

**ANIMAL/RESEARCH**  
**RELATED WORLD WIDE**  
**WEB RESOURCES**

**Reference: Information Resources for Institutional Animal Care and Use  
Committees**

**1985-1999**

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## **PROFESSIONAL GUIDELINES**

**1. Institutional Animal Care and Use Committee Guidebook**

[http://grants.nih.gov/grants/oprr/iacuc\\_guidebook/iacuc\\_guidebook.htm](http://grants.nih.gov/grants/oprr/iacuc_guidebook/iacuc_guidebook.htm)

**2. Guide for the Care and Use of Laboratory Animals**

<http://www.nap.edu/readingroom/books/labrats/>

**3. Tutorial on the PHS Policy on Humane Care and Use of Laboratory Animals**

<http://grants.nih.gov/grants/oprr/tutorial/index.htm>

**4. Sample Documents for Implementation of the PHS Policy On Humane Care and Use of Laboratory Animals**

<http://grants.nih.gov/grants/oprr/sampledoc/index.htm>

**5. National Institutes of Health Animal Research Advisory Committee Guidelines**

<http://oacu.od.nih.gov/ARAC/index.htm>

This site includes: (1) guidelines for NIH intramural research program compliance with USDA annual reporting requirements, revised 4/09/97; (2) definitions and behavioral/clinical signs of pain; (3) guidelines on classifying deficiencies identified during semiannual reviews, revised 1/13/99; (4) guideline regarding significant changes to animal study proposals, revised 12/09/98; (5) NIH animal transportation guidelines, revised 2/10/99; (6) NIH animal transfer agreement, 2/12/97; (7) guidelines for housing animals in containment housing systems, reapproved 1/13/99; (8) NIH intramural position paper – “housing multiple species of large laboratory animals”, revised 1/13/99; (9) guidelines for diet control in behavioral studies, reapproved 2/10/99; (10) Interagency Research Animal Committee (IRAC) recommendations on LD50 testing, reapproved 5/8/96; (11) NIH intramural research program – guidelines for survival rodent surgery, reapproved 2/10/99; (12) oocyte harvesting in *Xenopus laevis*, revised 2/10/99; (13) NIH intramural guidelines for the prevention and control of tuberculosis in nonhuman primates, reapproved 2/10/99; (14) Interagency Research Animal Committee recommendations on toe clipping of animals, reapproved 5/8/96; (15) ascites production in mice, revised 3/11/98; (16) endpoints in animal study proposals, reapproved 2/10/99; (17) 1993 report of the AVMA panel on euthanasia, 1/15/93; (18) guidelines for the euthanasia of mouse and rat fetuses and neonates, revised 11/10/98; (19) minimum requirements for protective clothing in animal facilities, reapproved 2/10/99.

# **WORLD WIDE WEB RESOURCES**

## **1. Altweb**

<http://altweb.jhsph.edu/>

Altweb is a site for news, information, discussion, and resources from the field of alternatives to animal testing. This site is a collaborative effort funded by the Alternate Research & Development Foundation – Zbinden Foundation, the Humane Society of the United States, the Office for Protection from Research Risks at the National Institutes of Health, and the Proctor & Gamble Company. It is being developed by the Center for Alternatives to Animal Testing at John Hopkins University, in collaboration with the Altweb Project Team, to serve academic, industrial and government scientists, educators, the media, and the general public.

Altweb is intended to foster the development of scientifically acceptable in vitro and other alternatives to animal testing. Alternatives are defined as methods which reduce animal use, replace whole animal tests, or refine existing tests by minimizing animal distress.

## **2. Animal Care, USDA, Animal and Plant Health Inspection Service**

<http://www.aphis.usda.gov/reac/>

This site provides access to the USDA agency that administers two laws that seek to ensure the humane handling of animals: the Animal Welfare Act (AWC) and the Horse Protection Act (HPA). Included are:

- Full-text versions of the Animal Welfare Act and the Horse Protection Act, USDA animal welfare regulations, standards and policies;
- Annual report to Congress;
- List of licensed or registered research facilities, dealers, breeders, carriers, and exhibitors;
- Fact sheets and other miscellaneous information;
- Freedom of Information records;
- Publications; and
- Missing Pet Network.

## **3. Animal Welfare Information Center (AWIC), United States Department of Agriculture (USDA)**

<http://www.nal.usda.gov/awic/>

This site provides access to:

- Full-text versions of all pertinent Federal laws, regulations, guidelines and policies, and links to international laws;
- AWIC newsletters;

- AWIC publications;
- Links to databases, information on alternatives, farm animals, and organizations;
- Links to the National Agricultural Library, Animal and Plant Health Inspection Service, Office for Protection from Research Risks, and NetVet.

#### **4. Compilation of Literature on the Assessment of Animal Welfare and Animal Distress**

<http://www.vetinfo.demon.nl/aw/>

Extensive bibliography and links to full-text documents related to the assessment of pain in animals, animal welfare, and animal distress. Produced by Dr. J.D. Kuiper, Department of Laboratory Animal Sciences, Utrecht University, The Netherlands, and Tim Allen, Animal Welfare Information Center, US Department of Agriculture.

#### **5. Institute of Laboratory Animal Resources Journal**

<http://www4.nas.edu/cls/ijhome.nsf>

ILAR Journal is the quarterly, peer-reviewed publication of the Institute for Laboratory Animal Research (ILAR), which is a unit of the National Research Council, National Academy of Sciences. ILAR Journal provides thoughtful and timely information for all those who use, care for, and oversee the use of laboratory animals. Provides access to online version of the journal and many back issues; a searchable index is available.

