**Pro & Con Arguments: *"Should Animals Be Used for Scientific or Commercial Testing?"***

**PRO Animal Testing**

1. **Animal testing has contributed to many life-saving cures and treatments.** The California Biomedical Research Association states that nearly every medical breakthrough in the last 100 years has resulted directly from research using animals. Experiments in which dogs had their **pancreases** [an organ] removed led directly to the discovery of insulin, critical to saving the lives of diabetics. The polio vaccine, tested on animals, reduced the global occurrence of the disease from 350,000 cases in 1988 to 223 cases in 2012. Animal research has also contributed to major advances in understanding and treating conditions such as breast cancer, brain injury, childhood leukemia, cystic fibrosis, malaria, multiple sclerosis, tuberculosis, and many others, and was **instrumental** [necessary] in the development of pacemakers, cardiac valve substitutes, and **anesthetics** [medicines used to numb patients during surgery].
2. **Animals are appropriate research subjects because they are similar to human beings in many ways.** Chimpanzees share 99% of their DNA with humans, and mice are 98% genetically similar to humans. All mammals, including humans, are descended from common ancestors, and all have the same set of organs (heart, kidneys, lungs, etc.) that function in essentially the same way with the help of a bloodstream and central nervous system. Because animals and humans are so biologically similar, they are open to many of the same conditions and illnesses, including heart disease, cancer, and diabetes.
3. **Animals themselves benefit from the results of animal testing.** If vaccines were not tested on animals, millions of animals would have died from rabies, distemper, feline leukemia, infectious hepatitis virus, tetanus, anthrax, and canine parvo virus. Treatments for animals developed using animal testing also include pacemakers for heart disease and remedies for **glaucoma** [an eye disease that causes loss of sight] and **hip dysplasia** [misalignment of the hip bone]. Animal testing has also been instrumental in saving endangered species from extinction, including the black-footed ferret, the California condor and the tamarins of Brazil. Koalas, ravaged by an epidemic of sexually transmitted chlamydia and now classified as endangered in some regions of Australia, are being tested with new chlamydia vaccines that may **stall** [stop temporarily] the animal's disappearance. The American Veterinary Medical Association (AVMA) endorses animal testing.
4. **Animals often make better research subjects than human beings because of their shorter life cycles.** Laboratory mice, for example, live for only two to three years, so researchers can study the effects of treatments or genetic manipulation over a whole lifespan, or across several generations, which would be **infeasible** [impossible] using human subjects. Mice and rats are particularly well-suited to long-term cancer research, partly because of their short lifespans.
5. **Animal researchers treat animals humanely, both for the animals' sake and to ensure reliable test results.** Research animals are cared for by veterinarians, and animal health technicians to ensure their well-being and more accurate findings. At Cedars-Sinai Medical Center's animal research facility, for example, dogs are given exercise breaks twice daily, when they can socialize with their caretakers and other dogs, and a "toy rotation program" provides opportunities for play.
6. **Animals do not have rights, therefore it is acceptable to experiment on them.** Animals do not have the cognitive ability or moral judgment that humans do and because of this they have been treated differently than humans by nearly every culture throughout recorded history. If we granted animals rights, all humans would have to become vegetarians, and hunting would need to be outlawed.
7. **The vast majority of biologists and several of the largest biomedical and health organizations in the United States endorse animal testing.** A 2011 poll of nearly 1,000 biomedical scientists conducted by the science journal *Nature* found that more than 90% "agreed that the use of animals in research is essential." The American Cancer Society, American Physiological Society, National Association for Biomedical Research, American Heart Association, and the Society of Toxicology all advocate the use of animals in scientific research.
8. **Some cosmetics and health care products must be tested on animals to ensure their safety.** American women use an average of 12 personal care products per day, so product safety is very important. The US Food and Drug Administration **endorses** [approves] the use of animal tests on cosmetics to "assure the safety of a product or ingredient." Mosquito repellent, which helps protect people from malaria and other dangerous illnesses, must undergo toxicological testing (which involves animal testing) in order to be sold in the United States and Europe.
9. **Relatively few animals are used in research, which is a small price to pay for advancing medical progress.** People in the United States eat 9 billion chickens and 150 million cattle, pigs and sheep annually, yet we only use around 26 million animals for research, 95% of which are **rodents** [rats, mice, hamsters, etc.], birds and fish. We eat more than 1,800 times the number of pigs than the number used in research, and we consume more than 340 chickens for every research animal.

