Use of Animals in Research

Currently, the complexity and intricacy of the human brain is beyond the capacity of even the most sophisticated nonbiological models (for example, computer models) to simulate. Nor can lower organisms or cells grown in the laboratory simulate the brain’s complexity.

The Alzheimer’s Association believes that the use of animals in research is essential to the success of research into the causes, treatment, prevention and cure of Alzheimer’s disease and other dementias.

In making research grants, the Association believes that animal research must be conducted in a responsible and humane manner. Therefore, the Association policy follows the guidelines of the National Health Council, which are:

- Animals shall be used in biomedical research only when no other means of obtaining scientifically sound, valid and useful results are available.

- The minimum number of appropriate animals required to obtain and validate results shall be used.

- The acquisition, care and use of animals must be in accordance with all applicable federal, state and local laws and regulations.

- Certifications must be received from research facilities prior to being approved for a research grant that the facility(ies), its researchers, and employees adhere to the Animal Welfare Act, National Research Council Guide for the Care and Use of Laboratory Animals, and any appropriate U.S. Department of Agriculture or National Institutes of Health regulations and standards.

- In cases requiring the death of an animal, only the most appropriate and humane form of euthanasia shall be used consistent with the purpose of the research. The euthanasia protocol must be approved by the Institutional Animal Care and Use Committee at the sponsoring institution.

The Alzheimer’s Association also supports efforts to develop and use scientifically valid alternatives to animal research.

If additional information is necessary or appropriate:

- There are many examples of how animal studies have been a necessary and direct step between research conducted in “test tubes” and human studies in Alzheimer’s. For example:

  - Observations made in animals decades ago about the importance of the brain chemical acetylcholine for normal memory, coupled with the discovery that this chemical is
deficient in the brains of people who died with Alzheimer’s, led to the first U.S. Food and Drug Administration-approved drugs to treat Alzheimer’s.

- More recently, experiments performed using special animal models of Alzheimer’s that were engineered to carry human genes led to dramatic advances in our ability to visualize abnormal amyloid plaques in the brains of people living with Alzheimer’s disease, and in the development of drugs that lead to the removal of these plaques. These drugs are currently being tested in human clinical trials.

Should additional citation be necessary or appropriate:

The U.S. Public Health Service says: “Virtually every medical achievement of the last century has depended directly or indirectly on research with animals. The knowledge gained from animal research has extended human life and made it healthier through many significant achievements, [including]: vaccines to prevent poliomyelitis and other communicable diseases; surgical procedures to replace diseased heart valves; corneal transplants to restore normal vision; new medicines to control high blood pressure and reduce death from stroke; anti-psychotic drugs to treat mental disorders; broad spectrum antibiotics to treat infections; and chemical agents to cure or slow childhood cancers. …The use of living animals remains an important way to solve a medical problem.” (The Physiologist,1994. Vol. 37, No. 3, p. 107).

The U.S. Food and Drug Administration (FDA) says: “For drugs and biologics, the focus of animal testing is on the drug’s nature, chemistry, and effects (pharmacology) and on its potential damage to the body (toxicology). Animal testing is used to measure

- how much of a drug or biologic is absorbed into the blood
- how a medical product is broken down chemically in the body
- the toxicity of the product and its breakdown components (metabolites)
- how quickly the product and its metabolites are excreted from the body

For medical devices, the focus of animal testing is on the device’s ability to function with living tissue without harming the tissue (biocompatibility). Most devices use materials, such as stainless steel or ceramic, that we know are biocompatible with human tissues. In these cases, no animal testing is required. However, some devices with new materials require biocompatibility testing in animals.

There are still many areas where animal testing is necessary and non-animal testing is not yet a scientifically valid and available option. However, FDA has supported efforts to reduce animal testing. In addition, FDA has research and development efforts underway to reduce the need for animal testing and to work toward replacement of animal testing.”
(http://www.fda.gov/AboutFDA/Transparency/Basics/ucm194932.htm).