#### **6. IACUC Training and Learning Consortium (IACUC TLC)**

<http://www.iacuc.org/>

Few people know it, but the idea for this site was first proposed by Keen Boschert several years ago. The site has been developed and maintained under the direction of Nicole Duffee, DVM, Washington University. The IACUC Training and Learning Consortium Task Force is an ad hoc committee established by the American Association for Laboratory Animal Science (AALAS) with the charges:

- To produce a comprehensive core course to train IACUC members;
- To develop, design and provide oversight for this IACUC course;
- To develop, design and provide oversight for a Web site for comprehensive information and resources on all matters pertaining to IACUCs;
- To establish a listserv (IACUC-FORUM) for IACUC members and staff to encourage dynamic information exchange on the IACUC process;
- To establish an advisory group representing a national consortium of organizations with shared interest in the education and training of IACUC members to jointly sponsor the IACUC training initiative, with AALAS coordinating the effort.

This site provides access to:

- General Information / Listserv / Partners;
- Alternatives;

- Bibliography of IACUC Topics, Databases, Example Forms and Documents;
- Laws, Policies, Guidelines and Other Documents;
- Institutional Research Policies and Procedure Guidelines;
- Journals and Publications, Meetings, and Organizations;
- Training – IACUC members; and
- Training – Laboratory Animal Care and Use

## 7. Intramural Animal Care and Use (ACU) program of the National Institutes of Health (NIH)

<http://oacu.od.nih.gov/index.htm>

Although this page is intended to serve as an information resource for NIH scientists, Animal Care and Use Committee (ACUC) members, veterinarians, animal science specialists, and other NIH staff involved in the conduct of biomedical research at NIH, the information presented is certainly of use to other animal care and use committees. A very well done site.

## 8. Lab Animal IACUC Resource Page

<http://www.labanimal.com>

This site provided by *Lab Animal* magazine and contains the following:

- IACUC Reading Room-Recent Lab Animal articles for the IACUC member. Browse article selections, and enjoy full text access in either PDF or HTML formats.
- Protocol Review- Jerry Silverman’s popular “Protocol Review” column. Join your colleagues in resolving “Great Eastern University’s” IACUC quandries. Perfect for training, or simply honing your review skills.
- Regulatory Updates
- IACUC-Related Links
  - IACUC Resources on the Web
  - Alternatives
  - Databases & Search Foundations
  - Endpoints & Pain Management
  - Literature Search for Alternatives (USDA Policy 12)
  - Pain & Distress
  - Regulations and Policies
  - Training

## 9. Massachusetts Society for Medical Research (MSMR)

<http://www.smr.org/resource.html>

This site provides access to MSMR Nation-Wide Resource List – an interacting listing of state biomedical research organizations and national organizations that promote biomedical research. To access the home page of MSMR, click on the Home Page icon at the bottom of the page.

## 10. National Agricultural Library's (NAL) Web Gateway to AGRICOLA (AGRICultural OnLine Access)

<http://www.nal.usda.gov/ag98/>

AGRICOLA (AGRICultural OnLine Access) is a machine-readable database of bibliographic records created by the National Agricultural Library and its cooperators. Production of these records in electronic form began in 1970, but the database covers materials dating from the 16<sup>th</sup> century to the present. The records describe publications and resources encompassing all aspects of agriculture and allied disciplines, including plant and animal sciences, forestry, entomology, soil and water resources, agricultural economics, agricultural engineering, agricultural products, alternative farming practices, and food and nutrition. Auxiliary subjects that support NAL's Information Center activities, such as agricultural trade and marketing, rural information, and animal welfare, are also included.

## 11. National Library of Medicine – MEDLINE: PubMed and Internet Grateful Med

<http://www.nlm.nih.gov/databases/freemedl.html>

NLM offers PubMed and Internet Grateful Med, two free systems to search MEDLINE. They:

- Provide an easy way to search the 11 million references and abstracts in the MEDLINE database;
- Use PubMed's retrieval engine to link to about 400 journals for full text articles (some publishers may require a subscription) and provide pre-computed sets of relevant MEDLINE articles;
- Offer NLM's Medical Subject Headings for searching, and;
- Use Loansome Doc for document delivery services (there may be local charges).

## 12. NetVet Veterinary Resources and the Electronic Zoo

<http://netvet.wustl.edu/>

Perhaps the web's most comprehensive listing of animal related Web sites, NetVet & the Electronic Zoo were created by Ken Boeschert, DVM, at Washington University's Division of Comparative Medicine, located at St. Louis, Missouri. Among this servers Web Pages are numerous views of Veterinary Medical and Animal resources available on the Internet and beyond. Topics include: What's New, a site search engine, Career information, Education, Veterinary Specialties, Organizations, Meetings, E-Lists, Publications, Images, Government, Commerce, ElectronicZoo.

## 13. Office for Protection from Research Risks (OPRR), NIH Office of Extramural Research

<http://grants.nih.gov/grants/oprr/oprr.html#LAB>

This site provides access to the NIH agency that administers animal welfare assurances of Public Health Service fundholders. Information provided includes:

- Public Health Service Policy on Humane Care and Use of Laboratory Animals, March, 1996
- 1996 Guide for the Care and Use of Laboratory Animals, National Academy of sciences
- Health Research Extension Act of 1985, Public Law 99-158, November 20, 1985, Section 495, "Animals in Research".

