Animal Testing Does Not Bring Out the Animal in Humans

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“The tens of millions of animals used and killed each year in American laboratories generally suffer enormously, often from fear and physical pain, and nearly always from the deprivation inflicted by their confinement which denies their most basic psychological and physical needs” (Anderegg et al). Imagine not being able to communicate, being locked in a cell for weeks on end, being poked and prodded. You have no human contact except for the researcher that comes in and injects you, or harms you in some way, maybe occasionally feeding you. You have a headache but no way to communicate that you have a headache. You are afraid, tired, and lonely. The only contact you have usually ends up with you being in pain. You don’t get to have contact with any familiar person or animal. You never feel joy or the outside world. You feel pain all the time. The product of all your pain: a medicine or medical treatment that has no benefit to you at all. You die alone and afraid and no one even notices that you are gone. This imaginary story is what it would feel like if you were an animal involved in testing for a human drug.

I first became interested in animal testing when I read an article about people that bred dogs to be used as subjects for experiments. I was curious about animal experimentation so when I had the chance to do a research
paper, I decided to research animal experimentation. The results I found sometimes disgusted me, like seeing monkeys with electrodes in their heads, and often made me sad, such as finding out the experiments performed on animals. When people think of animal testing they usually think of a rat or a mouse in a cage being put through a maze, or being injected with drugs. Many people do not realize that other animals are used. Animals such as dogs, cats, guinea pigs, and rabbits are also used in animal testing cases. Most of these animals are considered pets. Animal testing uses our pets as the subjects for experiments rather than humans, even though humans are the species that will be taking the drugs. The problem with animal testing is that it is often inaccurate for medical research and thus is not beneficial. This paper will discuss why animal testing is not beneficial, the alternatives to animal testing, and the conversation about animal testing that has been, and is continuing, to go on.

Testing on animals for medical research is not helpful because the tests yield false outcomes. Many tests done on animals can provide misleading results. One reason for the misleading results is that the doses given to the animals do not mimic the real-life of humans:

Animals are typically tested using methods and doses that are at odds with real-life conditions. In one experiment involving the sweetener cyclamate, animals were given the human equivalent of 552 bottles of soft drinks a day. In two experiments with trichloroethylene, used as a
decaffeinating agent in coffee, rats were given the human equivalent of 50 million cups of coffee a day. (Fano)

One human does not drink 552 bottles of soft drinks per day or 50 million cups of coffee a day. In a way, this is considered overdosing, which does not mimic the real affect of the product. The effects in animals would be much different from those in humans who may have around two or three bottles of soft drink per day. The effects can nullify the experiment, as explained by Herman Kraybill of the National Cancer Institute, “such high dosing can falsify an experiment in two ways: it can either poison the cells and tissues so severely as to prevent a carcinogenic response that might otherwise have occurred, or it can so overload and change metabolic processes as to cause a carcinogenic response that might not have occurred” (qtd. in Fano). The results of such experiments are misleading because the experiments can prevent or provide a severe response that would not be normally found in humans. Another problem with animal testing is that animals cannot tell researchers the symptoms they have:

Many of the most common life threatening side effects of drugs cannot be predicted by animal tests. Animals, for instance, cannot let the experimenter know if they are suffering from headache, amnesia, nausea, depression and other psychological disturbances. Allergic reactions, some blood disorders, skin lesions and many central nervous system effects are even more serious examples that cannot be demonstrated by animal models. (Thomas)
Animals, unlike humans, cannot communicate. These communication problems make it so that the researcher is unable to tell if an animal has a symptom that cannot be seen, such as a headache. The symptoms of these animals could possibly warn the researchers of the problem with the drug they are testing; but since the animals cannot communicate, researchers are misled into possibly believing the drug is safe when it is not.

