as clinical skills simulators/manikins wherever feasible. *Examples:* Demonstrations/laboratory exercises that use live animals in terminal or potentially painful/distressful procedures should no longer be permitted and existing videotaped footage should be used replacing the live animal exercises. Students can gain hands-on surgical experience in high volume by participating in mass spay/neuter clinics for animal shelters and feral cat programs, and the animals, not just the trainees, benefit from the training program. A wide range of clinical skills, including crisis management in anesthesia and critical care, rectal palpation, blood sampling and endotracheal intubation can be taught very effectively to veterinary students using veterinary simulators/manikins in clinical skills labs, and where necessary modified or unmodified human patient simulators may also be used.

(2) **Reduction** in the number of live animals used in teaching. With the increasing development of models, the goal should be to eliminate the use of live animals, other than clinical cases and shelter animals, for teaching whenever possible. Veterinary training should stream trainees to minimize animal use if the student's career trajectory is not towards clinical practice. A professional program should assure adequate clinical resources (client-owned or shelter animals) to make it unnecessary for students to perform procedures on animals from which they will not benefit.

(3) **Refinement** of teaching methods can include all students following a stepwise development of their responsibilities and skills taught under the supervision of an attending veterinarian, wherever possible progressing from learning basic skills acquisition and dexterity on simulators/manikins in a clinical skills lab before performing the technique on a live animal under supervision. Their competencies should be documented through demonstration of proficiency to a veterinarian before teaching a procedure to others. According to accepted standards of care, all efforts should be made to eliminate or reduce pain and distress whenever any animal is treated. Aggressive use should be made of analgesics for all procedures in which pain or discomfort is anticipated. It is crucial that all trainees are educated from the onset as to the need for careful monitoring, pain management and compassionate care during the procedures and following recovery, and that adequate supervision is provided to ensure the quality of care. In situations where new devices or techniques are being developed or tested, some procedures may be terminal.

It is recommended that institutions collaborate on studies evaluating educational outcomes to compare and assess teaching methods that do or do not use live animals and distribute the insights to assist in curriculum development by AAVMC members.

Although it is traditional to speak of the “3 Rs,” the AAVMC recommends that students are taught to follow a 4th “R” as well:

(4) **Respect** the animal for the value of its life. Respect the animal for its contribution to science and medicine. Respect the animal for the privilege of learning from hands on manipulation of a living, breathing animal. Respect the animal that has been euthanized and make sure its body is handled and disposed of properly.

Jurisdiction:	Use of Animals in Education Working Group	Date of Last Review:	January 21, 2018
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Historical References:	At the February 2017 Deans’ Conference it was agreed to form a working group to examine the way animals are used in education, review the current AAVMC Position Statement, and make recommendations to the BOD for any changes to the statement.		