CCAC adopted guidelines on euthanasia

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CCAC National Workshop
Montréal – November 1, 2007
Overview

- CCAC Guidelines Program
- Development of CCAC guidelines
- Adoption of guidelines
- CCAC adopted guidelines on euthanasia
CCAC Programs

- An evidence-based learning loop model involving scientists, veterinarians, animal care personnel, community representatives and the animal welfare movement

- Peer involvement in developing and implementing standards
How do experimental animal care and use guidelines come into being?

- Assessment Program needs
- emerging issues for the scientific community
- advances in laboratory animal care
## Prioritization Scheme

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Ethical Importance</strong></td>
<td></td>
</tr>
<tr>
<td>Numbers of animals</td>
<td>5</td>
</tr>
<tr>
<td>Pain &amp; distress</td>
<td>4/5</td>
</tr>
<tr>
<td><strong>2. Status</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>3. Demand</strong></td>
<td></td>
</tr>
<tr>
<td>Scientific community</td>
<td>3</td>
</tr>
<tr>
<td>Advances in lab animal science</td>
<td>3/4</td>
</tr>
<tr>
<td>Assessment Program</td>
<td>5</td>
</tr>
</tbody>
</table>
CCAC Guidelines

- De novo development
- Adoption
  - harmonization
  - cost effectiveness
  - tried and tested
Mechanism for Adoption of Guidelines from Other Jurisdictions

- Evaluation of existing guidelines by CCAC subcommittee
  - consideration for adoption
  - identification of gaps
  - (harmonization is not standardization: national regulations and culture)

- Development of an upfront statement
  - necessary justification
  - facilitate the implementation of the adopted guidelines by institutional ACCs
Euthanasia: An Example of Harmonization Through Adoption of Internationally Recognized Documents

  - Recognized in the Policy Forum section of the scientific journal *Science*
Mechanism for Adoption of Guidelines from Other Jurisdictions: Euthanasia

- Guiding principles developed by the ICLAS Working Party on Euthanasia (2005)
- Evaluation of existing guidelines by a national subcommittee for consideration for adoption and identification of gaps (harmonization is not standardization: national regulations and culture)
- Development of an upfront statement and the necessary justification to facilitate the implementation of the adopted guidelines by institutional ACCs
What are the factors that influence setting guidelines and regulations on euthanasia

1. Experimental data and expert scientific opinion
2. International principles for laboratory animal euthanasia
3. CCAC principles for establishing guidelines
What are the factors that influence setting guidelines and regulations on euthanasia

1

Experimental data and expert scientific opinion
Observations & Experience → Opinion(s) → Translation into Guidelines or Regulations
Observations & Experience

Opinion(s)

Experimental Testing of Hypotheses

Scientific Data

Interpretation of Scientific Data

Translation into Guidelines or Regulations
The AVMA Panel considered about 50 methods of killing animals and gave an expert opinion on each as:
- acceptable
- conditionally acceptable
- unacceptable

Working Party: Mrs Bryony Close (Chair), Dr Keith Banister, Dr Vera Baumans, Dr Eva-Maria Bernoth, Dr Niall Bromage, Dr John Bunyan, Professor Dr Wolff Erhardt, Professor Paul Flecknell, Dr Neville Gregory, Professor Dr Hansjoachim Hackbarth, Professor David Morton & Mr Clifford Warwick

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This document was prepared for DGXI of the European Commission to be used with Directive 86/609/EEC of 24 November 1986 on the approximation of laws, regulations and administrative provisions relating to the protection of animals used for experimental purposes. This document relates particularly to Article 2(1) published by the European Commission on 26th October 1995 which defines ‘humane
PUBLIC STATEMENTS: Report of the ACLAM Task Force on Rodent Euthanasia 2005

Preface

The ACLAM Task Force on Rodent Euthanasia was appointed by President Lynn Anderson in 2002 in response to growing concerns and controversy regarding techniques that were commonly used for rodent euthanasia. Three issues were targeted as the focus of the report: euthanasia of fetal and neonatal rodents, the use of carbon dioxide for rodent euthanasia, and the impact of euthanasia techniques on data. The charge to the Task Force was to create a document that summarized in a scholarly and comprehensive manner all available data-based literature relevant to these topics, to assess the scientific merit of the design and conclusions of those studies, and to compile valid information into a concise and cohesive document that could serve as a resource for diplomats, other veterinarians, IACUC members, regulatory bodies, and research scientists.

The Task Force has fulfilled this charge in an exemplary manner. During 2004-2005, the ACLAM officers and Board of Directors (BOD) reviewed and critiqued two draft versions of the report, and suggestions for change were incorporated into the document presented here. In July 2005, the BOD voted to forego the usual process of distributing the document to the ACLAM membership for comment before release based on two considerations. First, the literature relevant to rodent euthanasia is continually expanding. As such, at each revision, the Task Force was compelled to incorporate new data and citations. Their consensus view was that new data would continue to emerge, and the document would require continual revision as the review process continued. Related to that, the second consideration of the BOD was that information already accumulated would be of immediate utility to the stake-holders listed above.

