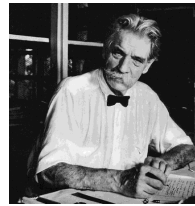


# Ethical Use of Animals in Teaching and Research at the University of Alberta

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## Albert Schweitzer



• “My life is full of meaning to me. The life around me must be full of significance to itself. If I am to expect others to respect my life, then I must respect the other life I see. Ethics in our Western world has hitherto been largely limited to the relations of man to man. But that is a limited ethics. We need a boundless ethics which will include the animals also.”



## Bernard Rollin

- By making a conscious decision to use animals in research, teaching and testing, one is obliged to consider the ethical implications.
- Some may argue that one can choose to be AMORAL in this regard.
- But if you as much as consider whether using the animals in a certain way is okay (i.e. right or wrong) then you are already making a moral decision.



- For wildlife studies, an Ecological Ethic views living things as “members of the biotic community”
- Shift in scientific thinking:  
Mechanistic science → comparative physiology/anatomy → ecological/complexity science (Albrecht, 1999)

- Ecologically Informed Ethics
- Interrelationships and complexities
- The *ethos* is grounded in habitat/ecosystem/biome

## Land Ethic – Aldo Leopold

“A Sand County Almanac” 1949  
‘A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.’



## Regulatory Issues

- Federal Legislation and Controls
- Provincial Legislation
- University Controls

## Federal

### Legislation

- Sect. 401 Criminal Code (Under Review Bill C-15, C-17, etc.)
- Health of Animals Act (Livestock Transportation Regulation)

### Non-Legislated:

- Canadian Council on Animal Care

## CANADIAN COUNCIL ON ANIMAL CARE

- Funding
  - CIHR
  - NSERC
  - Private Sector User Fees



## CANADIAN COUNCIL ON ANIMAL CARE

- Guidelines
  - “Guide to the Care and Use of Experimental Animals” – Volume 1, Section Edition, 1993
  - Serial Supplements(Guidelets)
  - [www.ccac.ca](http://www.ccac.ca)

## CANADIAN COUNCIL ON ANIMAL CARE

- Peerreview
  - Animal Care Committees(Protocol and Physical Facility Review)
  - On-site Facility and Program Assessments
  - External Reviewers of Facility and Program

## CANADIAN COUNCIL ON ANIMAL CARE

- Compliance – essentially mandatory for institutions receiving NSERC and CIHR funding

## Examples of CCAC Guidelines

- Guide to the Care and Use of Experimental Animals, Vol 1 & 2
- Protocol Review, 1997 (The Animal Care Ctte.)
- Transgenic Animals, 1997
- Appropriate Endpoints, 1998
- Institutional Animal User Training, 1999
- Antibody Production, 2002
- The Care and Use of Wildlife, 2003

## ALBERTA Legislation

### Animal Protection Act

- Deals with distress beyond reasonable and generally accepted practices of animal management (substantial penalties)
- CCAC compliance mandatory under Regs.

## ALBERTA CONTROLS

- Veterinary Profession Act
  - Mandates use of veterinary procedures and standards in research (surgery, etc.) – if you can't do it like a vet, DON'T do it!
  - Veterinary facilities must meet Practice Inspection and Practice Standards Guidelines.
  - Animal Care Committee Protocol Review mandated – must include a licensed veterinarian.

## Animal Care and Use Committee Mandate

- To ensure that all animal users and caregivers are informed of and comply with CCAC and U of A institutional animal care and use policies.
- University of Alberta (UAPWC) - Oversight
- In AFHE, this duty is performed by the Animal Care and Use Committee (ACUC) for Livestock
- ACUC for Health Sciences
- ACUC for Biological Sciences

## ACUC - Membership

- Scientists/teachers (faculty members)
- Veterinarian
- Non-animal user (faculty member)
- Community rep.
- Technician
- Grad Student
- Director of animal care

## ACUC - Authority

- Stop objectionable experiments.
- Stop unapproved experimentation.
- Have animals in pain or distress euthanized.

## ACUC - Responsibility

- Review animal use protocols.
- Ensure competence of users and caregivers.
- Ensure adequate facilities.
- Ensure adequate care.
- Ensure veterinary standards.

## Protocol Review Format

- Principal investigator
- Co-investigators
- Caregivers
- Training for species or techniques
- Start/end date (one year)
- Scientific merit
- Category of invasiveness

## ACUC - Protocol Review

- Purpose of use
- Acute/chronic
- Justify number/species
- Alternatives
- Procedure details
- Lay description
- Anesthetics and/or analgesics
- Endpoints
- Hazards

## THE THREE 'R's

**REDUCTION** in animal use

**REFINEMENT** of techniques

**REPLACEMENT** of animals by alternatives



## REDUCTION

Number of Animals must be Statistically Significant

Pilot Study

Data Collection

Tissues Collected

Post - Mortems

## Reduction

- Number of Animals must be statistically significant
- Use of:
  - Pilot Studies
  - Efficient Data Collection
  - Post Mortems

# REPLACEMENT

Animal model may be substituted by an anequin or dummy

Computer Simulations for research or teaching

Use of Tissue Cultures, Abattoir Specimens

Video or CD ROM Presentations in Teaching

# REFINEMENT

Personnel

- Training
- Best Techniques

• Photograph courtesy of Joseph Litke



# Refinement of Techniques

- Proper Equipment
- Appropriate Anesthesia
- Post-Procedural Care



# The 4<sup>th</sup> "R" Respect



# Quality Animal Care = Quality Science