
COLLEGE ON PROBLEMS OF DRUG DEPENDENCE

POLICY ON DRUG ABUSE RESEARCH WITH LABORATORY ANIMALS

(Adopted February 1997)

Drug abuse research using laboratory animals has a long and scientifically productive history. Research with animals has enhanced our understanding of behavioral, pharmacological, and physiological causes and consequences of drug abuse, including drug intoxication, tolerance, reinforcement, dependence, and toxicity. It has contributed significantly to the identification of specific brain areas that mediate the reinforcing and subjective effects of drugs that maintain drug taking. Research with animals has identified genetic and environmental factors associated with individual differences in vulnerability to drug taking. Recent scientific advances have produced an explosion of knowledge about brain function and molecular biology, and research with animals will be required to apply this knowledge to problems of drug abuse. At the prevention level, animal research has been instrumental in assessing the abuse liability of new drugs, thereby assuring that drugs with significant abuse risk are not introduced without proper regulatory control and physician education. New treatments for drug abuse are based on findings from research with laboratory animals. Research with laboratory animals has played a major role in the development of new medications for the treatment of heroin dependence, including l-acetylmethadol (LAAM), buprenorphine, and naltrexone. It has contributed significantly to the development of drug antagonists, such as naloxone, which has saved thousands of lives by reversing opiate overdosage in emergency room situations. It has played a significant role in the development and refinement of behavioral methods, such as contingency management, for treating drug abuse. Currently, these experimental methodologies, which have been so important in the study of opiate addiction, are being refined to aid the development of new medications to treat cocaine dependence and other types of drug abuse, including nicotine abuse.

The high morbidity and mortality associated with drug abuse underscores the need for research to develop better drug abuse prevention and treatment methods. From an economic perspective, drug abuse has been estimated to cost our nation over \$200 billion each year in crime, property destruction, law enforcement, lost productivity, premature death, and treatment of drug abusers. These financial costs do not include the immeasurable personal suffering associated with drug abuse, or the extent to which drug abuse contributes to other social problems such as AIDS, mental disorders, domestic abuse, unwanted pregnancy, and family disintegration.

Research with drugs of abuse using laboratory animals helps us better understand a wide range of human disorders in addition to drug abuse. For example, the administration of drugs of abuse to laboratory animals has provided basic information concerning brain function, including mechanisms that underlie pain, attention, memory, sleep, appetite, sexual behavior, anxiety, depression, and brain injury. This research, in turn, has contributed significantly to development of a number of important new treatment medications, including new analgesics with lower abuse potential, antitussives, hypnotics, anxiolytics, antidiarrheals, anorectics, as well as medications to treat a variety of other medical conditions.

There is an urgent need to know more about psychoactive drugs, particularly those features that lead some individuals to escalate initial use into regular use or dependence. Research with laboratory animals provides scientists with the means to study drug-related phenomena in the laboratory under controlled conditions using the best scientific methods available. Such research contributes significantly to our efforts to understand, prevent and treat drug abuse and addiction. Careful attention to the well being of the laboratory animals used in these studies is essential, not only for safe and ethical conduct of the research but also for the quality and reliability of the research results.

Drug abuse research with laboratory animals in all countries must conform to all applicable national, state, or local laws and regulations that govern the use of laboratory animals in research. In the United States, such research must comply with federal regulations promulgated by the U.S. Department of Agriculture (USDA) under the Animal Welfare Act; if the research is federally funded it must also comply with the U.S. Public Health Service Policy on Humane Care and Use of Laboratory Animals and the Institute of Laboratory Animal Resources Guide for the Care and Use of Laboratory Animals.

The College on Problems of Drug Dependence recognizes the value and importance of drug abuse research involving laboratory animals and supports the humane use of animals in research that has the potential to benefit human health and society. Such research plays a vital role in acquisition of the new knowledge needed to understand and reduce drug abuse and its associated problems.
