

INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE
Policy #26
HOUSING OF SOCIAL SPECIES

In concurrence with
TTUHSC El Paso Assurance #D19-01056
and Federal Regulations and Guidelines

Purpose

The *Guide to the Care and Use of Laboratory Animals* states that members of a social species should be socially housed whenever possible. The purpose of this policy is to define what constitutes an acceptable justification for single housing of social species.

It is the policy of the IACUC that social experience should be the standard for social species. However, the IACUC recognizes that not all members of social species are compatible and that there are circumstances when social housing is not possible.

All social animals will be group- or pair-housed unless otherwise described in this policy and/or an exemption is described in an IACUC approved protocol. The institutional veterinarian can provide additional advice on appropriate conditions for social housing.

The following are acceptable justifications for single housing of social species:

Reasons for single housing that require justification in the animal protocol:

- Scientific necessity. Please note that single housing should be used for the shortest period of time necessary to accomplish the experimental goals.

Reasons for single housing that do not require justification in the animal protocol:

- Veterinary concerns regarding the well-being of the animal.
- Observed social incompatibility (e.g., fighting, food guarding, etc.).
- Immediate post-operative recovery.
- Attrition (e.g. all cage mates have been used in an experiment). Please note that remaining animals may be combined with other cages, if appropriate (see species-specific considerations).
- Only one animal of a sex or genotype is produced in a litter and no other appropriate weanlings are available for group housing.
- Female rodents with litters.
- Male rodents being rested between matings.
- Naturally territorial or nonsocial species.
- Quarantine: Animals in quarantine may be single housed. This may be based on disease status or non-availability of an appropriate members of the same species.

Special considerations for singly-housed animals:

- Singly housed animals must be identified with an appropriate cage card.
- Environmental enrichment must be provided, unless scientifically contraindicated and approved in the protocol.
- Singly housed rodents must be given two forms of dissimilar enrichment.
- Animals of the same species should be housed in visual, auditory, olfactory and/or tactile range, whenever practical.
- Animals that have been singly housed may need gradual introduction to cage mates.

Species-specific considerations:**Mice:**

- Male mice are often aggressive and have limited social compatibility, whereas female mice typically have good social compatibility. In appropriate circumstances, both genders benefit from social housing with animals of the same sex.
- Male mice may be housed together only when co-housing occurs at weaning age or earlier.
- Once a male mouse is removed from a male group housing cage for a period of more than one day (for example, for breeding or prolonged experimental procedures), the male may not be returned to a cage with other male mice.

Rats:

- Male rats usually have good social compatible if reared together. Female rats typically have good social compatibility. In appropriate circumstances, both genders benefit from social housing with animals of the same sex.
- Unfamiliar adult males should not be combined without due caution and observation.

Ferrets:

- Both male and female ferrets typically have good social compatibility and benefit from social housing with animals of the same sex.
- When housed singly, they should have visual, auditory, and olfactory contact with members of their species, unless such animals are not available, in which case enhanced environmental enrichment strategies will be employed.

Zebrafish:

- Both male and female Zebrafish typically have good social compatibility and benefit from social housing with animals of the same sex.
- All singly-housed aquatic species should be provided with habitats that include visual refuge, to offer hiding places.

Social Incompatibility with members of the same species:

Socially housed animals that demonstrate severe or prolonged incompatibility should be separated to prevent chronic stress, injury, and possibly death. If possible, attempts should be made to re-pair or re-group singly housed animals with other members of the same species. If incompatible animals are identified by the PI or research personnel, they can be separated; but the veterinary staff must be notified and consulted. Direction on the continuation of single housing due to documented incompatibility should be directed by the Attending Veterinarian or their designee.

Related policies

Investigators must comply with all other institutional policies at TTUHSC El Paso and Federal Guidelines. This list includes, but is not limited to, the following:

IACUC Policy 3: Breeding Colonies
LARC Mouse Housing Density and Breeding Schemes Policy
LARC Policy on Overcrowded Cages

References

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http://www.criver.com/files/pdfs/rms/c57bl6/rm_rm_r_reducing_aggression_in-_mice_tech.aspx
4. Transgenic Animal Web, Mouse Breeding Suggestions. Transgenic Animal Model Core. University of Michigan. <http://www.med.umich.edu/tamc/breed.html>
5. Turner P. Rodent and Rabbit Welfare in the Research Environment. In: Bayne K, Turner PV. Laboratory Animal Welfare. 2014. ACLAM Medicine Series. Elsevier, London, UK; Waltham MA, San Diego CA. pg 179-180.
6. Van Loo PLP, Van Zutphen LFM, Baumans V. 2003. Male management: coping with aggression problems in male laboratory mice. Lab Anim. 37 pg 300-313
7. Vaughan LM, Dawson JS, Porter PR, Whittaker AL. 2014. Castration Promotes Welfare in Group-Housed Male Swiss Outbred Mice Maintained in Education at Institutions. JAALAS. 152:1, pg 36-43.