

Animal expressed  
concerns about such  
research. questions  
regarding



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Animal Testing Animals play a major role in the livelihood of mankind. They serve in search and rescue operations, work with the police force and fire investigators to solve crimes. It is safe to say that animals have greatly contributed to improving the lives of many humans (book 135). Much like service animals, lab animals also play a vitally important role in medical progression. Research is the foundation for medical science.

Animal testing has revolutionized the way that mankind perceives medicine and treatment methods. It helps humans determine the etiology of diseases, and possible cures or treatments. Animal testing not only protects the safety and wellbeing of humans, but also animals by measuring the beneficial and harmful aspects of medicines and treatments. (source 2) “ Because of animal testing, many cures and treatments to a variety of illnesses and diseases have been discovered that might have otherwise continued to plague mankind over the years.” (source 5) “ Animals are used in research when there is a need to find out what happens in the whole, living body, which is far more complex than the sum of its parts.” (Source 2) “ Some diseases and health problems involve processes that can only be studied in living organisms.

” (source 1; NC 1). The use of animals in biomedical research, however, has caused controversy regarding ethics and the necessity. Since animals have been introduced into scientific experiments, people have expressed concerns about such research. Questions regarding the necessity and scientific validity of animal experiments, and mortality have arisen since those ancient physician first began to study bodily functions.(book)

Discussion on this topic is typically between two parties: advocates, and <https://assignbuster.com/animal-expressed-concerns-about-such-research-questions-regarding/>

opponents. (source 10) “ This is unhelpful, since the matter itself is complex, as are the many views that surround it...”(source 10) Opinions on animal testing vary between scientists and the general public.

(book) Those who advocate for it point out that the use of animals in scientific research have contributed substantially to the wellbeing of both humans and animals. (source 10) “ While contributing to our understanding of diseases, animal models also enable researchers to explore potential therapies in ways which would be impossible in humans. Studying disease mechanisms in animal models leads directly to the development of new technology and medicines that benefit both humans and animals.” (source 2; NC 3). “ Proponents argue on both ethical and scientific grounds, that it must continue to alleviate suffering and to advance scientific knowledge.

” (source 10) Those who are opposed to animal testing also draw upon ethical and scientific arguments, but come to a different conclusion. “ Some take absolutist positions. For example, a few campaigning organisations question the scientific validity of all animal research and want an immediate end to the practice because they believe that results from biomedical experiments on animals are not transferable to humans.

” (source 10) Other parties are less concerned with the scientific issues, but are focused on the ethical aspect of the practice, “ emphasising that animals cannot consent to such procedures they take an absolutist ethical position, arguing for an end to all harmful research, regardless of the consequences for human, scientific and medical progress.” (Source 10) The concerns of the general public encompass the pain, or the distress the animal may or may

not be exposed to. (book) “ While approximately 75 percent of the lay public agrees with the use of animals for biomedical research, that figure drops below 50 percent if there is any indication that the animals may experience pain and/or distress.” (book)Animal testing has been used throughout history with the first experiments dating back to 384 BC.

In present time, it is estimated that between 17 and 22 million animals are involved in research and testing annually in the United States and approximately 50-100 million used annually across the globe. “... in the United States — approximately 95 percent — are rats and mice bred specifically for research. Less than one quarter of 1 percent are nonhuman primates. Less than one half of 1 percent are dogs and cats.

” (source 9) Most of the animals that are subject to experimentation are bred for this purpose, and experience minimal pain.” Animal research has provided valuable information about many physiological processes that are relevant to humans and has been fundamental in the development of many drugs, including vaccines, anesthetics, and antibiotics.” (source 8) According to (Source 1) animals and humans are biologically similar, and the environment the animals are exposed to can be easily manipulated, thus animals are ideal models for testing. “ A great deal of the knowledge of the body’s anatomy and functions can be traced to scientific findings from animal research.” (source 2; NC1) Also, according to (Source 1; card 1) animal testing is needed to ensure safety of drugs/treatments for both humans and animals.

It aids in the development of “ new and more effective methods for diagnosing and treating diseases of both animals and humans.” (source 1: NC1) “ Humans and animals share hundreds of illnesses and consequently animals can act as models for the study of human illnesses. Rabbits can have atherosclerosis; dogs can inherit cancer and diabetes, cataracts, and ulcers; and cats can have visual impairments.” (source 2; NC2) Animals such as rodents carry out the same bodily function as humans such as, “ breathing, digestion, movement, sight, hearing, and reproduction” (source 2; NC 1) “ Many of the cancer-fighting drugs today would not be possible without the use of mice. Chemotherapy was first developed by using modified mustard gas to reduce tumors in mice.” (source 3; NC 1) “. . . surgery which damages a particular section of the spinal cord in rats gives rise to symptoms like those seen in human patients with similar spinal cord damage.” (Source 2; NC 4) “ Recent advances in genetic technology have allowed the development of transgenic animals which have new genes inserted into their DNA, allowing them to develop human diseases, which do not naturally affect them. This has allowed mice to model many human diseases which were previously hard to study.” (Source 2 NC 4) Many argue that “ it is difficult, and in most cases simply not yet possible, to replace the use of living animals in research with alternative methods.

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” (Source 2) “...neither cells grown in a test tube, computer simulations nor any manner of non-animal methodology can predict the complex interactions that occur within an entire living system.

