

American Thoracic Society

MEDICAL SECTION OF THE AMERICAN LUNG ASSOCIATION

Animals in Medical Research

THIS OFFICIAL STATEMENT OF THE AMERICAN THORACIC SOCIETY WAS ADOPTED BY THE ATS BOARD OF DIRECTORS, NOVEMBER 1990.

Introduction

The mission of the American Lung Association is the conquest of lung disease. Although great strides toward this objective have already been made, much remains to be accomplished. Major medical achievements in the control of respiratory ailments and many other diseases in the last century have, in large measure, been dependent upon the use of animals and animal tissues, blood, and other products.

Those who would ban the use of animals for research purposes justify their position on the basis that: (1) animal experiments violate the rights of animals; (2) animals are subjected to needless suffering (1, 2); (3) animals are used inappropriately when human studies, computer simulations, or *in vitro* tests would suffice. We agree that no animal should suffer pain needlessly. Extensive federal regulations exist to assure humane treatment, and all responsible, professional, and scientific organizations both support and abide by these regulations (3, 4). Although much biologic research can be accomplished without the use of animals, critically important medical studies such as organ transplantation, surgical procedures, and the burgeoning field of genetics cannot be done with substitutes. There can be only limited progress in the ongoing effort to conquer lung disease without the continued availability of animals and animal products for experimentation.

Benefits

The spectacular advances that have occurred in the prevention, diagnosis, and treatment of many diseases over the last century could not have been achieved without animal research. Humans have not been the only beneficiaries. Veterinarians freely acknowledge the considerable benefits that have also occurred in veterinary medicine. Benefits to human medicine extend over all aspects of human health and behavior in addition to lung disease and include the fields of aging, cancer, diabetes, many types of special surgery, hearing, blood disorders, organ transplantation, reproductive biology, and infectious diseases of all kinds (5). At present, research emphasis in lung disease, and in many other diseases as well, is directed toward molecular and cellular biology, genetics, immunology, neural and other regulatory mechanisms, and cell-cell interactions. Although this type of research might appear to be of the "test-tube" variety and unrelated to the use of animals,

it is critically dependent upon animals and animal tissues as a source of the cells and blood products that are the essential tools of modern biomedical research. Furthermore, the results of this research must be evaluated initially in animals and eventually in humans to demonstrate the value for health maintenance or recovery in patients with lung disease.

In the field of respiratory diseases, major discoveries responsible for landmark medical advances have been closely linked with animal experimentation. Robert Koch first demonstrated that the tubercle bacillus was the cause of human tuberculosis in 1882 by injecting tubercle bacilli into guinea pigs. The specific agents responsible for influenza and for legionnaire's disease were subsequently identified by a similar process of obtaining the infectious agent from afflicted patients, creating a similar disease in animals, and transmitting the disease to other animals.

Other advances, again based on studies in animals, have been responsible for remarkable progress in the control of chronic degenerative diseases. Virtually all progress in pharmacology and the development of new drugs is dependent upon careful animal experiments. Few of us would knowingly use any medication that was not evaluated extensively in experimental animals for its mechanism of action and its safety. In fact, it has long been required that all drugs undergo rigorous testing in animals before they are released for public use.

Few advances in modern medicine have been more dramatic than in the field of cardiovascular surgery. Repair of blocked coronary arteries, correction of congenital heart defects, and replacement of heart valves are routine procedures. Organ transplantation, with replacement of the heart with or without the lungs, is now possible. Without a background of extensive animal experimentation, none of these surgical procedures would be possible. A vigorous, continuing program of animal research is essential so that newcomers to cardiopulmonary surgery can develop the high level of technical skill that is required before performing these procedures on patients. Furthermore, methods for controlling tissue rejection after transplantation are critically dependent upon observations in animals.

The American Lung Association Position

The American Lung Association and its medical division the American Thoracic Society affirms their position regarding the use of

animals for the benefit of humans. (1) We strongly support full compliance with the existing rules and regulations that assure the humane and compassionate management of laboratory animals. All research supported by the American Lung Association is required to undergo the same scrutiny and follow the same rules put forth for recipients of grants from the National Institutes of Health. A committee of experts will maintain ongoing surveillance of the conduct of all research sponsored by the American Lung Association and will periodically review ethical issues regarding the use of animals in biomedical research. (2) We actively encourage all forms of biomedical research that have been carefully scrutinized and deemed worthy by qualified experts, and we oppose all efforts to exclude the use of animals whenever they are essential for the conduct of that research. (3) We do not condone the actions of animal rights organizations that employ such methods as intimidation and threats of personal injury and property damage, but we recognize their right to express dissenting opinions in a rational manner.

This statement was prepared by the American Lung Association/American Thoracic Society Research Coordinating Committee Members of the Committee:

GERARD M. TURINO, M.D., Chairperson

JOHN H. BATES, M.D.

JOAN G. CLARK, M.D.

ALLEN B. COHEN, M.D.

DAVID W. CUGELL, M.D.

JAMES H. DAUBER, M.D.

ROBERT B. FICK, M.D.

JAMES L. HUGHES

MI JA KIM, PH.D.

JOHN A. McDONALD, M.D.

SYDNEY PARKER, PH.D.

MARC B. SCHENKER, M.D.

GALEN B. TOEWS, M.D.

PETER D. WAGNER, M.D.

BARRY J. ZIMMERMAN, PH.D.

References

1. Cohen C. Special article. The case for the use of animals in biomedical research. *N Engl J Med* 1986; **315**:865-9.
2. Letters to the Editor. *N Engl J Med* 1987; **316**:551-3.
3. United States Public Health Service. Public Health Service Policy on Human Care and Use of Laboratory Animals, Office for Protection from Research Risks (OPHR), USPHS. September 1986.
4. Public Law 99-158, November 20, 1985. Health Research Extension Act.
5. Council on Scientific Affairs. American Medical Association. Animals in Research. *JAMA* 1989; **261**:3602-6.