A third way that animal experimentation misleads researchers is in the way scientists provide the toxic chemical or drug: “Ironically, putting doses of test chemical in food or water is one of the more common methods used by toxicologists to expose animals to chemicals. But rats readily associate food with illness and will avoid a food if they have been ill after eating it. How much an animal eats or drinks—as well as the animal’s age, genetics, and metabolism—can influence the outcome of an experiment” (Fano). Rats refuse to eat the food that makes them sick so researchers cannot provide the rats with a food that made the rats sick before; therefore, they must change the food given to the rat. Unfortunately, the differing food may not be taken into account when the researchers look at the effects of the drug on the rat. Food change is an independent variable, one that could affect the dependent variable, which are the side-effects of the drug. The results are therefore misleading.

Animals are also poor models for human testing because animals are not humans: “[. . .] every species of animal is a totally different biomechanical and biochemical entity. Therefore, it is impossible to extrapolate data not only from
non-human animals to human beings, but also, from one species of animal to another. Second, it is impossible to recreate a spontaneous disease in the laboratory, whether it be on humans or on animals” (Burgos). Animals and humans are different so the data cannot be used from species to species. Animal bodily systems also function differently from human bodily systems: “All land mammals have four limbs, but attempts to test surgeries of the aorta on dogs fail because dogs' circulation is different in part due to their walking on four extremities while we walk on two. Animals and humans both secrete gastric juices and other chemicals. However, the gastric fluid in dogs' stomachs is much more acidic than ours” (Greek and Greek). The difference in the way we walk, dogs on four limbs, humans on two, makes our systems function differently. The difference in the way our systems function makes animals a poor model to test on because the system may react differently to a certain drug because it functions differently. Animals are also a poor model for humans because to be a good, predictable model, the subject being tested must have “the same symptoms, the same postulated origin of disease, the same neurobiological mechanism, and the same treatment response” (Greek and Greek). Animals do not always have the same diseases as humans and humans do not always have the same diseases as animals (Burgos). Humans and animals do not have the same diseases so there is no point in testing human diseases on animals, because in general, animals cannot get human diseases and vice versa. In science the term “isomorphism” is the “one-to-one correspondence between all elements in two or more living systems” (Greek and
Greek). Animals are such poor models for humans that: “[. . .] all data recovered from animal-model experiments must be scaled. Scaling is a scientific term that generally refers to ‘the fudge factor’” (Greek and Greek). The scaling is an indicator that animals are poor models for human drug testing.

Animal experimentation for medical testing also harms animals. Animals are killed and mistreated by researchers every year: In any other situation the things researchers do to animals would be considered animal abuse and a regular person would be fined and possibly put in jail for a while, such as Michael Vick when he was convicted of dog fighting. An example of harm to animals is physical harm:

Consider the case of osteoarthritis, a human degenerative disease resulting in painful deformities of the joints. In order to mimic human lameness in dogs, cats, sheep and pigs, researchers beat the joints of animals with hammer blows, inject them with irritating liquids, subject them to ionizing [sic] radiation and/or dislocate them. Of course, the resulting fractures, haemorrhages [sic], thromboses, confusions, and inflammations bear no relation to human osteoarthritis. (Thomas)

The animals were mistreated to mimic a human disease, but the result from the mistreatment of the animals was that the symptoms the animals were experiencing were not even similar to what humans experience. The mistreatment of the animals was unnecessary, especially since the mistreatment did not result in the mimicking of the human disease at all. The
animals do not only suffer from mistreatment by researchers but also suffer
from chemicals they ingest: “In these tests, animals suffer convulsions, severe
abdominal pain, seizures, tremors, and diarrhea. They bleed from their
genitals, eyes and mouth, vomit uncontrollably, self-mutilate, become
paralyzed, lose kidney function, and fall into comas. Up to 2,000 animals may
be killed in these ways to test just one chemical” (Fano). The animals suffer for
ingesting chemicals and it is likely that some of the chemicals tested are ones
that are known to be toxic to either humans or animals. If the chemicals are
known to be toxic, then it is redundant to retest the chemicals.

