

Amphibians: Guidelines for the Breeding, Care and Management of Laboratory Animals

This report of the Subcommittee on Amphibian Standards should serve as a useful guide to all users of amphibians, lead to success in the normal maintenance of amphibian colonies, and continue to stimulate efforts toward improving the quality of utilization of these animals. In addition to guidelines for animal care and quality, certain terminology is suggested. ISBN 0-309-07767-2; 1974, 162 pages, 6 × 9, paperback

Chimpanzees in Research: Strategies for Their Ethical Care, Management, and Use

Chimpanzees in biomedical and behavioral research constitute a national resource that has been valuable in addressing national health needs. However, the expected level of use of the chimpanzee model in biomedical research did not materialize, creating a complex problem that threatens both the availability of chimpanzees and the infrastructure required to ensure their well-being. This report examines the issues and makes recommendations. ISBN 0-309-05891-0; 1997, 108 pages, 6 × 9, paperback

Definition of Pain and Distress and Reporting Requirements for Laboratory Animals: Proceedings of the Workshop Held June 22, 2000

The goal of this ILAR/NIH joint workshop was to provide feedback from the scientific community to the USDA regarding the lack of a functional definition of “distress” as well as the efficacy of continuing to use current categories to report pain and distress. Speakers’ areas of expertise and perspectives ranged from scientific research to animal welfare policy, protocol review, and relevant organizations or institutions. ISBN 0-309-0698-6; 2000, 132 pages, 6 × 9, paperback

The Development of Science-based Guidelines for Laboratory Animal Care: Proceedings of the November 2003 International Workshop

The purpose of this workshop was to bring together experts from around the world to assess the available scientific knowledge that can affect the current and pending guidelines for laboratory animal care. Workshop presentations and discussions focused on identifying gaps in the current knowledge to encourage future research endeavors; assessing potential financial and outcome costs of nonscientific based regulations, facilities, and research; and determining possible negative impacts of arbitrary regulations on animal

welfare. ISBN 0-309-09302-3; 2004, 264 pages, 6 × 9, paperback

Education and Training in the Care and Use of Laboratory Animals

Federal law requires that institutions provide training for anyone caring for or using laboratory animals. This volume provides the guidelines and resources needed to coordinate a quality training program, as well as to meet all legal requirements. ISBN 0-309-08691-4; 1991, 152 pages, 8.5 × 11, paperback

Guide for the Care and Use of Laboratory Animals, 8th ed.

The *Guide for the Care and Use of Laboratory Animals* has been updated by a committee of experts to incorporate new scientific information on commonly used laboratory animals, including aquatic species, and provides extensive references. It is organized around major components of animal use: key concepts of animal care and use; animal care and use program (including the roles and responsibilities of the institutional official, attending veterinarian, and the institutional animal care and use committee; regulatory considerations; program and personnel management; and program oversight); animal environment, husbandry, and management; veterinary care (including animal procurement and transportation, preventive medicine, and clinical care and management); and physical plant design considerations. ISBN 0-309-15400-6; 2010, 248 pages, 6 × 9, paperback

Guidelines for the Care and Use of Mammals in Neuroscience and Behavioral Research

Expanding on the *Guide for the Care and Use of Laboratory Animals*, this report provides current best practices for animal care and use and discusses how the regulations and guidelines provided by the *Guide*, the Animal Welfare Act, the Animal Welfare Act Regulations, and PHS Policy can be applied to neuroscience and behavioral research. The report treats the development, evaluation, and implementation of animal-use protocols as a decision-making process, not just a decision. It encourages the use of professional judgment and careful interpretation of regulations and guidelines to develop performance standards that ensure animal well-being and high-quality research. This report is an indispensable resource for researchers, veterinarians, and institutional animal care and use committees. ISBN 0-309-08903-4; 2003, 224 pages. 6 × 9, paperback

