

Attachment to Exxon Biomedical Sciences Inc. Annual Report of Research (cont'd)

The animals were not treated for pain or distress because the effects of anesthetic agents on the study outcome were not known. In ocular irritation tests, recovery is a key endpoint of the study. Anesthetic agents may affect this recovery process. In guinea pig sensitization tests, the animals must be observed for a designated period of time and in some instances be rechallenged to generate meaningful data. Also, in the ocular irritation studies where the animals received only a single exposure, any pain or distress that may have occurred did not persist or progress, *i.e.*, the responses observed in the studies were transient. The Study Directors for each of these study types were aware of the effects seen in the animals and monitored the animals' health.

Summary of 1998 - 1999 USDA Animal Usage

Species	# Animals used	# Animals with pain
Rabbits	86	7
Guinea Pigs	374	8

NOV 9 2 1999

References:

EY:-----

Mroczek, N. S. Recognizing Animal Suffering and Pain. *Lab Animal* Volume 21, Number 9: 27-31, 1992

OECD, Organization for Economic Cooperation and Development, Guidelines for the Testing of Chemicals, Test Guideline 405, 1987.

OECD, Organization for Economic Cooperation and Development, Guidelines for the Testing of Chemicals, Test Guideline 406, 1992.

Report of the Laboratory Animal Science Association Working Party. The assessment and control of the severity of scientific procedures on laboratory animals. *Laboratory Animals* 24: 97-130

Attachment to Exxon Biomedical Sciences Inc. Annual Report of Research (cont'd)

Appendix A

Signs of Pain and Distress
Clinical Signs

The following are considered clear signs of animals in pain or distress.

Convulsions	Coarse Tremors	Dyspnea
Respiratory Arrhythmia	Hyperpnea	Hypopnea
Wet rales	Emaciation	Hypothermia
Abdominal Gripping	Prolapsed uterus	Prolapsed rectum
Teeth Grinding	Dystocia	Ranting (other than momentary)
Foot stomping (other than momentary)		

Additionally, any animal that can not access its food or water will be considered an animal in pain or distress.

Dermal Irritation

Erythema score of "4" (Draize scale)	Edema score greater than "2" (Draize scale)
Dermal irritation score of "3" (Buehler scale)	Eschar
Dermal sore/ulceration	Necrosis
Fissuring	Blanching (full depth)

NOV 22 1999

Ocular Irritation

Conjunctival redness score of "3"	Conjunctival chemosis score greater than "2"
Conjunctival necrosis	Conjunctival ulceration
Iris score of "2"	Corneal opacity score greater than "2"
Blistering conjunctiva	Ruptured eye
Protruding cornea	Pannus
Corneal dye retention indicative of ulceration	

The following are considered subjective signs of animals in pain or distress. The observation of any one of these signs would not be considered sufficient to consider an animal in pain or distress. However, the occurrence of these signs with other related clinical signs may be considered a sign of pain or distress. The Study Director will make the determination of whether an animal with these signs was in pain or distress.

Ataxia	Fine Tremors	Piloerection
Aggressive	Ranting	Foot stomping
Teeth chattering	Vocalizing	Abdominal Staining
Cyanosis	Unthrifty coat	Small amount of stool
No stool	Distended abdomen	Food consumption Decrease
Red ocular discharge		