

CCAC training module on: pain, distress and endpoints

Reference and Resource Handout

Note:

This is a list of all the relevant references and resources cited within this module. Animal users should consult relevant experts and scientific literature for the most recent information on the species and techniques under consideration.

Slide 5 Pain and Distress

The International Association for the Study of Pain, <http://www.iasp-pain.org/>

Slide 6 Introduction to Pain and Distress

Carstens E. and Moberg G.P. (2000) Recognizing Pain and Distress in Laboratory Animals. *Institute for Laboratory Animal Research Journal* 41(2): 62–71.

Zimmerman M. (1986) Physiological mechanisms of pain and its treatment. *Klinische Anaesthesiol Intensivtherap* 32:1-19.

Slide 8 Predicting Pain and Distress – Evaluating the Experiment

CCAC policy statement on: categories of invasiveness in animal experiments (1991). Visit the CCAC website at www.ccac.ca to access and consult this policy statement.

Slide 14 Recognizing Pain and Distress – Evaluating Behaviour

Folz C.H. and Ullman-Culleré M.H. (1999) Body condition scoring: a rapid and accurate method for assessing health status in mice. *Laboratory Animal Science* 49(3):319-323.

Slide 16 Recognizing Pain and Distress – Evaluating Behaviour

CCAC training module on: analgesia (2003). Visit the CCAC website at www.ccac.ca to access and consult this training module.

Slide 17 Recognizing Pain and Distress – Evaluating Behaviour

CCAC training module on: environmental enrichment (2003). Visit the CCAC website at www.ccac.ca to access and consult this training module.

CCAC Three Rs microsite: <http://www.ccac.ca/en/alternatives/>

Russell W.M.S. and Burch R.L. (1959) *The Principles of Humane Experimental Technique*. London UK: Methuen.

Slide 18 Recognizing Pain and Distress – Evaluating Behaviour

Assessing the Health and Welfare of Laboratory Animals, www.ahwla.org.uk/

Canadian Council on Animal Care (1993) *CCAC Guide to the Care and Use of Experimental Animals*, vol. 1, 2nd ed. Ottawa ON: CCAC. Visit the CCAC website at www.ccac.ca to access and consult this guide.

Slide 22 Endpoints

CCAC policy statement on: *ethics of animal investigation* (1989). Visit the CCAC website at www.ccac.ca to access and consult this policy statement.

CCAC training module on: *analgesia* (2003). Visit the CCAC website at www.ccac.ca to access and consult this training module.

CCAC training module on: *anesthesia* (2003). Visit the CCAC website at www.ccac.ca to access and consult this training module.

Slide 23 Introduction to Endpoints

CCAC guidelines on: *choosing an appropriate endpoint in experiments using animals for research, teaching and testing* (1998). Visit the CCAC website at www.ccac.ca to access and consult this guidelines document.

Slide 24 Introduction to Endpoints

CCAC training module on: *analgesia* (2003). Visit the CCAC website at www.ccac.ca to access and consult this training module.

CCAC training module on: *anesthesia* (2003). Visit the CCAC website at www.ccac.ca to access and consult this training module.

Slide 25 Selecting Endpoints

CCAC guidelines on: *choosing an appropriate endpoint in experiments using animals for research, teaching and testing* (1998). Visit the CCAC website at www.ccac.ca to access and consult this guidelines document.

CCAC training module on: *analgesia* (2003). Visit the CCAC website at www.ccac.ca to access and consult this training module.

CCAC training module on: *anesthesia* (2003). Visit the CCAC website at www.ccac.ca to access and consult this training module.

Slide 28 Checklists for the Determination of Endpoints

CCAC guidelines on: *choosing an appropriate endpoint in experiments using animals for research, teaching and testing* (1998). Visit the CCAC website at www.ccac.ca to access and consult this guidelines document.

Lloyd M.H. and Wofenshohn S.E. (1998) Practical use of distress scoring systems in the application of humane endpoints. In: *Humane Endpoints in Animal Experiments for Biomedical Research, Proceedings of the International Conference*. November 22-25 1998, Zeist, The Netherlands (Hendriksen C.F.M. and Moron D.B., eds). London UK: Royal Society of Medicine Press, pp. 48-53.

Slide 29 Endpoint Recommendations from Published Guidelines

CCAC guidelines on: choosing an appropriate endpoint in experiments using animals for research, teaching and testing (1998). Visit the CCAC website at www.ccac.ca to access and consult this guidelines document.

Workman P., Balmain A., Hickman J.A., McNally N.J., Rohas A.M., Mitchison N.A., Pierrepont C.G, Raymond R., Rowlatt C., Stephens T.C., Wallace J. and Straughan D.W. (1988) UKCCCR Guidelines for the welfare of animals in experimental neoplasia. *Laboratory Animals* 22(3):195-201.

Slide 33 Summary

CCAC guidelines on: choosing an appropriate endpoint in experiments using animals for research, teaching and testing (1998). Visit the CCAC website at www.ccac.ca to access and consult this guidelines document.