- Tutorial on the PHS Policy on Humane Care and Use of Laboratory Animals
- Sample Documents for Implementation of the PHD Policy on Humane Care and Use of Laboratory Animals
- Institutional Animal Care and Use Committee Guidebook, ARENA
- World Wide Web Resources for the IACUC – an excellent compilation of sites providing useful IACUC information

## 14. University IACUC Sites

Arizona State University, Animal Care and Use

[http://researchnet.asu.edu/animal\\_care/](http://researchnet.asu.edu/animal_care/)

Florida State University Laboratory Animal Program

<http://mailer.fsu.edu/~FSULAR/home.html>

University of Arizona Institutional Animal Care and Use Committee Handbook

<http://www.ahsc.arizona.edu/uac/iacuc/>

University of Colorado Health Sciences Center Animal Care & Use Program

<http://www.uchsc.edu/sm/animal/index.html>

University of Florida Animal Care & Use

<http://nersp.nerdc.ul.edu/~iacuc/index.html>

University of Minnesota, Research Animal Resources

<http://www.ahc.umn.edu/rar/>

University of Nebraska-Lincoln, Institutional Animal Care & Use Committee

<http://www.unl.edu/research/ReComp/IACUC/iacuctoc.htm>

University of Tennessee-Knoxville (UT-K), Office of Laboratory Animal Care

<http://www.ra.utk.edu/ora/labaniml/>

## **ETHICS**

### **1. Guidelines for Ethical Conduct in the Care and Use of Animals**

<http://www.apa.org/science/anguide.html>

Developed by the American Psychological Association's Committee on Animal Research and Ethics.

### **2. Center for Bioethics, University of Pennsylvania**

<http://www.med.upenn.edu/bioethics/index.shtml>

A general site devoted to bioethics.

### **3. National Bioethics Advisory Commission**

[http://bioethics.gov/cgi-bin/bioeth\\_counter.pl](http://bioethics.gov/cgi-bin/bioeth_counter.pl)

A government advisory body mainly concerned with research involving humans but has an interesting report on the science of animal cloning.

### **4. National Reference Center for Bioethics Literature**

<http://www.georgetown.edu/research/nrcbl/>

The National Reference Center for Bioethical Literature (NRCBL), is a specialized collection of books, journals, newspaper articles, legal materials, regulations, codes, government publications, and other relevant documents concerned with issues in biomedical and professional ethics.

### **5. University of Minnesota, Research Animal resources**

<http://www.ahc.umn.edu/rar/ethics.html>

A brief article on the ethics of animal research and the use of alternative methods.

## **IACUC Oversight of Animal Care and Use Program**

### **1. A tutorial on the Public Health Service Policy on humane care and use of laboratory animals**

<http://grants.nih.gov/grants/oprr/tutorial/index.html>

A tutorial for new animal care and use committee members, institutional administrators, investigators, animal care personnel, veterinarians, or others who are interested in learning about the PHS Policy on Humane Care and Use of Laboratory Animals.

## **2. Biosafety in Microbiological and Biomedical Laboratories (BMBL) 4<sup>th</sup> Edition HHS Publication No. (CDC) 93-8395**

<http://bmbi.od.nih.gov>

This 4<sup>th</sup> edition of the BMBL continues to specifically describe combinations of microbiological practices, laboratory facilities, and safety equipment, and recommend their use in four categories or biosafety levels of laboratory operation with selected agents infectious to humans. For sale by the Superintendent of Documents, U.S. Government Printing Office (GPO). Contact GPO by telephone between 7:30 a.m. and 4:30 p.m. EST at 1-202-512-1800, by fax at 1-202-512-2250 or on the Internet at <http://orders.access.gpo.gov/> or write to: Superintendent of Documents, U.S. GPO, Washington D.C. 20402. The stock number for this document is 017-040-00547-4.

## **3. Conflict Resolution in NIH Intramural research Program**

<http://www.training.nih.gov/handbook/conflict.html>

General information on conflict resolution procedures.

## **4. Department of Veterans Affairs, Veterans Health Administration-VA Animal Research Documents and Resources**

[http://www.emory.edu/va\\_atl/vmu/index.html](http://www.emory.edu/va_atl/vmu/index.html)

This site lists the animal care and use policies of the VA and provides access to other Federal and professional resources. Policies listed include: (1) animal facility equipment committee, VHA Handbook 1201.12; (2) M-3, Chapter 12, animal subjects in research; (3) requests to use explosive agents; (4) request to use patient care area; (5) animal component of research protocol; (6) occupation health and safety guide; (7) VHA Directive 10-95-031, Department of Veterans Affairs (VA) responsibility for VA-owned research animals housed in non-VA facilities and non-VA-owned research animals housed in VA facilities; and (8) VHA Directive 10-95-045, accreditation requirement for VA facilities conducting research animal subjects regardless of funding.

## **5. Guidelines for Classifying Deficiencies Identified During Semiannual Reviews**

<http://oacu.od.nih.gov/ARAC/deficien.htm>

This guideline is intended to expand upon the specific language in paragraph IV.B.3 of the Public Health Service Policy on Humane Care and Use of Laboratory Animals (PHS Policy), which states: "The reports must distinguish significant deficiencies from minor deficiencies. A significant deficiency is one which, consistent with this Policy, and, in the judgement of the IACUC and the Institutional Official, is or may be a threat to the health or safety of the animals. If program or facility deficiencies are noted, the reports must contain a reasonable and specific plan and schedule for correcting each deficiency."

## **6. Medical Surveillance and Biosafety Program – References**

<http://www.cdc.gov/od/ohs/biosfty/biore.htm>

Includes a section on work with research animals.

## **7. Occupational Health and Safety in the Care and Use of Research Animals**

<http://books.nap.edu/books/0309052998/html/1.html>

This site provides access to this book produced by the National Academy Sciences in 1997.

## **8. Semiannual Program and Facility Review Checklist**

<http://www.nih.gov:80/grants/oprr/sampledoc/cheklist.htm>

This sample checklist is a tool designed to assist IACUCs in conducting thorough semiannual reviews. The sample checklist covers the major topics of the Guide, and the requirements of the PHS Policy. Endnotes are included to reference specific United States Department of Agriculture (USDA) regulatory requirements that differ from the PHS Policy.

