Animals should be used in scientific research

Science, Epidemiology

Animals should be used in scientific research It’s commonly argued that animal testing has or hasn’t increased the average lifespan of humans by 23. 5 years? Facts of Why animals are used in scientific research Over 100 million animals are used every year in the United States as models in biological and medical research to study human disease, injury, development, psychology, and anatomy and physiology. Research involving animals has played a vital role in virtually every major medical advance of the last century. Even today, there is no complete alternative to biomedical research with animals. The vast majority of research animals are mice and rats bred for this purpose. Dogs, cats, and non-human primates together account for less than one-half of one percent of the total, and this number has declined for more than 25 years. Since 1979, the number of dogs and cats needed in animal research has declined by more than 50%. The number of non-human primates needed represents less than . 2% (. 18% in 2004) and has remained relatively constant–in the 50, 000 per year range–for the past decade. History The history behind animals being used in scientific research is that is started In Europe and in the US by the early 1900's and especially during and following World War I the benefits of animal research continued to be recognized. Following the Nuremberg Trials for atrocities by the Nazi's during World War II, society spoke loudly demanding no research on humans until animal research had made such research a reasonable risk. Today, the majority of people in our society do agree with the idea of the humane and responsible use of animals in research. There is safeguard standards for scientific studies on animals * The USDA has set forth federal regulations governing the care and use of animals in biomedical research

that are considered even more extensive than those covering human research subjects. * The Animal Welfare Act sets standards of care for research animals with regard to their housing, feeding, cleanliness, ventilation, and medical needs and requires the use of anesthesia or analgesic drugs for potentially painful procedures and during post-operative care. * The US Public Health Service Act requires that all institutions receiving research funds from NIH, FDA, or CDC adhere to the standards set out in the " Guide for the Care and Use of Laboratory Animals" (see http://www. nap. edu/readingroom/books/labrats/). * Institutions must follow detailed animal care recommendations and establish an IACUC to ensure that all animals are treated responsibly and humanely Some people think that all animals that are in scientific research are in pain or distress while undergoing the research that is not necessarily true. The 2004 USDA Annual Report reveals that 57% of all research procedures with animals involved no more than slight or momentary pain or distress (i. e., an injection). In 34% of research procedures anesthesia and postoperative painkillers were used. In 9% of the procedures, neither anesthesia nor pain medication could be used, as they would have interfered with research results. Scientific Perspectives Here are 4 reasons why animals are used in research: 1. The principles of anatomy and physiology are true for humans and animals, especially mammals. Once scientists learned that animals were similar to humans, in physiology and anatomy, it became preferable to use animals rather than humans for preliminary research. 2. Certain strains or breeds of animals get the same diseases or conditions as humans. " Animal Models" are frequently critical to understanding a disease and developing appropriate treatments.

3. Research meant introducing one variable and observing the results of that one item. With animals we can control their environment (temperature, humidity, etc.), and shield them from diseases or conditions not related to the research (control their health). Although human and animals get the disease that may be the subject of a research investigation, the different life styles or living conditions make them poor subjects until preliminary research under controlled conditions has been done. 4. We can use scientifically-valid numbers of animals. Data from one animal or human is not research; it is a case study. To scientifically test a hypothesis, an adequate number of subjects must be used to statistically test the results of the research. Some individuals claim that we should use human or animals that have a disease to study that disease. Certainly, epidemiological studies (tracking the occurrence of a disease or condition) have provided many important insights into the cause of a disease or a condition, especially when an environmental aspect is responsible. However, epidemiological studies are successful in only a limited number of situations. Only if the study of a disease is severely hindered or not possible when the research subjects have been/are exposed to a variety of environmental factors. According to the American Medical Association, humans are the most frequently used animal in research. However, research studies conducted on humans follow preliminary studies conducted in animals. These animal studies make human studies a reasonable risk. The animal studies are not a guarantee of success, but they do tell us that the human research has a reasonable probability of success. John A.