In lieu of a pre-publication comment period, the BOD and the Task Force instead invite all diplomats, as well as other parties, to comment via email or mail to the BOD liaison for this project, who will compile and maintain all remarks. After an interval deemed appropriate by the ACLAM President, a second Task Force will be appointed to update and modify the Report. Comments will be considered at that time.
Background:

- Carbon dioxide (CO\textsubscript{2}) widely used for killing laboratory rodents, safe to use, suitable for large numbers of rodents
- Uncertainties about the humane-ness of some protocols
- Disagreements about the humane-ness of using CO\textsubscript{2}
- Certain CO\textsubscript{2} concentrations can cause pain and/or distress
- Feasibility of alternatives

Introduction

The humane killing of laboratory animals is an issue of great importance to the scientific community as a whole. It is widely recognised that animals should be euthanased with the minimum possible discomfort, pain or distress, for welfare, ethical and legal reasons. However, there are uncertainties relating to the humaneness of methods, including the use of carbon dioxide. Although many laboratory animals, especially rodents, are killed using CO\textsubscript{2} according to a variety of protocols, there is currently no definitive guidance on whether and how CO\textsubscript{2} can be administered humanely. There is also uncertainty about the feasibility of using alternative gaseous euthanasia agents, with respect to both animal welfare and human health and safety.
The conclusions and recommendations in these reviews and position papers are supported by research done by many research scientists, and consideration of their published scientific papers.
What are the factors that influence setting guidelines and regulations on euthanasia?

International principles for laboratory animal euthanasia
Emerging Issue: International Harmonization of Guidelines on Use of Animals in Science

- Globalization of Science
- ICLAS Working Groups on Harmonization of Guidelines created in 2004
- Principles of humane endpoints, and euthanasia defined

http://www.iclas.org/
ICLAS – Ten Principles for Animal Euthanasia

1. Whenever an animal's life is to be taken, it should be treated with the highest respect.

2. Euthanasia should place emphasis on making the animal's death painless and distress-free. The method likely to cause the least pain and distress to the animals should be used whenever possible.

3. Euthanasia techniques should result in rapid loss of consciousness, followed by cardiac or respiratory arrest and ultimate loss of brain function.

ICLAS – Ten Principles for Animal Euthanasia

4. Techniques should require minimum restraint of the animal and should minimize distress and anxiety experienced by the animal, before loss of consciousness.

5. Techniques used should be appropriate for the species, age, and health of the animal.

6. Death must be verified following euthanasia and before disposal of the animal.

ICLAS – Ten Principles for Animal Euthanasia

7. Personnel responsible for carrying out the euthanasia techniques should be trained: (i) to carry out euthanasia in the most effective and humane manner; (ii) to recognize signs of pain, fear, and distress in relevant species; and (iii) to recognize and confirm death in relevant species.

8. Human psychological responses to euthanasia should be taken into account when selecting the method of euthanasia, but should not take precedence over animal welfare considerations.

ICLAS – Ten Principles for Animal Euthanasia

9. Ethics committees should be responsible for approval of the method of euthanasia (in line with any relevant legislation). This should include euthanasia as part of the experimental protocol, as well as euthanasia for animals experiencing unanticipated pain and distress.

10. A veterinarian experienced with the species in question should be consulted when selecting the method of euthanasia, particularly when little species-specific euthanasia research has been done.

What are the factors that influence setting guidelines and regulations on euthanasia

CCAC principles for establishing guidelines
Some CCAC Principles for Guidelines

“The CCAC approach to developing guidelines is to provide the framework for the implementation of best practices, rather than stating the details of best practices, in order to allow for best practices to evolve.”

“Performance Standards”

- defining the desired outcome (distress-free, pain-free death)
- place responsibility on person doing the euthanasia
- result in enhancements of animal welfare
Some CCAC Principles for Guidelines

CCAC Definition of ‘best practice’

Best practice incorporates the principle of guidelines that are based on:

- sound scientific evidence
- expert opinion
- are subject to peer review
Some CCAC Principles for Guidelines

- Establishment of best practice includes adherence to ethical principles generally accepted by the Canadian public.

- Animal welfare peer review is an important aspect of Canadian experimental animal care and use guidelines.
Some CCAC Principles for Guidelines

- Establishment of best practice includes adherence to ethical principles generally accepted by the Canadian public.

- These ethical principles are described in the *CCAC policy statement on: ethics of animal investigation* (1989), and are based on the Three Rs: Reduction, Refinement, and Replacement, as outlined by Russell & Burch (1959).
Guideline Development Process

1. Preliminary Draft
   - Expert Peer Review
   - Widespread Review

2. First Draft
   - Guidelines Committee Review
   - Guidelines Committee Review

3. Second Draft
   - Guidelines Committee Review
   - Guidelines Committee Review

4. Final Draft
   - Final Review

5. Approval by Board of Directors

6. Approval by Council

7. Publication
CCAC Adopted Guidelines for Euthanasia

- International harmonization of experimental animal care and use guidelines – ICLAS Initiative
  - adoption of the ICLAS principles, as guidelines
  - adoption of other jurisdictions’ guidelines as reference documents, for use in Canada
    - USA – AVMA Panel 2000, guidelines 2006
    - Europe – European Commission 1996-97 and EFSA scientific opinion

- Added discussion(s) for Canadian context, new information, and for areas of contention (e.g., CO₂)

- Addendum on implications of method of euthanasia on research data
CCAC Adopted Guidelines for Euthanasia

Status of document (November 2007)

- widespread review complete
- subcommittee revising second draft
- next step: evaluation by Guidelines Committee
THANK YOU !!!

CCAC subcommittee on euthanasia
Ernie Olfert, University of Saskatchewan
Lee Niel, University of Toronto
Ron Charbonneau, Universite Laval