## **9. Semiannual Report to the Institutional Official**

<http://www.nih.gov:80/grants/oprr/sampledocs/ioreport.htm>

This sample format may be used as a template to prepare the Semiannual Report to the Institutional Official.

## **10. University of California, Davis Animal Use and Care Administrative Advisory Committee**

<http://clueless.ucdavis.edu/>

A comprehensive site that includes: occupation health and safety in the care and use of research animals; protocols for and care and use; AUCAAC policy statements; UC Davis policy & procedure manual excerpts; biosafety in animal facilities; how to order controlled substances; analgesic drug doses for laboratory animals; lab animal classes; searching the literature for alternatives to animal use; USDA inspections at Davis and other UC campuses; do you know as much as you ought to? Test yourself! and; reference documents for researchers and others.

## **11. University of Colorado Health Science Center Animal Care & Use Program Occupational Health Program**

<http://www.uchs.edu/sm/animal/index.html>

An excellent example of a comprehensive occupational health program. Access is found by scrolling down to Occ Health / Biohazards in the left frame of the web page.

## **12. University of Kansas – Lawrence Campus Occupational Health Program Certification Form**

[http://www.ukans.edu/~acu/form/o\\_health.html](http://www.ukans.edu/~acu/form/o_health.html)

## **13. Working Safely with Research Animals**

[http://www.cdc.gov/od/ohs/symposium/symp\\_idx.html](http://www.cdc.gov/od/ohs/symposium/symp_idx.html)

This site contains proceedings of a conference by the Centers for Disease Control and Prevention in Atlanta, Georgia on January 27-31, 1996. The content includes: animal biosafety levels 1-4; an overview; biosafety issues related to xenograft transplantation; SOP writing; defining the risks and the risk reduction strategies; infectious risks in using baboons; xenosis from swine: assessing the infectious risks of xenotransplantation; PHS perspective on xenograft transplantation; symposium keynote: practicing safe science in animal research; biosafety and emerging infections: key issues in the prevention and control of viral hemorrhagic fevers; research with small animals;

research with nonhuman primates; biohazards in research involving large animals; occupational health and safety chemical management in a research animal facility; physical hazards in research animal facilities; chemical containment in the animal care facility; safe practices and procedures when working with chemical hazards; zoonoses in animal care facilities; breakout session on topics including: face protection in animal research; sharps management in animal care; special container devices for research animals; quality assurance techniques in animal facilities; strategies of managing macaque monkeys and Herpes Virus Simiae (B-Virus); working safely with research animals: employee and employer responsibilities; effective management in animal research communication & interaction; occupational health programs; Americans With Disabilities Act issues; controlled access; safety training and education in animal research; risk assessment and; interactions that make OHS programs work.

## PROTOCOL REVIEW

### 1. Protocol review Procedures

<http://www.ra.utk.edu/ora/labaniml/UTBYLAW6.html>

This site provided by the University of Tennessee at Knoxville Institutional Animal Care and Use Committee. Click on protocol review procedures.

### 2. Review of Protocols, National Institute of Health, Office for Protection from Research Risks

<http://grants.nih.gov/grants/oprr/pubartindex.htm#i>

The following articles can be viewed from this site:

Annual review (USDA) vs.  
triennial review (OHS)  
ILAR News. 1991;33(4):68-70,  
question #8.

Model for performing continuing  
review of research activities  
Contemporary Topics. 1996;  
35(5):53-56.

Authority of IACUC  
Lab Animal. 1997:26(3):21.

Process for review  
Lab Animal. 1998:27(8):18.

Expedited review  
ILAR News. 1993;35(3-4):47-49,  
question #3.  
OPRR Reports. 1990;90-01,  
5/12/90.

Review of grant applications  
Lab Animal. 1999:28(7):21.

Frequency of review  
ILAR News. 1993;(3-4):47-49,  
question #7.

Scientific merit review  
ILAR News. 1991;33(4):68-70,  
question #7.

Significant changes to approved protocols  
Lab Animal. 1995;24(9):24-26, question #1.

Tracking the number of animals used  
Contemporary Topics. 1997;36(2):47-50, question #7.

Use of cold-blooded vertebrates  
Contemporary Topics. 1997;36(2):47-50, question #6

## **ATTENDING VETERINARIAN**

### **1. University of Arizona Institutional Animal Care and Use Committee, Authority of the Attending Veterinarian**

<http://www.ahsc.arizona.edu/uac/iacuc/special.shtml#vet>

An example of a short, concise policy

### **2. University of California at Irving, Veterinary Consultants**

<http://www.rgs.uci.edu/rig/asvetcon.htm>

Topics covered include: issues related to protocol preparation, scope of veterinary care, what kind of animals to use.

### **3. University of Kansas – Lawrence, Responsibilities of the Animal Care Unit**

<http://www.ukans.edu/~acu/chapter1.html>

This site lists various institutional policies and regulations.

### **4. University of Tennessee at Knoxville, Attending Veterinarian/Researcher Veterinarian**

<http://www.ra.utk.edu/ora/labaniml/ATTENVET.html>

The purpose of this statement is to distinguish between the attending veterinarian and the veterinarian who is also a researcher and their respective responsibilities.

