Social Housing of Laboratory Animals

EFFECTIVE ISSUE DATE: 2/27/2013 REVISION DATE: 12/09/2013

Approval(s):

Thank Jolian

12/9/2013

Chair, Univ. of Pittsburgh IACUC

Date

12/9/2013

Attending Veterinarian

Date

Introduction

The purpose of this policy is to define housing standards and considerations for social species of laboratory animals at the University of Pittsburgh.

Definitions

- A. A <u>social species</u> is defined as any species known to naturally live and interact with conspecifics (animals of the same species). The majority of laboratory animals housed at the University of Pittsburgh are considered social species, including but not limited to the following: most rodents (mice, rats, guinea pigs), rabbits, ferrets, cats, dogs, sheep, goats, pigs, nonhuman primates, and aquatics (frogs and fish).
- B. **Social housing** is defined as housing social species in compatible pairs or groups with additional visual, auditory, olfactory, and/or tactile contact of conspecifics housed within the same room.
- C. <u>Single housing</u> is defined as housing an animal in a primary enclosure by itself with additional visual, auditory, olfactory, and/or tactile contact of conspecifics housed within the same room.
- D. <u>Solitary housing</u> is defined as housing an animal in a primary enclosure by itself in the absence of any other animals in the same room.
- E. <u>Social experience</u> consists of a broad spectrum of possible social situations and interactions that may vary based on the species, health status, caging or housing systems available, or experimental use of the animal. These experiences can include
 - i. Full time social housing characterized by unrestricted contact with conspecifics in the same primary enclosure.

- ii. Part time social housing characterized by unrestricted contact with conspecifics for a defined time period and/or defined frequency. Examples include overnight social housing, intermittent social housing permitted between animal studies, and intermittent direct contact with conspecifics in a group setting for a defined time period.
- iii. Single housing based on social incompatibility, veterinary concerns, or scientific necessity but supplemented by limited or protected social contact through a mesh panel, grooming bars or other type of perforated barrier on either a part or full time basis.

Policy

Full time social housing is the preferred and expected method for housing social animals unless otherwise justified based on scientific rationale outlined in the IACUC approved animal care and use protocol, social incompatibility, or veterinary medical or animal welfare concerns.

Single housing of social animals, when necessary, should be limited to the minimum period required and provide a combination of visual, auditory, olfactory, and tactile contact of conspecifics when possible. Single housing in the absence of other animals (solitary housing) requires the provision of additional enrichment to provide for a social experience, which may include but is not limited to positive interaction with animal care personnel, periodic supervised access to larger enclosures, and supplemental enrichment items approved by DLAR management.

Exemptions

Exemptions from social housing require scientific justification outlined in the animal care and use protocol approved by the IACUC. Protocol related exemptions must be reviewed and approved by the IACUC on an annual basis. Protocol related exemptions must also be identified on the semi-annual report submitted to the Institutional Official.

The IACUC may also grant program wide exemptions based on performance standards. The following are IACUC approved program wide social housing exemptions:

- 1. Single housing intact male rabbits due to aggressive behaviors commonly observed when pair or group housed.
- 2. Standard practices in breeding colony management that result in the need to periodically single house animals, including
 - a. Single housing breeder males between mating with females,
 - b. Single housing pre-parturient females,
 - c. Single housing animals of either sex at weaning when the litter makeup contains a single male and/or a single female at the time of weaning.
- 3. Standard practices in managing surgery or other technical procedures including
 - a. Single housing animals for fasting prior to surgery or other procedures that require general anesthesia,
 - Single housing animals for up to 14 days for post-operative recovery and observation. The need to single house animals for greater than 14 days post-

University of Pittsburgh Institutional Animal Care and Use Committee - Policy operatively must be outlined in the IACUC approved protocol.

- 4. The unavailability of another socially compatible animal due to
 - a. Aggression or incompatibility
 - b. Research attrition

The Attending Veterinarian and other DLAR veterinarians may exempt animals from social housing on an individual basis due to incompatibility or for veterinary medical and/or animal welfare concerns. Veterinarian exemptions must be documented in the individual animal's clinical record every 30 days unless the exemption is permanent.

Species specific social housing guidelines are outlined below in Addendum 1.

References

- 1. The Guide for the Care and Use of Laboratory Animals, 8th ed., NRC, ILAR 2011.
- 2. AAALAC International's Position Statement on Social Housing, http://www.aaalac.org/accreditation/positionstatements.cfm#social.
- 3. AAALAC FAQ Social Housing and Social Experience, http://www.aaalac.org/accreditation/faq_landing.cfm#C6.

Addendum 1: Species Specific Social Housing Standards

Commonly Housed Laboratory Animal Species

- 1. **Mice and Rats** are housed full time in compatible pairs or groups. Breeding cages are provided with shelters and/or nesting material. Specific housing requirements for paired or harem breeding strategies are outlined in the IACUC approved animal protocol.
- 2. **Guinea Pigs and Hamsters** are housed full time in compatible pairs or groups.
- 3. **Rabbits**. Females and neutered males are housed in compatible pairs of the same sex. Intact males are single housed based on literature recommendations and known aggressive tendencies exhibited between intact males when co-housed. Single housed rabbits of either sex receive enhanced enrichment.
- 4. **Ferrets** are housed in compatible pairs and allowed to exercise with conspecifics in their housing room on a rotating schedule, but no less frequently than weekly. Ferrets that are individually housed due to IACUC or veterinary exemptions are provided with supervised interaction with conspecifics in their housing room and/or receive daily interaction with DLAR personnel.
- 5. **Cats** are housed in compatible pairs or single housed and provided intermittent direct contact with conspecifics in a group setting on a daily basis.
- 6. **Dogs** are housed in compatible pairs or groups and allowed daily exercise in the housing room. Dogs that are individually housed due to IACUC or veterinary exemptions are provided with supervised interaction with conspecifics in their housing room and/or receive daily interaction with DLAR personnel.
- 7. **Sheep, goats, and pigs** are housed in compatible pairs or groups provided species specific minimum floor space requirements are met by the primary enclosure. Single housed animals receive enhanced enrichment.
- 8. **Nonhuman primates (NHPs)** are housed in compatible pairs or groups whenever possible. Individually housed NHPs are provided a combination of visual, auditory, olfactory, and/or tactile contact of conspecifics.
- 9. **Frogs and tadpoles** are group housed. Some species that typically display territorial and/or cannibalistic tendencies, such as bullfrogs, are individually housed.
- 10. **Fish** are group housed in aquatic tanks. Some fish species that typically display territorial and/or cannibalistic tendencies are individually housed.

Less Commonly Housed Laboratory Animal Species

Consultation with the DLAR management concerning housing, husbandry and socialization of atypical species is recommended prior to animal protocol submission to the IACUC.

- 1. **Cows** are typically ordered, received, and utilized as single animals and therefore individually housed. If multiple cows are present within a facility, they will be housed in compatible pairs when possible.
- 2. **Reptiles (newts, salamanders, and anoles)** are housed in compatible pairs or groups.
- 3. **Musk shrews** are not considered a social species and are individually housed after weaning due to their aggressive and solitary nature. Pair housing of adults occurs for up to 10 hours for mating purposes.

Animals Housed the Pymatuning Laboratory of Ecology (PLE) Field Station

- 1. Song sparrows are individually housed with visual, auditory, and olfactory contact of conspecifics
- 2. **Amphibians or fish** are housed in tubs and tanks in group densities close to those found in nature.