

**University of Cincinnati  
Animal Care and Use Program**

## **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 ACUP considers enrichment to be an important part of animal well-being and husbandry. A list of standard enrichment methods and devices is maintained as a separate guidance document, [Standard Animal Enrichment](#).

1. Enrichment must be conducted in such a way as to not interfere with the research results.
2. Enrichment for all vertebrate animals is required unless scientifically justified.
3. Husbandry exception for withholding enrichment must be approved by the IACUC: The exception must include:
  - a. a scientific justification for withholding enrichment
  - b. the period(s) in which enrichment will be withheld
4. Variations from standard enrichment:
  - a. If an enrichment item is not included in the list of approved items the Principal Investigator (PI) must submit a LAMS service request for vet approval prior to use.
  - b. Physical materials used for enrichment must be easily sanitizable or disposable.

### **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, and where possible, visual, auditory, olfactory, and tactile contact with compatible conspecifics should be provided.” “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<sup>1</sup> and amphibians<sup>2</sup>.

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

1. Experimental Requirements: A husbandry exception must be approved by the IACUC, and LAMS must be notified prior to single housing. The exception must include:
  - a. a scientific justification for single housing animals
  - b. the period(s) in which single housing is required
2. Veterinary health reasons. Examples include but are not limited to:
  - a. Animals undergoing medical treatment
  - b. Animals with poor body condition
3. Behavioral incompatibility. Examples include but are not limited to:
  - a. Adult males
  - b. Fighting animals of any gender

4. Breeding status:
  - a. Separation prior to parturition
  - b. Female rodents with litters
  - c. Male rodents being rested between matings
5. When a companion animal is not available, such as:
  - a. 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
  - b. individual housing due to attrition of cage/pen mates or uneven number of animals
  - c. last animal remaining in an experimental cohort
  - d. single animal is ordered

In some cases, keeping animals socially housed, even when they exceed or outgrow the spacing limits described in the *Guide* may benefit their social experience and quality of life. These exceptions will be based on the risk/benefit (space vs. social experience) for the animals and can be approved by the LAMS Veterinarian.

### **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.

1. Methods for ensuring social well-being include:
  - a. Additional enrichment items or addition of a companion animal in the room or housing area
  - b. Visual, auditory, olfactory, and tactile contact with compatible conspecifics
  - c. Positive interaction with the animal care staff
2. In cases where this would interfere with the research, a request to withhold enrichment must also be included in a husbandry exception.

### **References**

1. Wilson EO. 1975. Sociobiology p 438-445 (Reptiles, fish, amphibians). Belknap/Harvard.
2. Wells KD. 2007. The Ecology and Behavior of Amphibians. University of Chicago Press.