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## 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 and all other dementia.

In granting research grants, the Association requires 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/facilities, 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.

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 led to the removal of these plaques. These drugs are currently being tested in human clinical trials.

—Alzheimer's Association Medical and Scientific Advisory Group, reviewed January 2022

—Alzheimer's Association Board of Directors, approved October 2022

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