Guidelines for the Humane Transportation of Research Animals

Transporting research animals is a necessary part of the biomedical enterprise that can have substantial effects on the physiological and psychological condition of the animals. Individuals at research facilities often find arranging transportation of animals a challenge. In order to address a plethora of sometimes confusing and burdensome regulations pertaining to transportation of research animals, this report recommends that an interagency working group be established to coordinate federal inspections and permitting activities. It further recommends that steps be taken to ensure the availability of safe, reliable air and ground transportation for research animals. The report also establishes science-based good practices for transporting research animals and advises that research institutions designate a single individual to be responsible for ensuring safe shipment and receipt of animals. ISBN 0-309-10122-0; 2006, 160 pages, 6 × 9, paperback

Immunodeficient Rodents: A Guide to Their Immunobiology, Husbandry, and Use

This volume is an indispensable reference on the nature of immune defects in rodents and the special techniques necessary to maintain and breed them. The authors describe 64 inbred, hybrid, and mutant strains of rodents, each with some immune defect; explain mechanisms for ensuring genetic purity; and provide a standardized nomenclature for different varieties. ISBN 0-309-03796-4; 1989, 260 pages, 6 × 9, clothbound

Infectious Diseases of Mice and Rats

This edition—a must for all researchers who use these animals—provides practical suggestions for breeding, keeping, and identifying pathogen-free laboratory rodents. ISBN 0-309-06332-9; 1991, 415 pages, 6 × 9, paperback

Companion Guide to Infectious Diseases of Mice and Rats

This companion to *Infectious Diseases of Mice and Rats* makes practical information on rodent diseases readily accessible to researchers. ISBN 0-309-04283-6; 1991, 108 pages, 6 × 9, paperback

International Perspectives: The Future of Nonhuman Primate Resources, Proceedings of the Workshop Held April 17-19, 2002

Nonhuman primates (NHP) continue to play an important role in the research of many human diseases such as malaria and AIDS. Changes in the need for different species of NHP, the adequacy of the current supply of NHP, and projections of future needs for NHP are issues that concern scientists, veterinarians, and funding authorities from countries that are major users of NHP, as well as countries that produce and supply these animals. In this volume, workshop participant discussions relate to current shortfalls and excesses in NHP breeding and exportation programs, the status of breeding and conservation programs internationally, the development of

specific pathogen-free colonies, difficulties in transporting NHP, and challenges in the management of NHP colonies. ISBN 0-309-08945-X; 2003, 262 pages, 6 × 9 paperback

Microbial and Phenotypic Definition of Rats and Mice: Proceedings of the 1998 US/Japan Conference

This workshop is part of a long-term program to nurture international collaborative and information-exchange activities. As genetics and genomics affect the study of biology and medicine, the role of comparative medicine cannot be understated. Workshop contributors seek to enhance the genetic and microbiologic integrity of laboratory rat and mice colonies worldwide. The mouse has been a critical model for the discovery of genes responsible for several cancers and many other diseases. The rat model “functionally” characterizes mammalian model systems. This meeting sought to help global scientific enterprise harmonize the mouse and rat models and to meet the research challenges of the 21st century. ISBN 0-309-07389-8; 1999, 110 pages, 6 × 9, paperback

Monoclonal Antibody Production

Monoclonal antibodies are important reagents used in research, diagnosis, and treatment of diseases. They are produced by injection into the abdominal cavity of a suitably prepared mouse or by tissue culturing cells in plastic flasks. This report weighs the costs and benefits of each method and makes recommendations for their uses. ISBN 0-309-07511-4; 1999, 74 pages, 6 × 9, paperback

National Need and Priorities for Veterinarians in Biomedical Research

This report identifies various factors that contributed to creating an unfulfilled need for veterinarians in the biomedical research workforce, including an increase in the number of NIH grants utilizing animals and the burgeoning use of transgenic rodents, without a comparable change in the supply of appropriately trained veterinarians. The committee developed strategies for recruiting more veterinarians into careers in biomedical research. ISBN 0-309-09083-0; 2004, 102 pages, 6 × 9, paperback

Nutrient Requirements of Laboratory Animals, 4th ed.

