

## Guidelines for Social Housing of Social Species

**Background:** The *Guide for the Care and Use of Laboratory Animals* states, “Appropriate social interactions among members of the same species (conspecifics) are essential to normal development and wellbeing. Single housing of social species should be the exception and justified based on experimental requirements or veterinary-related concerns about animal well-being.”(1)

**Standard:**

In the NIH Intramural Research Program, social housing is the default housing method for social animals. This is required by regulation and outlined in literature for various species. (2-9)

Each IC housing social animals must develop a Standard Operating Procedure (SOP) or policy describing social housing procedures and documentation of social animals that are singly housed.

**Exceptions:**

Exceptions to the standard because of experimental requirements must be justified in the Animal Study Proposal (ASP) and approved by the Institute/Center Animal Care and Use Committee (IC ACUC). The ACUCs should keep in mind the AAALAC International position statement which states, “When necessary, single housing of social animals should be limited to the minimum period necessary and, where possible, visual, auditory, olfactory and, depending on the species, protected tactile contact with compatible conspecifics should be provided.”(10)

For all species, the justification should include whether there are intermittent periods in the study when social housing may be attempted. Intermittent social housing may be necessary due to breeding strategies, study attrition, or genotyping methods, and may vary depending on the species. Regardless of species, intermittent social housing could be considered during times such as, prior to study initiation, after study completion, or during certain phases of the study.

ASP justifications for singly housing nonhuman primates (NHPs) due to experimental requirements should address the four factors listed in ARAC Guideline [Appendix 2: Behavior Management of Nonhuman Primates](#). Briefly, these state that the ASP should:

- describe the course of the experimental portion necessitating single housing and if subsequent re-pairing /group housing is possible,
- state a plan and timeline for returning an animal to social housing after the experiment portion requiring single housing ends,
- reference working with the behavioral enrichment staff or IC facility veterinarian to employ tools that can provide the single-housed animal with an enhanced environment, maximal cohort exposure, and a quicker return to social housing if it does not interfere with the experiment, and
- address intermittent periods in the study where social housing may be attempted without interfering with the study.

While all social species should default to social housing there are extra considerations for NHPs. For NHPs, justifications for single housing must be reviewed by the ACUC not less than annually.(11)

Finally, social animals may be singly housed at the discretion of the veterinarian due to welfare concerns (e.g., incompatibility, behavioral concerns, or medical conditions). Veterinary-related welfare concerns are handled on a case-by-case basis using the professional judgment of the veterinary staff and are

documented and reviewed regularly. Veterinary-related social housing exemptions for nonhuman primates must be reviewed by the veterinarian at least every 30 days unless the exemption is based on a permanent condition.(11)

In the absence of conspecifics, additional environmental or other enrichment should be offered, and will vary depending on the species.

### **References:**

1. National Research Council. Guide for the Care and Use of Laboratory Animals: Eighth Edition. Washington, DC: The National Academies Press; 2011. 246 p.
2. Association of Primate Veterinarians' Socialization Guidelines for Nonhuman Primates in Biomedical Research. J Am Assoc Lab Anim Sci. 2019;58(6):753-4.
3. Van Loo PL, Kuin N, Sommer R, Avsaroglu H, Pham T, Baumans V. Impact of 'living apart together' on postoperative recovery of mice compared with social and individual housing. Lab Anim. 2007;41(4):441-55.
4. Yeadon J. JAX Blog [Internet]2014. [cited 2024]. Available from: <https://www.jax.org/news-and-insights/jax-blog/2014/september/six-steps-for-setting-up-timed-pregnant-mice>.
5. Krueger LD, Thurston SE, Kirk J, Elsaedi F, Freeman ZT, Goldman D, et al. Enrichment Preferences of Singly Housed Zebrafish (*Danio rerio*). J Am Assoc Lab Anim Sci. 2020;59(2):148-55.
6. Kappel S, Hawkins P, Mendl MT. To Group or Not to Group? Good Practice for Housing Male Laboratory Mice. Animals (Basel). 2017;7(12).
7. Schipper L, Harvey L, van der Beek EM, van Dijk G. Home alone: a systematic review and meta-analysis on the effects of individual housing on body weight, food intake and visceral fat mass in rodents. Obes Rev. 2018;19(5):614-37.
8. Schweinfurth MK. The social life of Norway rats (*Rattus norvegicus*). Elife. 2020;9.
9. DiVincenti L, Jr., Rehrig AN. The Social Nature of European Rabbits (*Oryctolagus cuniculus*). J Am Assoc Lab Anim Sci. 2016;55(6):729-36.
10. AAALAC. AAALAC Position Statements - Social Housing [Available from: <https://www.aaalac.org/accreditation-program/position-statements/#social>].
11. United States Department of Agriculture. USDA Blue Book: Animal Welfare Act and Animal Welfare Regulations USDA2022 [Available from: <https://www.aphis.usda.gov/media/document/17164/file>].

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