



# ANIMAL USE AND CARE RESEARCH ETHICS



## ***Laboratory animals or animals:***

Any vertebrate animal (i.e. traditional laboratory animals, agricultural animals, wildlife and aquatic species) produced for or used in research, testing, or teaching.

## ***Animal use:***

The proper care, use, and humane treatment of laboratory animals produced for or used in research, testing, or teaching



***Humane care:***

Those actions taken to ensure that laboratory animals are treated according to high ethical and scientific standards.

***The animal care and use program:***

These are policies, procedures, standards, organizational structure, staffing, facilities, and practices put into place by an institution to achieve the humane care and use of animals in the laboratory and throughout the institution.



***Animal welfare:***

Animal welfare is a human responsibility that encompasses all aspects of animal well being, including proper housing, management, nutrition, disease prevention and treatment, responsible care, humane handling, and, when necessary, humane euthanasia..."



- The American Veterinary Medical Association recognizes that animals play a central and essential role in research, testing, and education for continued improvement in the health and welfare of human beings and animals.



## JUSTIFICATION OF ANIMAL USE IN RESEARCH



- A. There should be a clear scientific purpose and reasonable expectation that the research will:
- increase knowledge of the process underlying the evolution, development, maintenance, alteration, control, or biological significance of behavior.
  - determine the replicability and generality of prior research.
  - increase understanding of the species under study.
  - provide results that benefit the health or welfare of humans or other animals.



B. The scientific purpose of the research should be of sufficient potential significance to justify the use of nonhuman animals.

C. In proposing a research project, the researcher should be familiar with the appropriate literature, consider the possibility of non-animal alternatives, and use procedures that minimize the number of animals in research (This is very important!!!!).



D. Research on nonhuman animals may not be conducted until the protocol has been reviewed by an appropriate animal care committee; typically, an Institutional Animal Care and Use Committee (IACUC), to ensure that the procedures are appropriate and humane.



## Institutional Animal Care and Use Committee (IACUC)-RESPONSIBILITIES



- Reviews at least once every six months the institution's program for humane care and use of animals.
- Inspects at least once every six months all of the institution's animal facilities.
- Prepares reports of the IACUC evaluations and submits the reports to the Institutional Official.
- Reviews concerns involving the care and use of animals at the institution.



- Makes recommendations to the Institutional Official regarding any aspect of the institution's animal program, facilities, or personnel training.
- Reviews and approves, require modifications in (to secure approval) or withhold approval of activities related to the care and use of animals.
- Reviews and approves, require modifications in (to secure approval), or withhold approval of proposed significant changes regarding the use of animals in ongoing activities.



## IACUC Membership



- A **Veterinarian** who is certified in laboratory animal medicine
- At least one **Practicing Scientist** who is experienced with research and training involving animals
- At least one **Legal Practitioner** who is experienced with legal issues involving animals
- A least one member of the public (**Layman**) to represent general community interests in the proper care and use of animals

**THE UNIVERSITY OF IBADAN IACUC IS:  
ANIMAL CARE AND USE RESEARCH ETHICS COMMITTEE  
(ACUREC)**

### MISSION

**To provide a platform geared towards educating the scientific world on global best practices as it concerns humane handling and use of laboratory/experimental animals for research purposes.**

### VISION

**To engender and promote an enabling environment for conducting experimental researches involving laboratory animals with globally acceptable standards, directed toward the wholesome benefit of the research community and the society at large.**



## Principles Guiding Animal Care Use and Research



- Design and performance of procedures on the basis of relevance to human or animal health, advancement of knowledge, or the good of society.
- Best practices in responsible and humane handling and management of animals used for research purposes.
- Use of appropriate species, quality, and number of animals.



- Provision of appropriate animal transportation and husbandry directed and performed by qualified persons.
- Conduct of experimentation on living animals exclusively by and / or under the close supervision of qualified and experienced personnel.
- Adequate identification of hazards and risks (if any) associated with those hazards while conducting the experiment.



- What are the dangers or hazards posed by the experimental procedure and adequate control measures to ensure safety and prevent contamination of the environment.
- Use of appropriate personal protective equipment (PPE) especially when handling poisonous or infectious agents.
- Experimental facility should be appropriately designed and standard operating procedures (SOPs) adhered to.



- State precisely where the experimental work will be carried out (i.e. Department or other specific locations)
- State if you have expertise in handling animals to be used OR State if you will get expert supports in handling and conducting the procedures on animals.
- Source (s) of the animals to be used must be stated.
- Best practices in animal/laboratory waste disposal to ensure environmental and human health





## Five Freedoms of Animals



- **Freedom from hunger or thirst** by ready access to fresh water and a diet to maintain full health and vigour
- **Freedom from discomfort** by providing an appropriate environment including shelter and a comfortable resting area
- **Freedom from pain, injury or disease** by prevention or rapid diagnosis and treatment
- **Freedom to express (*most*) normal behaviour** by providing sufficient space, proper facilities and company of the animal's own kind
- **Freedom from fear and distress** by ensuring conditions and treatment which avoid mental and physical suffering



### The alternatives: The “**Three R**” tenet of Russell and Burch (1959)



**Purpose: Reduce the impact of research on animals**

#### Replacement

- **Substitution of other models for animals (or substitution of a less sentient species with a more sentient one)**
  - ❖ Can the hypothesis be tested or the training be done with cell cultures, computer simulations, or other non-animal system?

#### Reduction

- **What is the minimum number of animals that can still yield statistically valid outcomes?**
  - ❖ Can you work with a statistician to determine this?

#### Refinement

- **What efforts are being made to eliminate or minimize animal pain and distress?**
  - ❖ Anesthesia, analgesia and alternate experimental design must be considered



## PREVENTION OF PAIN



- In studies that require the animal to reach a moribund state or die spontaneously as the endpoint of the study, the earliest endpoint possible should be used to prevent pain or distress
- Ensuring that drug doses are correct and that the drugs used are not expired
- Ensuring that procedures to be performed on the animal are reasonable for that species
- Using appropriate anesthetics and analgesics for potentially painful procedures



- Performing surgeries and procedures aseptically to prevent infection
- Performing only a single major survival surgery on any one animal, whenever possible
- Performing appropriate post-surgical care, including thermoregulation and fluid balance



## Conclusion



- Researcher should guard against any tendency to under-rate or ignore the potential discomfort or suffering of animal subjects
- They should try to achieve cost savings by compromising the quality of care afforded to the animals.

## Appreciation

- University of Ibadan
- MEPIN-J

**THANK  
YOU**