In the years since the third edition of this indispensable reference was published, a great deal has been learned about the nutritional requirements of common laboratory species: rat, mouse, guinea pig, hamster, gerbil, and vole. The fourth edition presents the current expert understanding of the lipid, carbohydrate, protein, mineral, vitamin, and other nutritional needs of these animals. The extensive use of tables provides easy access to a wealth of comprehensive data and resource information. ISBN 0-309-05126-6; 1995, 192 pages, 8.5 × 11, paperback

Occupational Health and Safety in the Care and Use of Nonhuman Primates

The field of occupational health and safety constantly changes, especially as it pertains to biomedical research.

New infectious hazards are of particular importance at non-human-primate facilities. For example, the discovery that B virus can be transmitted via a splash on a mucous membrane raises new concerns that must be addressed, as does the discovery of the Reston strain of Ebola virus in import quarantine facilities in the U.S. The risk of such infectious hazards is best managed through a flexible and comprehensive occupational health and safety program (OHSP) that can identify and mitigate potential hazards. This report is intended as a reference for vivarium managers, veterinarians, researchers, safety professionals, and any other persons who are involved in developing or implementing an OHSP dealing with nonhuman primates. This report attempts to list the important features of an OHSP and provide the tools necessary for informed decision-making in developing an optimal program that meets all particular institutional needs. ISBN 0-309-08914-X; 2003, 184 pages, 6 × 9, paperback

Occupational Health and Safety in the Care and Use of Research Animals

Much has been written about the care of research animals, yet little guidance has appeared on protecting the health and safety of the people who care for or use these animals. This report, an implementation handbook and companion to the *Guide*, identifies principles for building a program and discusses the accountability of institutional leaders, managers, and employees for a program's success. ISBN 0-309-05299-8; 1997, 168 pages, 6 × 9, paperback

The Psychological Well-Being of Nonhuman Primates

A 1985 amendment to the Animal Welfare Act requires those who keep nonhuman primates to develop and follow appropriate plans for promoting the animals' psychological well-being. The amendment, however, provides few specifics. *The Psychological Well-Being of Nonhuman Primates* recommends practical approaches to meeting those requirements. ISBN 0-309-10359-2; 1998, 184 pages, 6 × 9, paperback

Recognition and Alleviation of Distress in Laboratory Animals

The use of animals in research adheres to scientific and ethical principles that promote humane care and practice, and these principles and standards of practice must be updated based on scientific advances in our understanding of animal physiology and behavior. This report focuses on the stress and distress experienced by animals used in research. It aims to educate laboratory animal veterinarians; students, researchers, and investigators; institutional animal care and use committee members; animal care staff; and animal welfare officers about current scientific and ethical issues associated with stress and distress in laboratory animals. The report evaluates pertinent scientific literature to generate practical guidelines, focusing on the following areas: scientific understanding of causes and functions of stress and distress; the transformation of

stress to distress; and the identification of principles for the recognition and alleviation of distress. The report also discusses the role of humane endpoints in situations of distress and principles of minimization of distress in laboratory animals. Finally, the report identifies areas in which further scientific investigation is needed to improve laboratory animal welfare. ISBN 0-309-10817-9; 2008, 118 pages, 6 × 9, paperback

Recognition and Alleviation of Pain in Laboratory Animals

This report, the second of two revising the 1992 publication *Recognition and Alleviation of Pain and Distress in Laboratory Animals*, focuses on pain experienced by animals used in research. This book aims to educate laboratory animal veterinarians; students, researchers, and investigators; institutional animal care and use committee members; and animal care staff and animal welfare officers about the current scientific and ethical issues associated with pain in laboratory animals. The committee evaluated pertinent scientific literature to generate practical and pragmatic guidelines for recognizing and alleviating pain in laboratory animals, focusing on the following areas: physiology of pain in commonly used laboratory species; pharmacologic and non-pharmacologic principles to control pain; identification of humane endpoints; and principles for minimizing pain associated with experimental procedures. Finally, the report cites areas in which further scientific investigation is needed to improve laboratory animal welfare. ISBN 978-0-309-12834-6; 2009, 270 pages, 6 × 9, paperback

Recognition and Alleviation of Pain and Distress in Laboratory Animals

Clear guidelines on the proper care and use of laboratory animals are being sought by researchers and members of the many committees formed to oversee animal care at universities as well as the general public. This report provides comprehensive information about behavior, pain, and distress in laboratory animals. ISBN 0-309-07525-4; 1992, 160 pages, 6 × 9, paperback

Science, Medicine, and Animals, 2nd ed.

