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**UC Davis
Institutional Animal Care and Use Committee (IACUC)**

Title: Social Housing

I. Purpose:

The purpose of this document is to describe requirements for the social housing of animals.

II. Background:

The Guide states: Appropriate social interactions among members of the same species (conspecifics) are essential for normal development and well-being. When selecting a suitable social environment, attention must be given to whether the animals are naturally territorial or communal and whether they should be housed singly, in pairs, or in groups. An understanding of species-typical natural social behavior (e.g., natural social composition, population density, ability to disperse, familiarity, and social ranking) is key to successful social housing.

Both AAALAC International and the Office of Laboratory Animal Welfare (OLAW) have position statements supporting the concept of social housing as the default for social species.

III. Definition:

For the purpose of this policy, “social species” include the following:

- Nonhuman Primates
- Dogs
- Cats (excluding intact males used for breeding)
- Swine (excluding adult intact males)
- Sheep (excluding adult intact males)
- Goats (excluding adult intact males)
- Cattle (excluding adult intact males)
- Horses (excluding adult intact males)
- Alpacas
- Llamas
- Rabbits (excluding adult males or females maintained for less than 6 months)

- Hamsters (excluding adult females)
- Mice (excluding adult males)
- Rats
- Marsupials (excluding *Monodelphis*)
- Chickens (excluding adult males)
- Psittacines
- Quail
- Ducks
- Turkeys
- Fish
- Songbirds

“Social housing” refers to housing animals in same sex (and in some cases, male and female pairs), compatible pairs, or groups in the animals’ primary enclosure.

IV. **Policy:**

Social housing will be considered the default method of housing for social animals. Single housing of social species should be the exception and justified based on experimental requirements, veterinary-related concerns, animal well-being, or in some cases incompatibility issues. In these cases, it should be limited to the minimum period necessary. Singly housed animals should be provided with some degree of visual, auditory, and/or olfactory contact with other members of the same species. Exceptions to social housing will be reviewed on a regular basis by the IACUC (e.g., during annual and/or triennial review of protocols) and evaluated on an as needed basis by veterinary staff.

V. **Procedure:**

A. General Procedures:

1. Social animals will be housed in compatible pairs or groups, rather than individually, unless a single housing exemption has been documented on the cage card or animal record. Reasons for single house may include:
 - Aggression
 - Attrition
 - Clinical
 - Protocol Approved
 - Breeding
 - Weaned alone
2. Aggression: Not all members of a social species are necessarily socially compatible. Social housing of incompatible animals can induce chronic stress, injury, and even death. Single housing of social animals due to aggression does

not require specific protocol approval. Animals showing signs of conspecific aggression must be kept separate to minimize risk of injury to other co-housed animals. For example, female hamsters, unfamiliar intact adult male: mice, rabbits, cats, horses, and chickens may not be housed together. 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.

3. Attrition: When animals are left singly housed due to attrition of cage mates on study, or uneven experimental group sizes, consideration should be given to re-housing with other conspecifics if possible, depending upon the expected duration of the study and/or individual species-specific considerations (e.g., housing unfamiliar male mice together is prohibited). When re-pairing is not possible without disrupting the study, single housing is acceptable for the remainder of the study.
4. Clinical Reasons: Single housing of social animals as directed by a clinical veterinarian or designee and/or single housing post-operatively do not require a specific exemption approval in the relevant approved protocol. However, single housing must be for the minimum amount of time post-operatively necessary for recovery and/or healing as described in the animal care and use protocol or determined by the relevant veterinarian(s). Re-combining cages of adult male mice is contraindicated.

Single housing for pre-anesthetic fasting does not require an exemption. In situations where the animal to be anesthetized is socially housed, pen/cage mates may be fasted as well to eliminate stress of separation; this will also not require an exemption.

5. Protocol Approved: If the protocol-driven need for single housing is necessary only for a portion of the study, the animals should be socially housed before and after that time. The timeframe for single housing should be specified in the protocol.
6. Breeding: In many breeding arrangements pregnant females may be housed singly prior to birth or immediately after birth. Female breeders may also have periods post weaning when they are single housed prior to the next breeding. This does not need to be included in the IACUC protocol as an exemption as it is understood that this is a necessary part of maintaining a breeding colony. Re-combining cages of adult male mice is contraindicated as noted above.

- If there are unbalanced litters (e.g., 4 females and 1 male) resulting in an animal not having an appropriate cage/pen mate at weaning, attempts should be made to identify a cage/pen mate of the same age. However, if this is not possible, a note should be made in the animal's record/cage card.
- Facility SOPs for colony and animal management should describe the breeding program, including the need for single-animal housing during periparturient times or other relevant time periods.

B. If social housing of animals is not feasible because of the reasons above:

1. Singly housed animals should be provided with some degree of visual, auditory, or olfactory contact with other members of their species. Socialization to humans and regular positive human contact can also be beneficial. In some instances, one species can be used as a companion for another species (e.g., goats and horses), with IACUC approval. In the absence of other animals, additional enrichment may be offered.
2. Husbandry staff, veterinary staff, and the IACUC are expected to monitor for single housing instances and ensure that single housing is approved in the relevant protocol.

V. Resources:

1. ILAR, Guide for the Care and Use of Laboratory Animals
<http://nap.edu/12910>
2. PHS Policy
<https://olaw.nih.gov/policies-laws/phs-policy.htm>
3. Guide for the Care and Use of Agricultural Animals in Research and Teaching
<https://www.aaalac.org/resources/theguide.cfm>