Testing on animals for medical reasons is not beneficial because the
experiments not only harm animals but also delay health warnings. Health
warnings have been delayed because of the conflicting data between animal
testing and human testing. One example of a health warning that was delayed
was that smoking caused lung cancer:

[. . .]by 1963 prospective and retrospective studies of human patients
had already shown a strong correlation between cigarette smoking and
lung cancer. In contrast, almost all experimental efforts to produce lung
cancer in animals had failed. [. . .]Because the human and animal data
failed to agree, this researcher [Clarence Little] and others distrusted the
more reliable human data. As a result, health warnings were delayed for
years, while thousands of people died of lung cancer. (Anderegg et al)
Now most all people know that a leading cause of lung cancer is smoking, but
in 1963 when the data between humans and animals did not match up
Researchers decided to side with the animal data, even though it was humans that were the ones they researchers were concerned with. Delayed health warnings only hurt people rather than help them. If the human data shows a correlation between smoking and lung cancer, a health warning for humans should be put in place.

Health treatments have also been delayed. A health treatment that was delayed because of animal testing was the polio vaccine:

The animal model of polio, for example, resulted in a misunderstanding of the mechanism of infection. Studies on monkeys falsely indicated that the polio virus was transmitted via a respiratory, rather than a digestive route. This erroneous assumption resulted in misdirected preventive measures and delayed the development of tissue culture methodologies critical to the discovery of a vaccine. While monkey cell cultures were later used for vaccine production, it was research with human cell cultures which first showed that the polio virus could be cultivated on non-neural tissue. (Ander egg et al)

The polio vaccine was eventually given to all people, but the assumption that monkeys and humans would be infected with polio the same way caused the vaccine to be delayed. The delay caused lives to be lost and that loss could have been stopped if the researchers had tested humans or human cultures rather than monkeys.

Animal testing also provides drugs that end up eventually harming and sometimes killing humans. Ray C. Greek and Jean Swindle Greek state,
“Roughly fifteen percent of all hospital admissions are caused by adverse medication reactions. And legal drugs, which made their way to the public via animals, kill approximately 100,000 people per year. That is more than all illegal drugs combined.” The drugs that we believe are safe, because they were tested on animals, are actually not safe; they kill people. Many people would be surprised to know that illegal drugs kill less people than legal drugs. People take legal drugs that are prescribed to them by doctors that are supposed to be safe. The fact that legal drugs kill more people than illegal drugs is a scary, but an all too real reality. When legal drugs kill more people than illegal drugs and these legal drugs were tested on animals, the obvious is to find an alternative way to test drugs to make them safe and more marketable to humans. Although not all adverse reactions are caused because of false results, even one adverse reaction because of a false result in animals is enough to show that we should find an alternative to testing.

All of the evidence begs the question: why do we do animal testing if we know it isn’t safe or beneficial, and that it harms both animals and humans? The simple answer is money, the money that funds the scientists and research is given to the scientists to use in animal experimentation because the animal models make profits for the companies and the people doing and funding the research (Anderegg et al). Money should not decide what kind of testing goes on but sadly it does. Human lives could be saved if more money was put into alternatives to animal testing. However, there are other more complicated reasons. One reason is that the death of an animal is less likely to end up in a
lawsuit or losing money than the death of a human (Anderegg et al). To most humans, animals are expendables but humans are not. This expendability of animals to humans makes it less likely to end up in a lawsuit which makes it so companies do not lose money. Another reason is that animal testing appears more controlled, because scientists can claim that they control all the variables and only change one at a time (Anderegg et al). The assertion that scientists can control all the variables is not always correct; one example of this is the varying types of food that scientists may need to use to get rats to ingest the drug.