### **5. Veterinarians In Research Labs Address Conflicting Agendas**

[http://165.123.33.33/yr1997/may/finn\\_pl\\_970526.html](http://165.123.33.33/yr1997/may/finn_pl_970526.html)

(The scientist – Volume 11, No. 11, May 26, 1997)

# TRAINING

## 1. American College of Laboratory Animal Medicine Autotutorials

<http://www.aclam.org/aclam/tutorial.html#tutorial>

These completely new programs are a valuable source of teaching and visual material. Each program stands alone or may be used in conjunction with others in the series. Titles include: Dogs and Cats: Use in Research; Guinea Pig Series (4 programs); Laboratory Animals: Alternatives to Traditional Use; Laboratory Animals: Laws, Regulations and Guidelines; Mongolian Gerbils: Care, Diseases, And Use in Research; Nonhuman Primate Series (4 programs); Rabbit Series (6 programs); Rats and Mice Series (6 programs); Hamster Series (5 programs). Provides overview and ordering information.

## 2. Arizona State University, User Training and Certification

[http://researchnet.vprc.asu.edu/animal\\_care/user\\_certification/](http://researchnet.vprc.asu.edu/animal_care/user_certification/)

Nice example of on-line training at a university

## 3. IACUC Training and Learning Consortium

[http://www.iacuc.org/training\\_general.html](http://www.iacuc.org/training_general.html)

Links to laboratory animal training sites at U.S. universities and to training media produced by various professional organizations and Federal agencies.

## 4. Laboratory Animal Training Association

<http://www.latanet.com>

Provides members with access to on-line training modules, a list of training videos available for purchase, and a buyers guide.

## 5. Laboratory Animal Welfare Training Exchange (LAWTE)

<http://www.lawte.org>

The Laboratory Animal Welfare Training Exchange is an organization of trainers, training coordinators and IACUC administrators. By sharing ideas on methods and materials for training, our members can learn together how best to meet training and qualification requirements for national regulations and guidelines. For more detail look in the section on Organizations.

## 6. The University of California, Davis, Autotutorials on the Web

<http://clueless.ucdavis.edu/autotoot.html>

Tutorials on a variety of topics from the Animal Welfare Act to X-ray safety.

**7. University of Florida On –Line Training & Materials**

<http://nersp.nerdc.ufl.edu/~iacuc/Training.htm>

This is a collection of exams, slide shows, tutorials, texts, class notes, etc. that have been put on the web.

**8. University of Iowa, Animal Care Unit, Educational Resources**

<http://courses.uiowa.edu:8900/public/s0012/index.html>

An on-line investigator training program containing a course, quiz, glossary, bulletin board, and fact sheets on subjects ranging from blood sampling in rodents to euthanasia.

**9. University of Texas Health Science Center at San Antonio – Laboratory Animal Programs, Institutional Animal Care Training Program**

<http://oerweb.uthscsa.edu/iphcula/requirem.htm>

This site provides a training program overview.

**WHISTLEBLOWER**

**1. Emory University School of Medicine – Institutional Animal Care & Use Committee**

<http://www.emory.edu/WHSC/MED/IACUC/reporting.htm>

Standard Operating Procedure for reporting incidents of noncompliance with the PHS Policy on Humane Care and Use of Laboratory Animals.

**2. Government Accountability Project**

<http://www.whistleblower.org/>

Resources for whistleblowers, information on current regulations protecting whistleblowers, general article, etc.

**3. Municipal Research and Services Center-A resource for Washington local governments**

<http://www.mrsc.org/library/compil/cpwhist.htm>

The ordinance and policy provisions contained in this compilation are offered as samples rather than models.

**4. National Whistleblower Center**

<http://www.whistleblowers.org>

The National Whistleblower Center is an educational and advocacy organization committed to government accountability and protecting the rights of employee whistleblowers.

**5. U.S. Department of Health and Human Services, Office of Research Integrity**

<http://ori.dhhs.gov/whistle.htm>

Provides information on whistleblower issues.

**6. University of Arizona Institutional Animal Care and Use Committee**

<http://www.ahsc.arizona.edu/uac/iacuc/special.shtml#invest>

A special policy on the investigation of concerns involving the care and use of animals.

**7. University of California at Irvine**

<http://www.abs.uci.edu/depts/mailrec/uci-ppm/whisblow.html>

Examples of policies and guidelines implemented by an academic research institution.

**8. University of Tennessee, Office of Laboratory Animal Care**

<http://www.ra.utk.edu/ora/labaniml.noncompl.html>

Policy for reporting noncompliance with laboratory animal care and use guidelines.

**MEMBERSHIP ISSUES AND IACUC COMMUNICATIONS**

**1. The University of Arizona Institutional Animal Care and Use Committee Handbook**

<http://www.ahsc.arizona.edu/uac/iacuc/member.shtml>

The University of Arizona IACUC maintains at least 3 Community Representative membership positions. This page details the role of the IACUC community members.

## **2. The University of Tennessee Institutional Animal Care and Use Committee**

<http://www.ra.utk.edu/ora/labaniml/UTBYLAW6.html>

IACUC membership – a very complete description of the composition, officers and their responsibilities, terms and appointments, and member responsibilities.

## **INVESTIGATOR ISSUES**

### **1. Instructions for Principle Investigators**

<http://www.fsu.edu/~FSULAR/framea.html>

This site provided by the Florida State University Laboratory Animal Program.

### **2. Responsibilities: Investigator**

<http://www.unl.edu/research/ReComp/IACUC/invrespb.htm>

This site provided by the University of Nebraska at Lincoln Institutional Animal Care and Use Committee.

### **3. U.S. Department of Agriculture, Animal and Plant Health Inspection Service**

<http://comments.aphis.usda.gov/>

Viewers are able to comment on an open proposal or read comments made by the public on proposed USDA rules or regulations.