Science, Medicine, and Animals discusses how animals have been and continue to be an important component of biomedical research. It addresses the history of animal research and what it looks like today, and gives an overview of some of the medical advances that would not have been possible without animal models. Finally, it looks at the regulations and oversight governing animal use, as well as efforts to use animals more humanely and efficiently. ISBN 0-309-08894-1; 2004, 52 pages, 8.5 × 11, paperback

Science, Medicine, and Animals Teacher's Guide

Science, Medicine, and Animals explains the role that animals play in biomedical research and the ways in which scientists,

governments, and citizens have tried to balance the experimental use of animals with a concern for all living creatures. An accompanying *Teacher's Guide* is available to help teachers of middle and high school students use *Science, Medicine, and Animals* in the classroom. As students examine the issues in *Science, Medicine, and Animals*, they will gain a greater understanding of the goals of biomedical research and the real-world practice of the scientific method in general. The *Teacher's Guide* was reviewed by members of the National Academies' Teacher Associates Network and is recommended by the National Science Teacher's Association. ISBN 0-309-10117-4; 2005, 24 pages, 8.5 × 11, paperbound

Scientific and Humane Issues in the Use of Random Source Dogs and Cats

This report examines the value of random source animals in biomedical research funded by the National Institutes of Health (NIH) and the role of Class B dealers who acquire and resell live dogs and cats to research institutions. The report addresses (1) the important biomedical research questions and common research topics in contemporary NIH-funded research where Class B dogs and cats are desirable/necessary as well as the frequency of these research topics (i.e., number of grants where the potential exists or the source of the animal is identified as a Class B dealer); (2) the specific characteristics (e.g., physiological, anatomical, or genetic) of the animals that make them particularly well suited for certain types of research; and (3) recommendations for the use of Class B dogs and cats. ISBN 978-0-309-13807-9; 2009, 136 pages, 6 × 9, paperbound

Strategies That Influence Cost Containment in Animal Research Facilities

This second report of the National Research Council's Committee on Cost of and Payment for Animal Research presents the committee's conclusions and recommendations regarding cost containment methods for animal research facilities. This publication follows the Committee's initial report which examined interpretation of governmental policy

(OMB Circular A-21) concerning institutional reimbursement for overhead costs of animal research facilities. ISBN 0-309-07261-1; 2000, 168 pages, 6 × 9, paperbound

Use of Laboratory Animals in Biomedical and Behavioral Research

Scientific experiments using animals have contributed significantly to the improvements of human health. Animal experiments were crucial to the conquest of polio, for example, and they will undoubtedly be one of the keystones in AIDS research. However, some persons believe that the cost to the animals is often high. Authored by a committee of experts from various fields, this report discusses the benefits that have resulted from animal research, the scope of animal research today, the concerns of advocates of animal welfare, and the prospects for finding alternatives to animal use. The authors conclude with specific recommendations for more consistent government action. ISBN 0-309-07878-4; 1988, 112 pages, 6 × 9, paperbound

Laboratory Animal Management Series

Rodents

Since ILAR (formerly the Institute of Laboratory Animal Resources) issued its last report on the general management of rodents, advances in biomedical technology and increased public awareness of laboratory animal issues have created a new research environment. This volume brings researchers up to date on both of these aspects of laboratory investigation and provides a comprehensive resource manual for management of laboratory rodents. ISBN 0-309-04936-9; 1996, 180 pages, 6 × 9, paperbound

Dogs

This revised edition incorporates the regulatory requirements and improved practices for laboratory animal care. ISBN 0-309-04744-7; 1994, 152 pages, 6 × 9, paperbound