

LABORATORY ANIMAL RESOURCES CENTER (LARC)		
Title: Management of Fighting Rodents and Fight Wounds		
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A) PURPOSE

To describe procedures for reducing the incidence of fighting, correction of housing in fighting situations, and treatment of wounds sustained in fighting situations.

B) SCOPE / BACKGROUND

This procedure applies to all UTEP Laboratory Animal Resource Center (LARC) personnel and authorized research staff members entering facilities.

The Guide for the Care and Use of Laboratory Animals (*The Guide*, 8th Ed., NRC 2011) states: "Not all members of a social species are necessarily socially compatible. Social housing of incompatible animals can induce chronic stress, injury, and even death. In some species, social incompatibility may be sex biased; for example, male mice are generally more prone to aggression than female mice, and female hamsters are generally more aggressive than male hamsters. Risks of social incompatibility are greatly reduced if the animals to be grouped are raised together from a young age, if group composition remains stable, and if the design of the animals' enclosure and their environmental enrichment facilitate the avoidance of social conflicts. Social stability should be carefully monitored; in cases of severe or prolonged aggression, incompatible individuals need to be separated." (p. 64)

C) RESPONSIBILITIES

- 1) It is the responsibility of all LARC personnel and faculty/staff/student handling of rodents with aggressive behavior towards cage mates to comply with this Standard Operating Procedure (SOP).
- 2) The LARC Husbandry Manager and the Quality Assurance and Training Manager are responsible for ensuring all LARC staff are knowledgeable regarding assessment and separation of rodents which demonstrate aggressive behavior toward cage mates. All LARC staff are responsible for ensuring that animal users are aware of the protocol described in this SOP as applicable situations arise.
- 3) The Attending Veterinarian (AV) will ensure that this SOP is enforced and will provide the LARC Husbandry Manager the appropriate resources to comply with this directive.

D) REFERENCES

- 1) National Research Council (US) Committee for the Update of the Guide for the Care and Use of Laboratory Animals. *Guide for the Care and Use of Laboratory Animals*. 8th edition. Washington (DC): National Academies Press (US); 2011.
- 2) With adaptations from similar SOPs from The University of Missouri, Wayne State University and The University of Michigan.

E) PROCEDURES

- 1) Prevention of Fighting via Proper Group-housing Practices
 - a) Male mice may be group-housed most successfully, at weaning, if they are full siblings and less than six (6) weeks of age.

- b) Combining males from different litters is less ideal, but may be successful if done within one (1) week of weaning if all members of the group are less than a week apart in age, and a clean cage is used to eliminate any pre-existing pheromones that could encourage territorial behavior.
 - (1) Non-siblings and males well-within breeding age will be more likely to fight; likelihood increases dramatically if males are not littermates continually housed together since birth, have been used as breeders or inhabit a room containing breeding-age females.
 - (2) Upon reaching sexual maturity (~4-5 weeks of age), even full sibling males housed together since birth may fight if females are present in the room.
 - (3) Some strains of mice are more aggressive than others and will fight, regardless of the age at which they are group-housed.

2) Separation of Aggressors

- a) Immediately place the aggressive animal in a separate cage, and NEVER re-house again with another male.
 - (1) Aggressive animals may have no wounds, or may have wounds limited to the face.
 - (2) Victims of the aggressive animal may exhibit wounds anywhere, but are more likely to acquire wounds to the genitalia and hindquarters.
 - (3) In a situation where one or more mice have wounds, separate the animals into groups of two or three per cage and monitor closely for at least several minutes and daily thereafter for recurrence of fighting among these mice.
 - (a) Complete a red card and place it at the front of the cage card holder for every injured animal to identify it for follow up.
 - (b) If aggression continues, house the aggressor(s) individually and clearly label the main, white cage card "AGGRESSIVE" to avoid accidental re-housing with other males.
 - (c) Continue observation of separated animals every day. Record changes on the red card and report them to the Quality Assurance and Training Manager and Attending Veterinarian.
 - (i) Refer to applicable SOPs in Section B (Animal Housing and Husbandry) of the LARC Manual of Standard Operating Procedures for more detailed descriptions of fundamental procedures mentioned in this SOP.

3) Management of Fight Wounds

- a) Rodents with mild to moderate wounds (*e.g.*, minimal damage to the epidermis or small, dry scabs) will be treated with a topical or systemic therapy as prescribed by the attending veterinarian.
- b) Rodents with severe wounds (*e.g.*, involving the genitals or extremities that compromise normal function, or with significant damage to the epidermis or underlying tissues, or other resulting significant morbidity) must be euthanized in a timely manner unless otherwise directed by the attending veterinarian upon consult. If LARC is unable to reach the PI or PI staff to inform of the impending action in the interest of animal welfare, LARC will euthanize these severely injured animals.