



Frequently Asked Questions:

1) Why must we use animals for medical research?

Animal research is the foundation for virtually every medical breakthrough over the past century. From antibiotics to blood transfusions, from dialysis to organ transplantation, from vaccinations to chemotherapy, bypass surgery and joint replacement, practically every present-day protocol for the prevention, treatment, cure and control of disease, pain and suffering is based on knowledge attained through research with laboratory animals. Animals are used as research models only when necessary. Scientists are constantly trying to reduce the amount of animals used, refine their techniques so fewer animals are needed and replace certain animal tests with alternatives, when possible.

2) What types of animals are used in research?

Approximately 95% of all lab animals are rodents - bred specifically for research. Rodents are the animal model of choice for researchers because their physiology and genetic make-up closely resemble that of humans. For instance, the mouse genome contains essentially the same complement of genes found in the human genome, so studying how the genes work in mice is an effective way of discovering the role of a gene in human health and disease. Scientists are also able to breed mice with genetic alterations that mimic human diseases. This has revolutionized medical research and opened many doors to finding new cures for disease. To some extent, research on dogs, cats, and non-human primates is necessary to study certain diseases. Yet these

animals account for less than .05% of the total number of lab animals used in research. Several additional species are proving to be increasingly important animal models, including zebrafish, *C. Elegans* (worms) and fruitflies.

3) Aren't the animals in laboratories suffering and in pain?

The use of animals in research and testing is strictly controlled, particularly regarding potential pain. Federal laws, the Animal Welfare Act and the Public Health Service Act, regulate the alleviation and elimination of pain, as well as such aspects of animal care as caging, feeding, exercise of dogs and the psychological well-being of primates. Further, each institution must establish an animal care and use committee that includes an outside member of the public as well as a veterinarian. This committee oversees, inspects and monitors every potential experiment to help ensure optimal animal care. The scientific community advocates the highest quality of animal care and treatment for two key reasons. First, the use of animals in research is a privilege, and those animals that are helping us unlock the mysteries of disease deserve our respect and the best possible care. Second, a well-treated animal will provide more reliable scientific results, which is the goal of all researchers.

4) Is animal research regulated in any way?

Yes. All animal research is subject to strict federal regulations. The United States Department of Agriculture (USDA) has set forth federal regulations governing the care and use of animals in biomedical research that are considered more extensive than those covering human research subjects. The Animal Welfare Act sets these high standards of care for research animals.

5) Can we replace animal research with alternatives methods?

To date, there is no comprehensive substitute for animal models in research. Certainly, computer models and cell cultures, as well as other adjunct research methods, are excellent avenues for

reducing the number of animals used. But the pathway to fully duplicating a whole, living system does not yet exist. Therefore, it is still necessary to conduct humane and responsible animal research in order for the research community to uncover, find and develop new cures for diseases. Over the past ten years, the Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM) has evaluated more than 185 non-animal methodologies and has approved several research alternatives, particularly in the realm of toxicity testing. When additional non-animal alternatives are developed, science will naturally reduce the need and use of animal models. This progression will only happen when viable alternatives exist and are scientifically verified. It is exciting to dream of the day when no animal research is needed and no human lives are ended by disease. Until that day comes, we need to continue using the method that works.

6) What are the recent achievements of animal research?

Most recently, scientists discovered spinal cord regeneration techniques because of rodent models. That may mean that some day in the foreseeable future, people will be able to get out of their wheelchairs. Non-human primates played key roles in the development of the hepatitis B vaccine and rabbits were an important model in the development of the Human Papillomavirus Virus (HPV) vaccine. People with Parkinson's disease are benefiting from deep brain stimulation that was perfected on monkeys. Ferrets have been crucial in the development of the bird flu vaccine. Everyday, scientists are using animal research to find cures for the diseases affecting people and animals.