

## WVU IACUC Guidelines: Prevention and Management of Fighting (Aggression) in Mice

### Purpose

The purpose of this document is to provide guidance on prevention and management of fighting mice. The *Guide for the Care and Use of Laboratory Animals* (the *Guide*, 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..." (p. 64) and "Social stability should be carefully monitored; in cases of severe or prolonged aggression, incompatible individuals need to be separated." (p. 64)

### Fighting prevention

1. Animals that have been group-housed without incident may begin fighting for unknown reasons. Measures to eliminate aggression/fighting (e.g.- added enrichment) will include attempts to preserve group housing, if possible.
2. Males that arrive together at WVU or that have been raised together (same litter) may be compatible. As a general rule, males should only be group-housed with cage mates from the time of weaning. Combining males from different cages at the time of weaning may be acceptable, but they should be monitored in the first week for signs of aggression.
3. Mice of some strains are more aggressive than others and are known to become incompatible/fight once they reach reproductive maturity regardless of when they were combined.
4. Unfamiliar adult males will often fight with each other and should never be combined.
5. Males removed for breeding should not be returned to group/pair housing with other male mice, even their original groups, as they tend to fight (e.g. single house males once they have been mated).

### Intervention/Management

1. When fight wounds are observed, veterinary staff should be consulted regarding managing animals.
2. Veterinary staff should assess the situation and determine if separation or environmental modification is necessary.
3. Mice with mild to moderate wounds (those involving minimal damage to the epidermis, i.e. small dry scabs) should be treated with topical or systemic therapy as prescribed by veterinary staff.
4. Mice with severe wounds (e.g., those involving the genitals or extremities that compromise normal function, significant damage to the epidermis, or significant morbidity) **must** be euthanized in a timely manner based on veterinary recommendations.
5. The aggressor (typically the mouse without wounds) should be placed in a separate cage immediately, and **NEVER** recombined with other males.
6. If there are multiple aggressors (multiple mice without wounds, or all mice have wounds), mice should be separated into groups of 2 or 3 per cage and closely monitored. If aggression continues, the aggressive mouse (or mice) should be housed individually, clearly labeled as aggressive, and **NEVER** recombined with other males.
7. Occasionally males may demonstrate aggression towards females or vice versa. Also, intra-group fighting among females can occur. These should be dealt with on a case-by-case basis and may result in the separation of some mice. Every effort will be made to keep mice group housed.