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**UC Davis
Institutional Animal Care and Use Committee (IACUC)**

Title: *The Use of Prolonged Physical Restraint in Non-sedated Research and Teaching Animals*

I. Purpose:

The purpose of this policy is to define prolonged physical restraint and provide clarification regarding when prolonged physical restraint may be used with research and teaching animals at UC Davis. This policy *excludes* restraint used for clinical purposes.

Physical Restraint is the use of manual or mechanical means to limit some or all of an animal's normal movement for such purposes as examination, collection of samples, therapy, experimental manipulation, and drug administration. Typically, animals are restrained for brief periods of time, usually minutes, in most research and teaching applications. In some instances animals can be trained, through the use of positive reinforcement, to present limbs or remain immobile for brief procedures.

Prolonged Physical Restraint is defined by the UC Davis IACUC as physical restraint of a non-sedated animal for 30 minutes or longer in a natural position, 10 minutes or longer in an unnatural position, or any duration for any position (natural or unnatural) in which a body part is fixed. Chairing of nonhuman primates is considered prolonged restraint, regardless of duration.

A "natural position" is defined as a position in which an animal normally engages (e.g., any normal postural position for that species). An "unnatural position" is one in which the particular animal species would not typically engage, assuming it is a healthy animal.

A "fixed body part" is defined as any body part that is restrained such that normal rotational movement of that body part is not possible, such as the use of a head post for head stabilization during neurological testing procedures. (This definition is not intended to include the use of restraint devices such as a cat bag or a rodent conical restrainer for the purpose of blood collection for intervals less than 30 minutes).

II. **Policy:**

Prolonged restraint should be avoided unless it is essential for achieving protocol objectives. Justification for prolonged restraint and consideration of alternatives must be provided in the protocol, amendment, or Standard Operating Procedure (SOP) and prior approval by the IACUC must be obtained.

III. **Procedure:**

Important guidelines to consider when writing an IACUC protocol, amendment, or SOP for restraint of any duration:

- A. Restraint devices are not to be considered normal methods of housing.
- B. When restraint devices are used, they must be specifically designed to accomplish the research or teaching goals that are impossible or impractical to accomplish by other means or to prevent injury to animals or personnel.
 - 1. Alternative systems that do not limit an animal's ability to engage in normal postural adjustments (e.g., subcutaneous implantation of osmotic minipumps in rodents, backpack fitted infusion pumps in dogs and nonhuman primates, and free stall housing for farm animals) should be considered and used when compatible with research or teaching objectives.
 - 2. Restraint devices should not be used simply as a convenience in handling or managing animals.
- C. The period of restraint should be the minimum required to accomplish the research or teaching objectives.
- D. The animal must be acclimated to the restraint device and laboratory environment prior to the procedure, and provided training when appropriate to adapt to the equipment and personnel.
- E. Provision must be made for observation of the animal at appropriate intervals as defined in the protocol, amendment, or SOP.
- F. Veterinary care must be provided if lesions or illness associated with restraint are observed. The presence of lesions, illnesses, deleterious or maladaptive behavior, or other behavioral changes may necessitate

temporary or permanent removal of the animal from the restraint device.

- G. Animals that fail to adapt should not be assigned to or should be removed from the protocol.
- H. The purpose of the restraint and the duration of restraint must be clearly explained to personnel involved in the study or teaching exercise.
- I. The protocol, amendment, or SOP must include;
 - 1. A general description of the restraint device.
 - 2. Scientific justification, specific to the type of restraint proposed.
 - 3. A description of the acclimation process.
 - 4. The estimated duration of the restraint with a maximum duration stated.
 - 5. Monitoring procedures and methods used to minimize animal distress (e.g., acclimation to the device).

IV. **Resources:**

- 1. ILAR, Guide for the Care and Use of Laboratory Animals
<http://nap.edu/12910>
- 2. Guide for the Care and Use of Animals in Agricultural Research and Teaching
https://www.asas.org/docs/default-source/default-document-library/agguide_4th.pdf?sfvrsn=56b44ed1_2
- 3. Guidelines for the Care and Use of Mammals in Neuroscience and Behavioral Research
<https://www.nap.edu/catalog/10732/guidelines-for-the-care-and-use-of-mammals-in-neuroscience-and-behavioral-research>
- 4. Animal Welfare Act and Regulations
<https://www.nal.usda.gov/awic/animal-welfare-act>