

The Mouse

Laboratory mice have been subjected to selective breeding for different characteristics for many hundreds of generations. As a result there are significant differences to be found in the behavior and responses of different strains to compounds or stimuli. After procedures which may cause pain, mice can be found to increase their sleeping times; there will also be a period of weight loss which should be regained quite quickly on recovery. Piloerection and hunched appearance should be regarded as indicating pain or distress. Sick mice are often found to be isolated from the remainder of the group.

Potential Responses	Increased level of response under painful or stressful stimuli.
Physiological Signs	
OCULAR	Presence of papillary response, eyelids held wide varying to half closed, or closed. Eyes appear sunken, ocular discharge as condition worsens.
RESPIRATORY	Increased respiratory rate, forced or labored where respiratory system involved, 'chattering,' nasal discharge.
APPEARANCE	Piloerection 'staring' coat with increasing poor condition, weight loss, dehydration, wasting of muscles on back. Sunken abdomen indicates empty gut, fecal staining. Animal feels 'cold' to the touch.
DEFECATION/ URINATION	Both are immediate reactions to stress in mouse, increase or decrease as stress continues.
VIBRISSAE	Increasing vibrissal movements becoming less evident as pain or stress continues.
BEHAVIOR	Mice increasingly timid and apprehensive becoming aggressive with tendency to bite with increasing pain or stress. As condition worsens animal becomes quiet, unresponsive, separates from group. Eventually unaware of surroundings.
ABNORMAL ACTIVITY	Withdrawal reflex, struggles, bites, may attempt to bite source of pain or affected area, increased activity. Ceases to eat and drink normally, animal unable to sleep, fails to groom but increased scratching. Writhing movements when pain is abdominal. May self-mutilate affected part.
POSTURE	Gradual assumption of hunched, sleeping posture. Adopts 'sleeping' posture away from light source.
LOCOMOTION	Evidence of pain in locomotion where limbs or feet are affected. Sudden running movements-escape mechanism increasing difficulty in maintaining posture. May show unsteady gait, difficulty in moving in straight line, circling movements where balance is affected. Rolling gait with developing ascites.
VOCALIZATION	Aggressive vocalization in early stages, decreasing where pain or stress reduces ability to move and respond. Some vocal response thereafter.
GENERAL	Hypothermia with increasing deterioration in condition.

Key Signs: Reflex withdrawal, biting response, piloerection, hunched back, sunken eyes and abdomen, dehydration, weight loss.