## **ALTERNATIVES AND DATABASE SEARCHING**

### **1. Altweb**

<http://altweb.jhsph.edu/index.html>

A site for news, information, discussion, and resources from the field of alternatives to animal testing. This site is a collaborative effort funded by the Alternatives Research & Development Foundation, the Doerenkamp-Zbinden Foundation, the Humane Society of the United States, the Office for Protection from Research Risks at the National Institutes of Health, and the Procter & Gamble Company. It is being developed by the Center for Alternatives to Animal Testing at Johns Hopkins University, in collaboration with the Altweb Project Team (which includes AWIC), to serve academic, industrial and government scientists, educators, the media, and the general public.

## **2. Animal Welfare Information Center**

<http://www.nal.usda.gov/awic/alternatives/alternat.htm>

Articles and other resources concerning alternatives.

## **3. Association of Veterinarians for Animal Rights**

<http://www.avar.org>

This site will give you access to Alternatives in Education Databases, a comprehensive listing of videos, computer simulations, and other media that can be incorporated into educational curricula from high school on through medical, veterinary, or graduate school.

## **4. Center for Alternatives to Animal Testing (CAAT)**

<http://www.jhsph.edu/~caat/caat.html>

The John Hopkins Center for Alternatives to Animal Testing (CAAT) is a global resource for the development of replacement, reduction and refinement alternatives for research and testing.

## **5. ECVAM: European Centre for the Validation of Alternative Methods**

<http://www.jrc.it/ei/ecvam/index.asp>

Validating methods and strategies to reduce or replace the use of live animals in laboratory studies.

## **6. Fund for the Replacement of Animals in Medical Education**

<http://www.frame-uk.demon.co.uk/alternat.htm>

A brief survey of some ways in which the use of animals in science may be refined, reduced or replaced.

## **7. Guide to Searching or Alternatives to the Use of Laboratory Animals**

<http://www.frame-uk.demon.co.uk/guide/index.htm>

This guide assumes no previous knowledge of search techniques nor of the facilities available for obtaining information from the Internet.

## **8. ICCVAM: Interagency Coordinating Committee for the Validation of Alternative Methods**

<http://iccvam.niehs.nih.gov/>

ICCVAM and its supporting center, NICEATM (the National Toxicology Program Interagency Center for the Evaluation of Alternative Toxicology Methods), coordinate the development, validation, acceptance, and

harmonization of alternative toxicological test methods throughout the U.S. Federal government. Another great resource provided by the U.S. government.

## **9. The Netherlands Centre Alternatives to Animal Use**

<http://www.pdk.dgk.ruu.nl/nca.dir/>

The Netherlands Centre Alternatives to Animal (NCA) is the central point in the Netherlands for coordinating research and disseminating information on alternatives to animal experiments. One of its important tasks is to support the Alternatives to Animal Experiments Platform, in which the Dutch government, industry, and animal protection organizations collaborate.

## **10. The Norwegian Reference Centre for Laboratory Animal Science & Alternatives**

<http://oslovet.veths.no/>

Links to the Norina database (Norwegian Inventory of Audiovisuals (NORINA) <http://oslovet.veths.no/NORINA>) of alternatives and other alternatives databases.

## **11. University of California Center for Animal Alternatives**

[http://www.vetmed.ucdavis.edu/Animal\\_Alternatives/main.htm](http://www.vetmed.ucdavis.edu/Animal_Alternatives/main.htm)

The Center places special emphasis of disseminating information concerning models, computer programs, and other animal alternatives in education through every level of public and private education.

# **ANIMAL WELFARE ISSUES**

## **1. Blood collection in mice using the saphenous vein – An alternative to retro orbital collection**

[http://www.uib.no/vivariet/mou\\_blood/Blood\\_coll\\_mice\\_.html](http://www.uib.no/vivariet/mou_blood/Blood_coll_mice_.html)

The method had been developed by the Laboratory Animal Centre of the Norwegian Institute of Public Health by Annelise Hem and Per Solberg. Annelise Hem and Adrian Smith have submitted a paper on saphenous vein puncture to the journal “Laboratory Animals”. They have successfully used this technique on mice, rats, hamsters, gerbils, guinea-pigs, mink and ferrets.

## **2. Environmental Enhancement for Caged Rhesus Macaques – A Photographic Documentation**

<http://www.primate.wisc.edu/pin/pef/slide/intro.html>

Defining improved ‘psychological well-being’ as having the option to actively express species-typical behavior patterns that were formerly inhibited due to a lack of appropriate stimuli, and experiencing less fear/distress in the

presence of people, the author developed and implemented the following environmental enhancement plan for the center's colony of approximately 700 caged macaques (*Macaca mulatta*).

### **3. Guidelines for the Production of Polyclonal and Monoclonal Antibodies in Rodents and Rabbits**

<http://www2.ec.hscsyrc.edu/dlar/antibody.htm>

This site is maintained by the State University of New York Health Science Center at Syracuse. The purpose of these Guidelines is to provide methods with demonstrated success that also minimize pain and distress for the laboratory animals employed in the technique.

### **4. National Institute of Health, Animal Research Advisory Committee (ARAC)**

<http://oacu.od.nih.gov/ARAC/toeclip.htm>

Recommendation on toe clipping of animals.

### **5. University of Arizona Department of Animal Care**

<http://microvet.arizona.edu/Courses/MIC443/notes/handling.htm>

This site provides extensive information on handling, restraint, and techniques of laboratory rodents.

### **6. University of Minnesota, Research Animal Resources**

<http://www.ahc.umn.edu/rar/housing.html#wirefloor>

Rodent cage floor policy.

### **7. University of Minnesota, Research Animal Resources**

<http://www.ahc.umn.edu/rar/housing.html#Rodents>

Husbandry guidelines for laboratory animals.

## **FOOD DEPRIVATION OR WATER DEPRIVATION**

### **1. University of California at Irving**

<http://www.rgs.uci.edu/rig/asfluid.htm>

Policy for Food or Fluid Restriction.