” (book) “ Aside from the ethical issues they pose – inflicting both physical pain as well as psychological distress and suffering on large numbers of sentient creatures – animal tests are time and resource intensive, restrictive in the number of substances that can be tested, provided little understanding of how chemicals behave in the body and in many cases do not correctly predict real-world human reactions.” (source 4; NC 1) The concern over the care of animals in laboratory testing was first raised in the 19th century in Great Britain, and as a result, the Animal Cruelty Act of 1876 was adopted. “ A significant step forward—for both supporters and opponents of animal research—occurred in 1959, when British zoologist William Russell and British microbiologist Rex Burch published *The Principles of Humane Experimental Technique*. This work introduced the goals of replacement, reduction, and refinement: replacement of animal testing with other techniques, reduction of the number of animals tested, and refinement of animal tests to reduce suffering.” Many of the concepts present in these works became the foundation for scientific advancements for alternatives to animal testing. (source 8) “ Nine out of every ten candidate medicines that appear safe in animal studies fail when given to humans.

” (source 4; NC 3) “ Drug failures and research that never deliver because of irrelevant animal models not only delay medical progress, but also waste resources and risk the health and safety of volunteers in clinical trials.”

(Source 4; NC 3) “ On the other hand, no one knows how many beneficial pharmaceutical drugs are never released because they are prematurely abandoned on the basis of misleading animal experiments. Many drugs that are highly beneficial nowadays, such as aspirin, ibuprofen, insulin, penicillin

or phenobarbital, would not be available if one had relied on animal testing in earlier days, because these substances induce grave damage in certain animal species due to differing metabolic processes. They would have failed outright if subjected to the present-day procedures applied in the development of active ingredients.

” (source 6) Though there are correlative behaviors between humans and animals, the way that humans and animals behave in their environment can be drastically different. The unnatural laboratory condition which the animals are subject to skew the results. (source 8) Mark Davis, PhD, director of the Stanford University School for immunity argues that “.

.. lab-bred mice - the animals most commonly used in research - typically live in sterile conditions that are very different from the environment that humans live in, so the results from mice may not accurately mirror results in humans.” (book 130) He also argues that mice sexually mature at a significantly different rate than humans, which makes it difficult to relate mice to humans. (book)Because not all human diseases occur naturally in animals, they must be synthetically stimulated.

For example, in order to rouse Parkinson’s disease, the animal is injected with a neurotoxin that compromises brain cells. Cancer is induced in mice with genetic engineering or by injecting cancer cells. Cerebral strokes are caused in mice by inserting a thread into a cerebral artery. Diabetes in rats is induced by injecting a toxin that destroys the insulin-producing cells in the pancreas. Heart attacks are simulated in dogs by constricting a coronary artery with a noose.

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” (source 6) According to (source 4; NC 2) recreating human disease symptoms artificially has “ many scientific limitations”. The artificial diseases often times do not yield the same symptoms as they do in humans. (source 4; NC 2) “ The artificially induced symptoms have nothing in common with the human disorders they are supposed to simulate. Important aspects of the origins of the disorders, such as diet, lifestyle habits, drug consumption, harmful environmental influences, stress, and psychological and social factors, are not taken into consideration. The results of studies using animals are therefore misleading and irrelevant.” The common misconception of animal testing is that the vast majority of animal tests are done with the aim to find a cure for a devastating human disease. Many surveys have shown that the general public accepts animal experimentation only because it is believed to be necessary for medical progress. “ According to some national statistics, nearly two-thirds of all animal research has little to nothing to do with curing human disease or advancing human medicine.

” (book) The lives of innocent animals are being taken and wasted with the experiments implemented being irrelevant to human concerns. Animal research that carried out for “ medical purposes” often proves to be irrelevant to human benefit. (book 127). “ A PETA investigation revealed the grotesque abuse of animals in laboratories at Columbia University, where baboons were subjected to invasive surgeries and left to suffer and die in their cages without any painkillers, and monkeys were forced to endure surgical procedures in which metal pipes were implanted into their skulls for the sole purpose of inducing stress...” (book 127)” The tension between researchers who view laboratory animals as essential to their work and



individuals who oppose animals tests, in part, led to the modern “alternatives” movement.”(book) This movement began discreetly, in 1959, with the publication of the Principles of Humane Experimental Technique by British researchers William Russell and Rex Burch. Russell and Burch were proponents for the “ Three R’s” of replacement, reduction, and refinement: substituting animal models with non-animal methods, when possible; lessen the number of animals used to the fewest necessary to meet the goals of the study; and refining experimental methods to minimize pain and distress for animals involved. Russell and Burch spent many years reviewing studies that practiced testing with the Three R’s and ones that did not. (book) “ Their systematic study of laboratory techniques pointed to what they call the “ intimate relationship between humanity and efficiency in experimentation. ” (book) “ They concluded that most humane possible treatment of experimental animals, far from being an obstacle, is actually a prerequisite for successful animal experiments. Humain science is the best science they argued” (book) According to Peter Singer, an Australian philosopher and professor, animal testing can only be justified if the result will greatly benefit the livelihood of mankind. In a summarization of Peter Singer’s book, Animal Experimentation, by Nancy Weitzman, Peter Singer argues “ that the fundamental issue in determining how we may treat animals is whether they suffer and that the pains of animals and humans deserve equal considerations. This argument is based on the important issue of whether they feel the pain and suffering, not whether the subjects have rights or moral claims against others.” (Source 7).

Singer argues that the researcher should be required to demonstrate that the beneficial gain from the experiment should outweigh the pain inflicted upon the animal. (source Peter singer page).