



**Hunter College Animal Facility
Guidelines for Food or Fluid Restriction**

Purpose: Food and/or water restriction is sometimes necessary in studies involving behavior modification or assessment. This guide is intended to inform investigators of the pertinent IACUC policy and to aid investigators' compliance with regulations.

The Guide for the Care and Use of Laboratory Animals states the following:

"When experimental situations require food or fluid restriction, at least minimal quantities of food and fluid should be available to provide for development of young animals and to maintain long-term wellbeing of all animals. Restriction for research purposes should be scientifically justified and a program should be established to monitor physiologic or behavioral indexes, including criteria (such as weight loss or state of hydration) for temporary or permanent removal of an animal from the experimental protocol. Restriction is typically measured as a percentage of the *ad libitum* or normal daily intake or as percentage change in an animal's body weight."

"Precautions that should be used in cases of fluid restriction to avoid acute or chronic dehydration include daily recording of fluid intake and recording of body weight at least once a week or more often, as might be needed for small animals. Special attention should be given to ensuring that animals consume a suitably balanced diet because food consumption might decrease with fluid restriction. The least restriction that will achieve the scientific objective should be used. In the case of conditioned response research protocols, use of a highly preferred food or fluid as positive reinforcement, instead of restriction is recommended."

Definitions

A. Restriction: the act of limiting the amount of water or food an animal receives and when the animal receives it.

B. Fasting: the act of withholding food for a specified period of time. **The investigator is strongly encouraged to consult with the veterinary technical staff regarding species-specific adjustments to the length of fasting.**

Restriction Procedures

A. Protocol Submission- The following must be addressed in the IACUC protocol (Questions 17 and 30):

- 1) Justification for performing procedure. Scientific justification must be provided for using restriction and for the level and duration of restriction proposed.
- 2) Description of how the level of restriction will be determined for each individual animal. As per the *Guide*, the level of restriction is typically measured as a percentage of the *ad libitum* daily intake or as a percentage change in an animal's body weight. For instance, investigators may monitor and record the normal daily

intake of an animal prior to beginning a restriction protocol to determine how much food/water can be safely withheld from an individual. Please note that investigators working with young, developing animals should specifically address their use in the protocol, as these animals may have additional dietary requirements for maintaining a normal rate of growth. Standard strain-specific growth curves are available from animal vendors and may serve as an aid when designing restriction schedules for growing animals.

3) Description of the restriction schedule. Describe how the restriction will be conducted. Include details of daily schedule and describe any regular “vacations” from restriction.

4) Description of monitoring the animals. Describe who will be monitoring the animals, how often they will be observed, how often they will be weighed, the parameters that will be used to monitor their health, and criteria used to determine whether an animal should be removed from the study.

B. Record Keeping - Records must be maintained daily. At any time, records should be available for inspection by the veterinary staff, IACUC members, or regulatory representatives. A sample template record is attached to this guideline. The following items must be documented at a minimum for each animal on study:

- 1) General Information (i.e. protocol number, animal identification number, principal investigator, contact person, contact phone number)
- 2) Baseline weight (before restriction period began)
- 3) Date (daily documentation is necessary)
- 4) Total food or fluid amount per day
- 5) Initials

C. Veterinary Care – A member of the veterinary staff must be contacted when any of the following occur: weight drops below 15% of the baseline, the animal appears less active, depressed, sunken eyes, abnormal posture, animal has reduced feed or water intake (even lower than the restricted amounts), or shows signs of pain or distress.

Resources

1. *The Guide for the Care and Use of Laboratory Animals*, National Research Council
2. “Guidelines for Diet Control in Behavioral Studies”, National Institutes of Health (NIH), <http://oacu.od.nih.gov/ARAC/index.htm>