Although animal experimentation is lucrative there are alternative methods. Many tests are done on animals but, “[s]cientists are looking for cheaper, more accurate--and more humane--methods of testing chemicals on living tissues, and the result has been new technologies in cultivating human tissues and using computer models” (Putney 46). The money that companies spend on animal testing could be put into finding alternative methods to animal testing. Some alternatives to animal testing that have been researched are epidemiology, patient studies, autopsies, biopsies, and post-market surveillance (Anderegg et al). Epidemiology is they study of human populations and has shown some promise: “[. . .] the identification of the major risk factors for coronary heart disease, such as smoking, elevated cholesterol and high blood pressure [. . .] derives from epidemiological studies” (Anderegg et al). Patient studies, epidemiology, autopsies, biopsies all provide information based on humans rather than animals which is more beneficial because the models
are humans. Alternative methods that use some kind of human culture would most likely benefit humans more than using animals. The loss of life would also be lower if we used human cultures because it would have been tested on humans first. In a way, no matter how much testing there is on animals, the first people that receive the drug or treatment are basically human experimentation subjects, because the way those first humans react may be completely different from the way the animal subjects reacted. It is important that alternative methods are found because they are likely to be more reliable and yield better results than animal subjects.

The paper has discussed reasons why animal testing is not beneficial, why animal testing continues, and alternatives to animal testing, but who is talking about animal testing? The answer is that many people are discussing animal testing. Scientists, animal rights activists, and the governments of the United States and other counties have been discussing animal testing. Some scientists agree with animal testing while others morally oppose animal testing. Others just want to know what the benefit of animal testing is:

Given all these peculiarities, we began to ponder just how humans do benefit from animal experimentation. We asked physicians how it had specifically contributed to their field. Surgeons denied knowledge of any specific contributions, but referred us to pediatricians. Pediatricians knew of no significant achievements in pediatrics that relied on animals, but referred us to psychiatrists. Psychiatrists pointed out the drawbacks to studying psychosis in mice and suggested we contact the internists.
And it continued. Each specialist, though unaware of true animal-model successes in his own field, was convinced that other specialists were reliant on this protocol. They too had bought what was fast appearing to us as a bill of goods. (Greek and Greek)

Greek and Greek interviewed many different specialists in fields of medicine and psychology. None of these people seemed to have any idea as to what benefit animal testing has for humans, some like psychiatrists even pointed out that there was a disadvantage rather than an advantage to using animals. Governments of the United States as well as other countries are discussing alternatives to animal testing. Both the United States and the European Council have added the “Three R’s” into law (Roush). The “Three R’s” are “reduce, refine, and replace” (Roush). The goals of the governments are to reduce the number of animals used, refine the techniques of animal testing, and possibly replace animals with other models. Animal testing is a subject that affects all our lives, and though I disagree and many others disagree with animal testing, some scientists do agree with animal testing. An article entitled “Animal Experimentation is Always Justified” argues, “Not only do animal transplants have the potential to save AIDS patients, but they also have enormous possibilities for leukemia and lymphoma patients, who frequently go without transplants because of the lack of donors.” The problem with this argument is that the word used is “potential.” Everything has potential to do something but just because it has potential to do something does not mean that it will. A stone has potential to roll down a hill but that does not mean that
the stone ever will. The article also argues that without animals, the polio vaccine would not have been developed, which is correct. Without animals, the vaccine would not be available, but because of the animals, the polio vaccine was delayed while people that had polio suffered and some even died. Students are also talking about animal testing. During my presentation, I gave a survey asking people whether or not animal testing for medical research or beauty products was good. Out of 13 surveys, five people thought animal testing was good, six thought that animal testing was not good, and two people put a different answer (Writer). However, one person said beauty product testing was good and twelve said beauty product testing was not good (Writer). Most people responded that they thought animal testing was good for medical research because in some way it would benefit humans, whereas most people thought that beauty product testing was not good because it was for vanity not for any benefit (Writer). Many others are talking about animal testing as well, ranging from congress to animal rights activists.

For my whole life I have used products that were probably tested on animals. These products can range from the vaccines I received as a child to the hair care products I used to use. Animal testing is something that affects every person whether they know it or not. Medicines, vaccines, treatments, and even beauty products are tested on animals. Unfortunately for both humans and animals, animal testing is not beneficial for medical research. This essay had discussed why animal testing is not beneficial, alternatives to animal testing, and the conversation about animal testing. Some people believe that
animal testing is good and others think that animal testing is bad, but animal testing still remains and will probably remain for years to come.
Works Cited


Putney, Margaret. "Being a mouse on death row: researchers look for alternatives to animal testing."

