Environmental Enrichment and Social Housing of Laboratory Animals

Environmental Enrichment
The *Guide for the Care and Use of Laboratory Animals* recommends the use of environmental enrichment to enhance the physical and psychological well-being and to promote species-typical behavior in all laboratory animals. Public Health Service (PHS) Policy (II; IV, A, 1) requires that institutions comply with the *Guide*.

The UC IACUC considers enrichment to be an important part of animal well-being and husbandry.

- Enrichment must be conducted in such a way as to not interfere with the research results.
- Enrichment for all vertebrate animals is required unless scientifically justified.
- IACUC protocol Addendum A: Withholding Enrichment or Single Housing must be approved by the IACUC and LAMS must be notified prior to withholding enrichment:
  - The form must state:
    - the scientific justification for withholding enrichment
    - the period(s) in which enrichment will be withheld

A list of standard enrichment methods and devices will be maintained as a reference document to this policy.

- Physical materials used for enrichment must be easily sanitizable or disposable.
- The LAMS Veterinary staff will maintain the list of approved items.
  - If an enrichment item is not included in the list of approved items the PI must submit a service request for vet approval.
- If you wish to specify what enrichment can be provided based on study restriction, please submit a LAMS service request. As long as some type of enrichment is provided, IACUC approval to withhold enrichment is not needed.

Principle Investigators should consult with LAMS Veterinary Staff to determine the most appropriate form of enrichment. For enrichment devices or methods not provided by LAMS, a LAMS service request must be approved prior to use of the enrichment devices or method.

Social Housing
The *Guide for the Care and Use of Laboratory Animals* states “Single housing of social species should be the exception and justified based on experimental requirements or veterinary-related concerns about animal well-being. In these cases, it should be limited to the minimum period necessary.” “The need for single housing should be reviewed on
a regular basis by the IACUC and veterinarian.” Public Health Service (PHS) Policy (II; IV, A, 1) requires that institutions comply with the Guide.

The UC IACUC in consultation with the veterinary staff has defined social species as all species used at UC excluding reptiles (1) and amphibians (2).

Social animals must be group housed unless one of the following justifications for single housing exists:

- **Experimental Requirements:** An Addendum A: Withholding Enrichment or Single Housing must be approved by the IACUC and LAMS must be notified prior to single housing:
  - The form must state:
    - the scientific justification for single housing animals
    - the period(s) in which single housing is required

- **Veterinary health reasons:** Written veterinary approval is required, and must state:
  - the health reason for single housing the animal
  - the period(s) in which single housing is required
  - the frequency of reevaluating for health reasons

**Standard exceptions to social housing**
The IACUC recognizes that situations exist in which single housing of Non-USDA covered social species (e.g. rats and mice) may be inevitable. These include:

- separation of aggressive cage mates
- death or termination for experimental reasons of a cage mate (resulting in a singly housed animal)
- pregnant females separated to prevent overcrowding
- separation of pups at weaning when the number of pups does not allow for all animals in a litter to be placed with a compatible cage mate (single male pups for example)

The IACUC acknowledges that in these situations attempts to socially house the animals could significantly alter scientific outcomes and/or jeopardize animal welfare. The IACUC grants approval for single housing for the standard exceptions listed above. The time that an animal is kept in single housing should be minimized.

**Social well-being**
In any case, when single housing occurs, methods to ensure social well-being (enrichment) must be implemented under the direction of the veterinary staff.

- Methods for ensuring social well-being include:
  - Additional enrichment items or addition of a companion animal in the room or housing area
  - Visual, auditory, olfactory, and tactile contact with compatible conspecifics
• Positive interaction with the animal care staff
  In cases where this would interfere with the research, a request to withhold enrichment must be included on the Addendum A: Withholding Enrichment or Single.
