**Animal Testing Alternatives**

Student’s Name

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Course

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Due Date

Animal Testing

Animal testing is a hotly debated subject with many viewpoints and theories on both sides of the issue, questioning its morality. Researchers, cosmetic and medicine businesses continue to encounter opposition because they utilize animals for the safety of their goods and clinical research, even though this harsh and painful practice results in the mistreatment and death of numerous animals annually (Agell, Soria & Carrió, 2015). While some believe that this practice violates the rights of animals, others see the benefits that human beings derive from animal testing. In scientists' eyes, animal testing is the process of using animals to create medical treatments, assess the toxicity of drugs, and verify the safety of goods intended for consumer, industrial, and medicinal use (Kabene & Baadel, 2019). On the other hand, animal testing is typically viewed as a cruel and pointless practice that entails the torturing and misery of the animals. Numerous animals, including rodents, monkeys, cats, and dogs, are imprisoned in chilly, lifeless cages in laboratories nationwide. They are awaiting a severe test that could force them to endure in misery till they pass away for days or perhaps weeks. Depending on the goal and potential outcomes of the test, many types of animal testing are applicable Understanding animal testing requires a discussion of its benefits and drawbacks, as well as arguments for why it should be replaced with alternative techniques.

**Pros of Animal Testing**

The main benefit of animal testing is that it helps scientists discover new drugs and therapies that will advance medicine and health. Animal testing has enabled the development of numerous medicinal therapies, including insulin, antibiotics, vaccinations, cancer and HIV medications, and many others (Polito et al., 2020). Because of this, the scientific community and a large portion of the public accept the use of animal experimentation as a means of enhancing human health. Animal experimentation for medicine and the creation of new pharmaceuticals to treat disease is supported by some people who oppose it for cosmetics (Deb et al., 2020). It is also crucial to realize that animal testing contributes to the safety of many pharmaceuticals and other products that people use daily or are exposed to. Drugs, in particular, can pose serious risks when used, but researchers can first evaluate a drug's safety using animal models before starting human testing (Polito et al., 2020). This indicates that less harm is done to people, more lives are saved because drug hazards are avoided, and medications both prolong and enhance human life. And lastly, in our world, animals are the closest comparison to humans. Animal experimentation makes sense if one believes that human life is more valued than animal life because they allow researchers to examine how different biological systems in a body may respond to a test sample.

**Cons of Animal Testing**

Animal testing has many negative aspects, including pain, suffering, and death. Although most businesses assert that no animals are harmed during animal experiments, there is still room for suspicion (Van Norman, 2019). The use of jabbed needles, crammed storage, and inadequate nutrition are all potential components of testing. Some animals may pass away during the trial or after its use, while others may suffer from physical impairments like losing limbs, vision, hearing, and muscular coordination. Animals might have experienced such therapy in vain if there was no direct benefit to people because many of the compounds examined might never even be approved for public consumption and use (Van Norman, 2019). Nevertheless, some people feel it to be only acceptable to test on animals who voluntarily offer their agreement for self-testing because animals cannot volunteer themselves for testing and cannot express their ideas. Aside from the initial cost of breeding or purchasing the animal, animal testing also includes the costs of feeding, housing, and upkeep. Over several months or perhaps years, this expense can recur. Last but not least, the accuracy of animal testing is frequently questioned (Van Norman, 2019). Animal testing is the best substitute for testing on humans, but there is still a substantial degree of uncertainty, and some individuals continue to doubt its validity.

**Alternatives to Animal Testing**

Numerous strategies have been put up to prevent the use of animals in testing. Up to a point, these techniques offer an alternative way to conduct chemical and drug testing. These methods have the advantages of being time-efficient, using less workforce, and being affordable. Computers, for instance, can assist in understanding the numerous fundamental concepts of biology (Meigs et al., 2018). To create novel drugs, specialized computer simulations and software are used. Also, computer-generated simulators are used without dissecting animals to estimate the numerous potential physiological and negative impacts of a chemical or proposed medication candidate. For in vitro testing, only the most promising compounds from primary screening are used. For instance, in vitro testing is required to determine a drug's receptor binding location (Meigs et al., 2018). The receptor binding site for a prospective therapeutic molecule is predicted using computer software Computer Aided Drug Design (CADD). Moreover, an adequate substitute for animal testing is the use of in vitro cell and tissue cultures, which entail the development of cells outside the body in a lab setting (Meigs et al., 2018). After an animal's organ, liver, nervous system, and skin have been extracted, its tissues and cells can be stored outside of the body for a short period—a few days, a few weeks, or even a few years—in proper growth medium and act as an alternative for animal testing.

In conclusion, there will always be debate concerning the benefits and drawbacks of animal research. It may be preferable to test a product on animals before testing it on humans, yet this devalues an animal's life. However, the ethics of life values are not black and white because more animals are killed for food each year than are utilized in animal experiments. Several methods have been developed to avoid using animals in research, including computer models, cell and tissue culture, and alternative microorganisms. The use of different organisms has so been suggested. Therefore experimental animals can be replaced by a variety of non-animal substitutes.

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