

POLICY NUMBER: A-008

TITLE: Policy on Social Housing for Laboratory Rodents and Rabbits

1.0 PURPOSE

The purpose of this policy is to ensure that rodents and rabbits are provided appropriate social housing as per the requirements listed in the Guide for the Care and Use of Laboratory Animals (the *Guide*), National Research Council, 2011.

2.0 REVISION HISTORY

R&D Committee Approval Date	Revision Number	Change	Reference Section(s)	Effective Date
February 18, 2020	1.4	Additional information on enrichment for rats	Section 7.0	February 21, 2020
February 26, 2019	1.3	No changes	N/A	February 28, 2019
February 13, 2018	1.3	No changes	N/A	February 16, 2018
March 28, 2017	1.3	Referenced ID Card guidelines; Corrected time for rabbit socialization; wording modification in Appendix	Section 5.0 Section 6.0 Appendix	March 31, 2017
April 26, 2016	1.2	Appendix added.	Appendix A	April 29, 2016
July 28, 2015	1.1	Additional provision added; Clarification of wording	Sections 5.0 Sections 5.0 and 7.0	July 31, 2015
December 10, 2013	N/A	NEW POLICY		December 12, 2013

3.0 SCOPE

This policy is applicable to all locations where laboratory mice, rats and rabbits are maintained as part of VA Pittsburgh Healthcare System (VAPHS) research.

4.0 BACKGROUND

Human considerations and current policies require that research animals, whenever possible, must have the opportunity to interact with conspecifics and to benefit from environmental enrichment.

Housing systems for laboratory animals have often been designed on the basis of economic and ergonomic aspects, with little or no consideration for the behavioral aspects of animal welfare. It is recommended that the cage environment be improved to cater for physiological and ethological needs such as resting, grooming, exploring, hiding, searching for food, and gnawing.

In addition to the physical environment, social interactions are an important factor in the overall well-being of laboratory animals. Because rats, mice and rabbits are considered social species, the *Guide* states that they

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5.0 POLICY

Laboratory rodents and rabbits must be housed in stable, compatible social groups whenever possible.

EXCEPTIONS: Singly housed animals must fall under one of the following provisions:

- 1) Scientific justification as provided in an approved Institutional Animal Care and Use Committee (IACUC) protocol
- 2) Veterinary dispensation based on documented individual health concerns or aggressive behavior (documented on an ongoing basis, unless the condition is determined to be ongoing or permanent)
- 3) Post-surgery (for up to 14 days)
- 4) Group research attrition (i.e., last remaining animal in an experimental cohort)
- 5) Male intact rabbits, due to generally aggressive social behavior in confined cage environments
- 6) Lack of other animals of the same sex with which to directly pair

Attempts will be made to pair female rabbits, however, if demonstrated to be aggressive or socially incompatible, these may also be singly housed based on veterinary dispensation. See Appendix for the Standard Operating Procedure (SOP) for the socialization of rabbits.

All singly housed animals (including pregnant females) will have appropriate enrichment provided, in addition to that standardly used, unless a scientific justification is documented in an IACUC-approved protocol or a laboratory animal veterinarian provides a medical waiver.

In instances where animals are singly housed due to fighting or any other social issue, cages will be identified with a yellow single housing justification card as to why single housing is required for a specific animal (see Guidelines: Identification Cards for Animal Cages).

6.0 GUIDELINES

- Groups of rodents or rabbits should be monitored to ensure social stability as well as the detection of behavioral and physiological abnormalities.
- Rodent groups should consist of littermates of the same sex. Female rabbits should only be paired with other females.
- Rodents should be grouped with each other before they reach puberty to minimize aggression between unfamiliar individuals.
- The optimal size for a group of adult mice is three to five for females and three for males. However, in determining group size, factors such as differences between individual animals, strain, sex, and cage size should be taken into account.
- The disruption of established social groups should be avoided.
- Separation of cage mates should be limited to less than 24 hours.
- Adult males from different groups should not be placed in the same cage.

7.0 STANDARD PROCEDURES - ENRICHMENT

- Standard mouse housing includes nestlets and polycarbonate tubes in all cages. Additional bedding supplies may be given to singly housed mice. Mice may get additional enrichment such as hide-away tunnels and running wheels with Principal Investigator approval.
- Standard rat housing includes polycarbonate tubes in all cages and cardboard tunnels that provide practical

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enrichment reducing boredom and aggression while also providing the rats with natural activity.

- Standard rabbit housing includes rubber mats, wooden tunnels for chewing and a rotation of toys. The rabbits are fed a variety of vegetables along with their rabbit diet and timothy hay weekly. The rabbits are removed from their cages two/three times weekly for 1-4 hours to socialize with each other. Rabbits may get additional enrichment including classical music.
- The animals may receive any other enrichment that the IACUC approves to be beneficial to the animals.

8.0 REFERENCES

The Guide for the Care and Use of Laboratory Animals, National Research Council, National Academy Press, 8th edition, 2011.

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Gretchen L. Haas, PhD
Research and Development Committee Chair

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Steven H. Graham, MD, PhD
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APPENDIX

Socialization of Rabbits – Standard Operating Procedure (SOP)

1. Upon arrival, the ARF staff will pair two rabbits of the same sex in a rabbit housing cage and assess compatibility. Behavior will be noted on socialization log. Adult males and retired breeders will be housed singly.
2. If the rabbits are compatible, they will be watched daily to ensure their safety and physical/mental wellbeing. If any fighting occurs, it will be documented on records maintained for each animal.
3. If the rabbits are not compatible, they will be separated. Another pairing with a different rabbit will be attempted. If these two rabbits are also not compatible, the original rabbit will be singly housed permanently, and the cage will be marked.
4. Every rabbit will have toys, treats and interaction with the ARF staff daily.
5. Compatible rabbits will be left out of their cage and are free to roam the housing room 2-3 times weekly for 1-4 hours.
6. Rabbits that are not compatible will be placed in a secured area of the room having limited interaction with the other rabbits. They will be able to have nose to nose relations, however, they will not have any other interaction with the other rabbits.
7. Treats, toys and water bottles are provided while rabbits are playing.
8. A dated socialization log will be maintained to record what rabbits are left out, the duration of time, and the compatibility displayed when animals are socialized.

This SOP is reviewed annually and subject to change according to new protocols submitted and approved by the VAPHS Institutional Animal Care and Use Committee (IACUC).