**2. University of Colorado Health Sciences Center, Animal Care & Use Program**

<http://www.uchsc.edu/sm/animal/index.html>

Water and/or Food Restriction: To get to this policy, click on Animal Care Policies located under Training/Procedure Guides in the left frame on the web page.

**3. University of Vermont, Institutional Animal Care and Use Committee**

<http://osp.uvm.edu/irbppm4f.htm>

Food or Fluid Restriction, Definitions, Policies and Guidelines.

**PAIN MANAGEMENT AND ENDPOINTS**

**1. American Veterinary Association Panel on Euthanasia Report, 1993**

<http://www.nal.usda.gov/awic/pubs/noawicpubs/avmaeuth.htm>

Euthanasia methods approved by the AVMA and referenced by USDA and PHS.

**2. Assessment of Pain and Distress in Laboratory Animals**

<http://www.ahc.umn.edu/rar/pain&distress.html>

Provided by Research Animal Resources, University of Minnesota.

**3. Compilation of Literature on the Assessment of Animal welfare and Animal Distress**

<http://www.vetinfo.demon.nl/aw/>

Extensive bibliography and links to full-text documents related to the assessment of pain in animals, animal welfare, and animal distress. Produced by Dr. J.D. Kuiper, Department of Laboratory Animal sciences, Utrecht University, Utrecht, The Netherlands, and Tim Allen, Animal Welfare Information Center, U.S. Department of Agriculture, Beltsville, Maryland.

**4. Endpoints for Research Projects in Animals That Have the Potential To Cause Severe Or Chronic Pain or Distress**

<http://www.emory.edu/WHSC/MED/IACUC/endpoint.htm>

## **5. Guidelines for Endpoint Monitoring and Humane Termination**

<http://www-portfolio.stanford.edu/103951>

Provided by the Dean of Research, Stanford University

## **6. Guidelines on Death as an Endpoint**

<http://www2.ec.hscsyr.edu/dlar/deathend.htm>

Provided by the Department of Laboratory Animal Resources at State University of New York-Health Sciences Center in Syracuse, NY.

## **7. IACUC and Pain Related Internet Resources**

<http://netvet.wustl.edu/pain.htm>

Approximately 400 web-based resources relevant to pain or IACUC's are referenced. This collection of links attempts to provide those interested with an overview of some of the best information currently available on the Internet. The categories of resources listed include: major neuroscience directories, resource references, journals, meetings, government agencies and regulations, anesthesia and analgesia, academic departments, institutional animal care and use committees, animal behavior, ethics and alternatives to animal testing, commercial resources, as well as pain societies and animal research organizations.

## **FARM ANIMALS**

### **1. Farm Animal Council of Saskatchewan**

<http://agri-infolink.com/facs/>

A comprehensive site that include codes of practice for all farm animals.

### **2. Livestock Conservation Institute**

<http://www.lcionline.org/>

LCI serves as an umbrella organization with a diverse membership from virtually every segment of the food animal industry. LCI is a non-profit, consensus building organization whose members influence the direction of research, product development and regulations related to food animal production.

### **3. New Zealand Ministry of Agriculture and Fisheries**

<http://www.maf.govt.nz/MAFnet/issues/animal/codes.html>

Codes of recommendations and minimum standards for all farm animals and farm-reared deer.

### **4. Pain**

<http://www.ahsc.arizona.edu/uac/iacuc/pain.shtml>

Species specific signs of pain in farm animals and other laboratory animals.

### **5. Q Fever**

<http://www.ahsc.arizona.edu/uac/iacuc/special.shtml#qfever>

Coxiella burnetii, a rickettsial organism that is highly resistant to physical and chemical agents used in disinfection. It has been reported in most warm blooded animals including fowl. The most common source of infection in the United States is from sheep, although goats and cattle can carry the disease. This site is provided by the University of Arizona.

## **WILDLIFE AND FIELD RESEARCH**

### **1. American Society of Mammalogists, Animal Care and Use Committee**

[http://asm.wku.edu/committees/animal\\_care\\_and\\_use/ancarecomm.html](http://asm.wku.edu/committees/animal_care_and_use/ancarecomm.html)

The sustaining goals of the Animal Care and Use Committee are to serve as a liaison to society members on matters concerning the care and use of wild mammals, to assist in the interpretation of new or revised governmental regulations, and to provide government and non-government agencies with reasoned, professional advice on matters of animal care and use of wild animals.

### **2. Arizona State University, Handling Hantavirus**

[http://researchnet.asu.edu/animal\\_care/hantavirus.html](http://researchnet.asu.edu/animal_care/hantavirus.html)

Guidelines for wildlife researchers.

### **3. New South Wales Agriculture, Animal Welfare Guidelines**

<http://www.agric.nsw.gov.au/Aw/Guideline/>

This site is provided by the government of New South Wales, Australia. Topics include: draft guidelines for the use of pitfall traps; guidelines for animal care and ethics committees (ACECs) supervising research on captive wildlife; guidelines for collection of voucher specimens; guidelines for opportunistic research on free living wildlife; individuals and institutions engaged in collaborative research.

#### **4. University of Florida, Animal Care and Use**

[Http://nersp.nerdc.ufl.edu/~iacuc/wildlife.htm](http://nersp.nerdc.ufl.edu/~iacuc/wildlife.htm)

This site provides access to rules and regulations that govern wildlife research at the University of Florida.

## **STATISTICS AND ANIMAL NUMBERS**

### **1. Guidelines for Determination and Justification of Animal Numbers**

<http://www.rgs.uci.edu/rig/asnumber.htm>

Topics included in this site provided by the University of California at Irvine are: overview, basis, study design, pilot studies, inclusiveness, alternate methods, inbred animals, repetition of experiments, modification of approved animal number, and references.

