



International Harmonization of Non-Animal Methods for Biomedical Training

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Harmonizing Non-Animal Biomedical Training Globally: A Scientific, Ethical and Legal Imperative

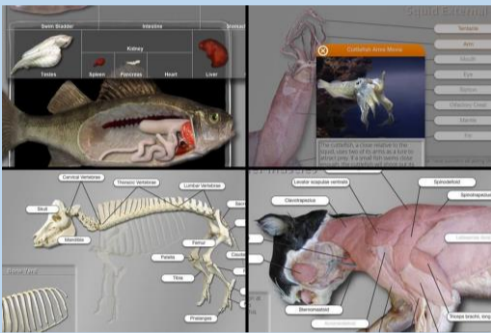
The lack of international harmonization regarding the teaching of standardized biomedical skills means that various institutions continue to use countless animals each year for this purpose despite other institutions having already transitioned to more effective, ethical and economical animal-free methods to teach these same or similar skills. There are key imperatives to harmonize global biomedical training that can benefit animals, patients, and students:

Scientific: Research shows that non-animal based biomedical training methods are at least equal to or superior than animal-based ones. (See [here](#), and [here](#) for more details.)

Ethical: Animal-based trainings are cruel and deadly for animals, can cause [negative psychological impacts and deter trainees](#), and violate the 3Rs principle (to replace, reduce, and refine the use of animals in experiments) since [valid non-animal training methods abound](#).

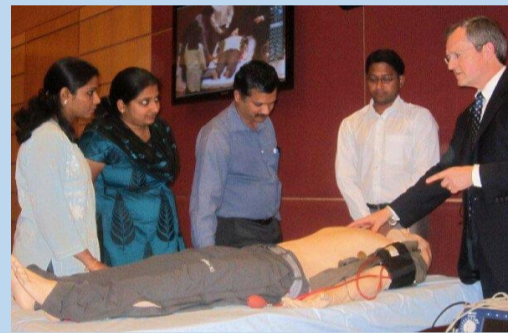
Legal: There are legal restrictions against animal-based trainings when non-animal methods are available. For example, the [European Union](#) requires the use of non-animal training methods whenever available; [Brazil](#) mandates the replacement of animal-based trainings with valid animal-free models; the [U.K.](#) prohibits the animal use to acquire manual human surgical skills; the [U.S. Department of Defense](#) bans animal use in six medical training areas; [India](#) bans animal use in various higher education curricula; and, [Taiwan](#) forbids “extra” trainings that would cause harm to animals in K-12 curriculum.

Examples of Advanced Non-Animal Training Methods



Computer-Assisted Learning Software

- K-12 biology & anatomy courses
- Undergraduate medical curriculum (pharmacology, physiology)



Human Patient Simulators

- Advanced surgical training (graduate medical programs, residencies, trauma training)



Virtual Reality

- Advanced medical training



Hyper-Realistic Synthetic Models

- K-12 biology & anatomy courses
- Surgical training

Medical, Dental, and Life Science Training

Progress in Replacing Animal Use:



India has banned animal use for all undergraduate medical, dental, pharmacy, zoology and life sciences programs, following campaigns led by PETA India and joined by partners, involving:

- Simulation workshops with U.S., U.K. and Indian experts.
- Discussions with the Medical Council of India, Dental Council of India, Pharmacy Council of India, and the University Grants Commission.

PETA's campaign is focused now on replacing animal use in postgraduate medical training.



No medical schools in the US and Canada use animals for undergraduate training as of 2016, following campaigns by PETA and the Physicians Committee for Responsible Medicine.



- Discussions with medical schools.
- Protests and public advocacy.

PETA's campaign is focused now on replacing the use of animals in undergraduate medical training in other countries, and in U.S. OB/GYN residency, pulmonary and pediatric intubation courses.



International Harmonization Needed:

Undergraduate medical training in Bangladesh, China, Pakistan, and other countries continues to use animals, despite similar concepts and skills taught in the U.S., Canadian and Indian medical schools using exclusively non-animal training methods.

Advanced Trauma Life Support (ATLS) Training

ATLS: During this course, physicians have practiced standardized medical procedures like cricothyroidotomy, chest-tube insertion, venous cutdown, pericardiocentesis, and diagnostic peritoneal lavage by cutting into the chests, throats, abdomens, and limbs of live dogs, pigs, sheep and goats.

- **The Need for Harmonization:** While more than 99% of ATLS programs in the U.S. and Canada have now ended animal use, driven primarily by simulation technology advancements, international programs have struggled to do the same primarily due to financial constraints.
- **Problem:** Lack of money to switch to simulation methods results in thousands of animals used each year for invasive and deadly ATLS surgical training to teach standardized skills. This is entirely avoidable.
- **Solution:** In a [groundbreaking collaborative program](#) with Simulab Corporation, PETA donated 119 TraumaMan models valued at nearly \$3 million, along with discounted synthetic replacement tissues such that using TraumaMan cost less than typical animal-based trainings.
- **Benefit:** Through the PETA-Simulab program, 22 countries now spare more than 2000 animals annually in ATLS training, each year impacting 124 ATLS facilities, 373 ATLS courses, and at least 8350 physicians.



International Harmonization Needed:

At least 14 countries continue to use animals for ATLS training, despite at least 42 countries that use simulation models for this purpose.

Military Trauma Training

The U.S. Coast Guard ended its animal use for “live tissue training” (LTT) in [2017](#), following discussions with PETA and a campaign involving an eyewitness [investigation](#); [celebrity](#) and public advocacy; and a push by [editorial boards and members of Congress](#). *PETA's campaign is focused now on ending LTT in [Germany](#), [Denmark](#), and the [U.S. Dept. of Justice](#).*



International Harmonization Needed:

Other [U.S. armed forces](#) and [NATO nations](#) continue to pursue LTT.

Conclusion

PETA is facilitating the international harmonization of non-animal methods for biomedical training, through expert meetings, workshops, negotiations with governments, collaborations with companies that produce advanced non-animal methods, congressional outreach, eyewitness investigations, and more. From the scientific, ethical, and legal standpoints, institutions should replace animal-based biomedical trainings with non-animal methods that are already in use at other facilities teaching the same or similar standardized skill sets.