**CON Animal Testing**

1. **Animal testing is cruel and inhumane.** According to Humane Society International, animals used in experiments are commonly subjected to force feeding, not getting food and water, long periods of physical restraint, the **infliction** [giving] of burns and other wounds to study the healing process, and the infliction of pain to study its effects and remedies. The Draize eye test, used by cosmetics companies to evaluate irritation caused by shampoos and other products, involves rabbits having their eyelids held open by a clips, sometimes for multiple days, so they cannot blink away the products being tested. The US Department of Agriculture (USDA) reported in 2010 that 97,123 animals suffered pain during experiments while being given no **anesthesia** [medicine that numbs pain] for relief, including 1,395 primates, 5,996 rabbits, 33,652 guinea pigs, and 48,015 hamsters.
2. **Alternative testing methods now exist that can replace the need for animals.** *In vitro* (in glass) testing, such as studying cell cultures in a **petri dish** [a glass dish often used in experiments to study cells], can produce more relevant results than animal testing because human cells can be used. Microdosing, the administering of doses too small to cause **adverse** [harmful] reactions, can be used in human volunteers, whose blood is then analyzed. Artificial human skin, such as the commercially available products EpiDerm and ThinCert, is made from sheets of human skin cells grown in test tubes or plastic wells and can produce more useful results than testing chemicals on animal skin. Microfluidic chips ("organs on a chip"), which are lined with human cells and recreate the functions of human organs, are in advanced stages of development. Computer models, such as virtual reconstructions of human molecular structures, can predict the toxicity of substances without experiments on animals.
3. **Animal tests may mislead researchers into ignoring potential cures and treatments.** Some chemicals that are harmful to animals prove valuable when used by humans. Aspirin, for example, is dangerous for some animal species, and Fk-506 (tacrolimus), used to lower the risk of organ transplant rejection, was **"almost shelved"** [almost not released] because of animal test results, according to neurologist Aysha Akhtar, MD, MPH. A June 1, 2006 report on Slate.com stated that a "source of human suffering may be the dozens of promising drugs that get shelved when they cause problems in animals that may not be relevant for humans."
4. **95% of animals used in experiments are not protected by the Animal Welfare Act.** The AWA does not cover rats, mice, fish and birds, which comprise around 95% of the animals used in research. The AWA covered 1,134,693 animals used for testing in fiscal year 2010, which leaves around 25 million other animals that are not covered. These animals are especially vulnerable to mistreatment and abuse without the protection of the AWA.
5. **Animal tests do not reliably predict results in human beings.** 94% of drugs that pass animal tests fail in human clinical trials. According to neurologist Aysha Akhtar, MD, MPH, over 100 stroke drugs that were effective when tested on animals have failed in humans, and over 85 HIV vaccines failed in humans after working well in non-human primates.
6. **Most experiments involving animals are flawed, wasting the lives of the animal subjects.** Since the majority of animals used in biomedical research are killed during or after the experiments, and since many suffer during the studies, the lives and wellbeing of animals are routinely sacrificed for poor research.
7. **Animals can suffer like humans do, so it is speciesism (assuming humans are superior) to experiment on them while we refrain from experimenting on humans.** All suffering is not desirable, whether it be in humans or animals. Discriminating against animals because they do not have the mental ability, language, or judgment that humans do is no more justifiable than discriminating against human beings with severe mental impairments. As English philosopher Jeremy Bentham wrote in the 1700s, "The question is not, Can they *reason*? nor, Can they *talk*? but, Can they *suffer*?"
8. **The Animal Welfare Act has not succeeded in preventing horrific cases of animal abuse in research laboratories.** In Mar. 2009, the Humane Society of the United States (HSUS) found 338 possible violations of the Animal Welfare Act at the federally funded New Iberia Research Center (NIRC) in Louisiana. Some of the primates housed at NIRC were suffering such severe psychological stress that they engaged in self-mutilation, "tearing gaping wounds into their arms and legs." Video footage shows infant chimps screaming as they are forcibly removed from their mothers, infant primates awake and alert during painful experiments, and chimpanzees being shot with a dart gun. In a 2011 incident at the University of California at Davis Center for Neuroscience, "three baby mice were found sealed alive in a plastic baggie and left unattended" on a laboratory counter, according to the *Sacramento Bee*.
9. **Medical breakthroughs involving animal research may still have been made without the use of animals.** There is no evidence that animal experiments were essential in making major medical advances, and if enough money and resources were devoted to animal-free alternatives, other solutions would be found.