### **2. Statistics Justification**

<http://nersp.nerdc.ufl.edu/~iacuc/statistics.html>

This site is provided by Animal Care & Use at the University of Florida.

## **DISASTER PLANNING**

### **1. American Red Cross Disaster Services**

<http://www.redcross.org/disaster/safety/guide.html>

The mission of Red Cross Disaster Services is to ensure nationwide disaster planning, preparedness, community disaster education, mitigation, and response that will provide the American people with quality services delivered in a uniform, consistent, and responsive manner.

### **2. Federal Emergency Management Agency (FEMA) Virtual Library and Electronic Reading Room**

<http://www.fema.gov/library/lib07.htm>

Pertinent resources include full-text documents in the following categories:

- *Animals in Emergencies*
- *Preparedness, training, and exercises*

- *Response and Recovery*
- *U.S. Fire Administration*

The online library of FEMA contains full-text resources for planning your disaster response program. Also includes information in Spanish. An excellent resource provided by the U.S. Government.

### **3. Florida Animal Disaster Planning Advisory Committee**

<http://www.fl-adpac.org/>

ADPAC is an ad hoc group of organizations and individuals interested in promoting the effective development and implementation of disaster plans to protect animals.

### **4. University of Colorado Health Science Center Animal Care & Use Program**

<http://www.uchsc.edu/sm/animal/index.html>

This document is designed to do the following: Guide you during emergencies; Inform you of potential emergency situations before an emergency occurs; and Help you to avoid and anticipate dangerous situations. To access this site, scroll down the left frame and click on After Hours Emergencies/Disaster Prep.

### **5. University of Florida Emergencies**

<http://nersp.nerdc.ufl.edu/~iacuc/Emergency.htm>

The Animal Research Branch is responsible for emergency planning and implementation with regard to the research animals. This manual will serve as an annex to the University of Florida Natural Disaster/Hurricane Emergency Plan in addition to other Emergency Procedures (i.e. fire, flood, threats by animal activists, etc.) as established by the University of Florida.

### **6. University of Florida Institute of Food and agricultural Sciences and the Florida Cooperative Extension Service**

<http://disaster.ifas.ufl.edu/>

The Disaster Handbook Web site is one component of the Comprehensive Disaster Preparedness and Recovery Education Module, which also includes: The Disaster Handbook (Print and CD-ROM Editions) and “Are You Ready?” a video based on the Disaster Preparedness Satellite Videoconference.

## **ANIMAL WELFARE LAWS – A BRIEF LITERATURE REVIEW**

### **1. APHIS Press Releases**

<http://www.aphis.usda.gov/lpa/press/press.html>

Press releases on APHIS programs are prepared by Legislative and Public Affairs (LPA) writers within the APHIS and are issued to the media nationally by the Department and regionally or to specialized audiences by APHIS.

## **2. Lab Animal, Regional Watch**

<http://www.labanimal.com/col/col.htm>

A monthly column related to animal-related regulatory activities.

# **INTERNATIONAL PERSPECTIVES ON THE ANIMAL CARE COMMITTEE**

## **1. Animals (Scientific Procedures) Act – 1986**

<http://www.homeoffice.gov.uk/animact/aspag1.htm>

From the United Kingdom Home Office – full text, plus amendments and guidance notes.

## **2. The Animal Welfare Act and the Animal Welfare Ordinance (Sweden)**

<http://www.algonet.se/~stifud/act-ordinance.html>

Made available by the Swedish Fund for Research Without Animal Experiments.

## **3. The Dutch Experiments on Animals Act**

<http://www.pdk.dgk.ruu.nl/nca/act/wetopdp.htm>

Provided by the Netherlands Center for Alternatives-in English.

## **4. European Convention for the Protection of Vertebrate Animals Used for Experimental and Other Scientific Purposes**

<http://www.coe.fr/eng/legaltxt/123e.htm>

The Convention is designed primary to reduce both the number of experiments and the number of animals used for such purposes. It encourages Parties not to experiment on animals except where there is no alternative. All research into alternative methods should be encouraged. Animals to be experimented on should be selected on the basis of clearly established quantitative criteria and must be well cared for and spared avoidable suffering whenever possible. To this end, the Convention lays down a number of principles which are to be considered only as a starting point. The Parties meet regularly to examine the application of the Convention and, if appropriate, to extend or strengthen its provisions.

## **5. Laboratory Animals – Articles to Download**

<http://www.lal.org.uk/pdf.htm>

This site provides access to many Working Party Reports, FELASA reports, and scientific papers from European scientists.

## **6. Legislation Worldwide**

<http://www.frame-uk.demon.co.uk/Links/worldlaws.htm>

From FRAME in the United Kingdom.

## **7. The National Board for Laboratory Animals (Centrala försöksdjursnämnden, CFN)**

<http://www.algonet.se/~stifud/nbla.html>

An overview of this Swedish Government agency – from the Swedish Fund for Research Without Animal Experiments.

## **8. Norwegian Regulations of Animal Experimentation (Forskrift om forøk med dyr)**

<http://oslovet.veths.no/statute.html>

Pronounced by the Ministry of Agriculture, January 15, 1996, in accordance with the Animal Welfare Act of December 12, 1974, nr 73, §§22 and 30, after royal proclamation of 19.11.76, amended November 17, 1998.

## **9. University of Melbourne**

<http://www.unimelb.edu.au/research/ethics/aee/index.htm>

The homepage of the Animal Experimentation Ethics Committee containing guidelines, policies and recommendations.

## **10. University of Northern British Columbia**

<http://quarles.unbc.edu/research/animal.html>

Policy and Procedures on Animal Care from the Office of Research and Graduate Studies.