Association of Primate Veterinarians
Socialization Guidelines
For Nonhuman Primates in Biomedical Research

PURPOSE

The Association of Primate Veterinarians supports the responsible use of nonhuman primates in biomedical research. Ideally, primates should be housed in a manner that provides for expression of species-typical behaviors. Thus, it is essential to have an understanding of the behavioral biology for each species being housed in a facility. Institutions should design and implement a plan to provide for the social needs of nonhuman primates in a way that promotes their psychological well-being while being consistent with the objectives of the research. This is best achieved by supporting an active, engaged behavioral medicine program to help direct socialization, enrichment, and training of captive nonhuman primates. These guidelines are intended to provide basic information for veterinarians, animal caregivers, scientists, and institutional animal care and use committee (IACUC) or ethical review committee members to consider when designing and implementing this program.

GUIDELINES

1. Captive nonhuman primate species known to exist in social groups in nature must be socially housed in compatible pairs or groups in research facilities unless there is significant scientific justification or veterinary-related welfare concern requiring single housing. Animals in protected contact housing situations are considered to be singly housed.

   a. Scientific justification for single housing must be included in the research protocol, and reviewed and approved by the IACUC/ethical review committee.

      i. Nonhuman primates used in studies that require surgical implants, food or water scheduling or restriction, use of tethers or jackets, and/or drug dosing may be safely socially housed without compromising the validity of these studies.

      ii. The IACUC/ethical review committee should review scientific justification for single housing to ensure that nonhuman primates are singly housed for the minimum period necessary for completion of the study objectives.

   b. Veterinary-related exemptions to the social housing requirement must be reviewed and approved by the Attending Veterinarian (AV).
i. In the U.S.A., unless the condition is permanent, the AV must review these exemptions every 30 days (AWR 2008) and document their continued approval of the social housing exemption.

ii. Veterinary exemptions may be based on demonstrated incompatibility of an individual animal with multiple potential partners. The AV should use discretion when determining whether an individual is incompatible. Because individual animals may show specific cagemate preferences, multiple partners should be considered before an animal is confined permanently to single housing.

iii. An animal’s social housing history, including rearing history (where available), partners, and failed attempts, should be documented in the animal’s permanent medical record.

iv. Temporary veterinary exemption from social housing may be based upon an animal’s medical condition or prescribed treatment plan. In such a case, for a limited time, animals may be restricted from activity cages or larger enclosures.

c. When animals must be singly caged, they may require more cage space than is required for pair or group housed primates, as well as the provision of additional enrichment such as increased human interaction or periodic use of activity cages (NRC 2011). The use of protected contact in these situations may be a means of improving their environment.

2. An appropriate familiarization period that affords animals an opportunity to establish a dominant-subordinate relationship while minimizing agonistic encounters is essential to minimize injury.

a. The familiarization period should allow for animals to have visual, auditory, and olfactory contact with one another. Protected physical contact strategies may also be employed.

b. Behavioral markers of appropriate dominant-subordinate relationships should be used to help determine successful social strategies. For macaque species, these include: rump presenting, withdrawing, and fear grins in the subordinate animal and assertive postures in the dominant animal. Signs of overt fearfulness in one partner, such as screaming and cowering, may indicate incompatibility.

c. Initial incompatibility and injuries are not always indicators of outright failure for eventual pairing, but rather demonstrate the importance of having a flexible socialization protocol in which animals are given multiple opportunities to find compatible social partners. For example, a large number of ultimately compatible rhesus macaque pairs exhibit aggression after initial pairing (Reinhardt 1998).
BACKGROUND

In the U.S.A., Animal Welfare Regulations require facilities housing nonhuman primates to implement plans to address the social needs of nonhuman primates of species known to exist in social groups in nature (AWR 2008). Despite this, some research facilities continue to house nonhuman primates in single cages (Baker et al, 2007). A recent survey cited protocol concerns, incompatibility, lack of availability of appropriate housing, insufficient staff to conduct socialization, and cost as the constraints limiting social housing of nonhuman primates (Baker 2007).

The benefits of social housing to nonhuman primates have been reviewed (DiVincenti 2011). Socially housed nonhuman primates are able to cope more effectively (Gilbert 2011, Gust 1994), and they display more species-typical behaviors (Baker 2008, Crockett 1994, Doyle 2008) and less abnormal behaviors, such as hair-plucking and self biting (Bayne 1992, Novak 1991) than singly housed primates. The presence of chronic psychological distress adversely impacts animal welfare and may result in confounding results as well as increasing the numbers of animals required for biomedical research (Seelig 2007).

The new EU Directive (Directive 2010/63/EU) and the 8th edition of The Guide for the Care and Use of Laboratory Animals (NRC 2011) both emphasize the need to provide social housing for nonhuman primates as the default housing method. Scientists, laboratory animal veterinarians, animal caregivers, and IACUCs/ ethical review committees must work together to fully implement regulatory expectations to provide the most appropriate environment for captive nonhuman primates.

REFERENCES