



# Animal Research Saves Lives

Animals

The Federation of American Societies for Experimental Biology (FASEB) affirms the essential contribution of animals in research aimed at improving the health of both humans and animals. The role of animals remains critical in understanding the fundamental processes of life and in developing treatments for injury and disease.

## ANIMAL RESEARCH HELPS PEOPLE AND HAS RESULTED IN:

### Vaccines for:

Hepatitis A/B  
Influenza  
Whooping cough  
Pneumococcal pneumonia  
HPV/Cervical cancer  
Smallpox  
Tetanus  
Polio  
Meningitis

### Therapies for:

Diabetes                      Spinal cord injury  
High blood pressure      Epilepsy  
Parkinson's disease      Cystic fibrosis  
Alzheimer's disease      Depression  
HIV/AIDS                  Mental health  
Heart Attack                Asthma  
Stroke                        Lymphoma  
Leukemia                    Breast cancer  
Bacterial infections      Hepatitis

### The ability to:

Transplant organs  
Induce and control anesthesia  
Correct congenital heart defects  
Diagnose and monitor cancers  
Treat cataracts  
Non-invasively image organs  
Identify genetic causes of disease

### Insights into:

Effects of concussion                      Obesity  
Drug addiction                              Effects of aging  
Effects of cigarette smoking              Autism and other social disorders  
Traumatic brain injury                    Gene & stem cell therapies

### Medical device development for:

Hearing (cochlear implant)  
Heart disease (valve/stent/pacemaker)  
Joint replacements  
Deep brain stimulation  
Diabetes (insulin pump)

## ANIMAL RESEARCH HELPS ANIMALS AND HAS RESULTED IN:

### Vaccines for:

Rabies (dogs, cats, foxes)  
Distemper (dogs, cats)  
Feline leukemia  
Foot and mouth disease (cattle)

### Therapies for:

Heartworm infestations (dogs)  
Tuberculosis (cattle)  
Cholera (pigs)  
Cancer (dogs)

### The ability to:

Artificially inseminate endangered species  
Treat tendon/ligament injuries in horses  
Replace joints in dogs  
Identify genetic disorders in dogs

These are just some of the many ways that animal research benefits people and animals.

92% of scientists polled in a *Nature* survey<sup>1</sup> agreed that animal research is **essential** to the advancement of biomedical science.

85% OF THE NOBEL PRIZES AWARDED IN PHYSIOLOGY OR MEDICINE HAVE BEEN DEPENDENT ON RESEARCH WITH ANIMALS.<sup>2</sup>

**“Without the use of animals and human beings, it would have been impossible to acquire the important knowledge needed to prevent much suffering and premature death not only among humans, but also among animals.”**

Albert B. Sabin, MD, Developer of the Polio Vaccine

<sup>1</sup> Animal research: Battle scars. *Nature* 470,452-453 (2011)

<sup>2</sup> <http://www.animalresearch.info/en/medical-advances/nobel-prizes/>





# Animal Research is Regulated

## BY THE NUMBERS:

- Over 99% of animals in research are specifically bred for research.<sup>1</sup>
- Approximately 95% of all animal research is conducted on mice, rats, and fish.<sup>2</sup> Other species are used only when necessary.

## REGULATIONS, POLICIES, AND PRINCIPLES

*In the United States, there are two primary regulatory bodies that oversee animal research.*

- **United States Department of Agriculture (USDA)**
  - Enforces the Animal Welfare Act (AWA), which regulates the treatment of certain species of vertebrate animals
  - Conducts unannounced inspections at least once a year; posts inspection reports publicly
- **Public Health Service (PHS)**
  - Requires institutions to ensure the appropriate care and use of all animals involved in research conducted or supported by PHS
  - Requires institutions to adhere to the *ILAR Guide for the Care and Use of Laboratory Animals*
  - Incorporates the *U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training*

## INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE (IACUC)

- Oversees and evaluates all aspects of an institution's animal care and use program
- Is required by both AWA and PHS Policy
- Reviews research protocols involving vertebrate animals
- Inspects animal research facilities semi-annually to assure compliance with regulations
- Includes non-scientific members from the community

## REPLACE, REDUCE, AND REFINE (3Rs)

The **3Rs** guide how animals are used in biomedical research. Researchers should:

- **REPLACE** animal models with alternative, non-living models when feasible
- **REDUCE** the numbers of animals in research
- **REFINE** methods to improve animal welfare

## ANIMALS RECEIVE HIGH QUALITY CARE

All personnel involved with the care and use of laboratory animals must be trained in laboratory animal science to ensure the animals' well-being. **Laboratory animal veterinarians** oversee the clinical care and well-being of animals used in research, testing, and teaching. **Laboratory animal technicians** care for the research animals by providing food, water, and enrichment daily, and they monitor the health of the animals. **Researchers** receive training to ensure they have the expertise to perform procedures involving animals.

**DID YOU KNOW?** The Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC) is an organization that promotes the humane treatment of animals in science through voluntary accreditation and assessment. **Approximately 700 of the most productive, high quality research institutions in the United States have AAALAC accreditation.**

<sup>1</sup> <http://www.amprogress.org/animalresearchfaq>

<sup>2</sup> <http://speakingofresearch.com/facts/statistics/>

