

Frequently Asked Questions: Animal Use in Medical School Education

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Q: *Isn't using animals to teach medical students about anatomy, physiology, surgery, and other topics a widely accepted and routinely used method?*

A: No. Beginning in the early 1990s, the development and adoption of superior educational methods led to the replacement of animal use in many U.S. medical schools. That process has continued to the point that today animals are used in only a small number of medical schools.

Q: *How many U.S. medical schools still use animals and how many use non-animal teaching methods?*

A: Of the 125 allopathic and 20 osteopathic medical schools in the U.S., over 85 percent have entirely eliminated the use of animals for all medical student courses as of 2006. Almost all the remaining schools have only one or very few animal lab courses, and the number of schools still using animals continues to decline each year.

Q: *Don't medical students have to see and experiment with complex living systems in order to learn how the human body works?*

A: Not necessarily, but when this is the chosen method it should be taught using humans or lifelike human simulators as teaching tools, rather than animals with different anatomy and physiology. Such human-based teaching occurs routinely in medical schools in the form of anatomy classes, observed surgeries and other patient procedures, and mentored experiences with clinical faculty. Many schools use human simulators, computer-based learning, didactic teaching, and case discussions for this purpose.

Q: *What non-animal alternatives are available?*

A: Excellent validated and widely adopted alternatives are available for teaching all aspects of medical education previously taught using animals. High fidelity, lifelike, and programmable human simulators are now a mainstay of medical education at many U.S. medical schools. Computer-based learning such as interactive basic science and clinical programs, in-

cluding virtual reality applications, are used to teach everything from basic anatomy and physiology to complex laparoscopic surgery techniques. Didactic teaching methods, class and small-group case discussions, observed surgeries, faculty-mentored hands-on training, and many other progressive educational methods have all replaced the use of animals.

Q: *Is the quality of medical school education affected by using non-animal alternatives?*

A: Yes – it's better. Comparative studies show that both students and instructors prefer simulation-based education to the use of animals. Student test scores are equivalent or superior when non-animal methods are used and student skills-testing is improved by using simulation methods compared with using animals. Medical school course directors, curriculum directors, simulation center directors, and other education professionals are on record supporting animal replacement by non-animal alternatives.

Q: *Isn't it necessary to use live animals to show how the human body responds to drugs?*

A: No. Programmable human simulators that demonstrate human responses to dozens of drugs are far better than using anesthetized animals to learn animal responses to only a few drugs. And the lessons can be repeated as needed when simulators are used. Many schools also teach drug responses by having students work with anesthesiologists during surgeries, where real-time responses in real people can be observed.

Q: *Isn't it necessary to use live animals to teach surgery techniques to medical students?*

A: No. Many specially designed simulators are available to teach surgery skills ranging from suturing to laparoscopic surgery. Open surgery techniques are taught during surgery rotations, under the hands-on guidance of faculty and staff. In fact, the American College of Surgeons has instituted a surgery curriculum reform initiative that eliminates the use of animals even in surgery training programs. If surgeons

in subspecialty training don't need to use animals, medical students certainly don't.

Q: *Don't graduates of schools that use animal labs become better doctors and surgeons than those trained at schools that only use non-animal methods?*

A: No. Even schools that use animals allow students to opt out of those labs, and studies have shown that students who opt out test as well as those who participate in the labs. The highest ranked U.S. medical schools have almost all eliminated animal use, yet these schools continue to be highly ranked every year.

Q: *Doesn't the faculty know the best way to teach medical students? Why would they use animals if this wasn't the best way to teach?*

A: In general, faculties probably do know the best ways to teach medical students – and faculties in over 85 percent of U.S. medical schools have decided that animal use is neither essential nor preferred. In other schools, reluctance to change is often based on institutional inertia, lack of knowledge or skills regarding alternatives, unwillingness of basic science instructors to learn new methods, and economic or logistical issues.

Q: *Don't medical students enjoy learning by using live animals?*

A: Some do, some don't, and some are neutral. For those who like the animal labs, it is often due to the “wow factor” of their first exposure to live anatomy and physiology. But studies show that when given the

opportunity to compare the learning experiences of animal labs and simulation-based teaching, students choose simulators as the better learning experience.

Q: *Isn't it true that when students may choose whether to attend an animal lab or opt out, most students decide to attend the lab?*

A: This is generally true, but the reasons are often unfortunate. The “wow factor” of live animal dissection is attractive to some students, but most choose the animal lab because they are offered no educational alternatives, because those alternatives are badly designed afterthoughts, because there is peer group or faculty pressure, or because they fear being at a disadvantage for exams or course evaluations. Again, when allowed to compare animal labs to simulators, most students prefer simulators.

Q: *What's the harm in using dogs who will be killed in the shelter or pound anyway?*

A: There are several problems with this thinking. While it's true that some of the dogs used in animal labs would die anyway, controlled euthanasia is much preferable to the mistreatment, fear, pain, and suffering experienced by lab animals. Also, many of these dogs would be adoptable, but they never get the chance. The practice of pound seizure also erodes confidence in animal shelters and pounds that use this practice, and has been shown to increase animal theft, lost pets, and the illegal sale of impounded animals in communities. Finally, the source of dogs does not address the issue at hand: Animal use is neither essential nor desirable to teach medical students.