



Policy on Food or Fluid Regulation for Scientific or Instructional Purposes

Regulation of food or fluid intake may be required for some physiological, neuroscience, and behavioral research or teaching protocols. Food and fluid regulation comes in two forms. **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. **Scheduled feeding** allows ad libitum access for a certain amount of time at regular intervals.

The development of protocols that use of food or fluid regulation requires the evaluation of three factors: the necessary level of regulation, potential adverse consequences of regulation, and methods for assessing the health and well-being of the animals. In any experimental or instructional situation in which food or fluid regulation is required, at least minimal quantities of food and fluid should be available to provide for development of young animals and to maintain long-term well-being of all animals. In addition to scientific justification and IACUC approval, food and fluid regulation protocols must include a program 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 protocol.

Precautions that should be used in cases of fluid regulation 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, commensurate with species and degree of regulation. Special attention should be given to ensuring that animals consume a suitably balanced diet because food consumption might decrease with fluid regulation.

The least restriction that will achieve the scientific or instructional 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 regulation, is recommended.

This policy does not apply to dietary control for husbandry or clinical purposes under the direction of the URAR veterinary staff.

Key Elements for Food or Fluid Regulation:

- Regulation must be scientifically justified.
- The least regulation that will achieve the scientific or instructional objective should be used.
- Objective criteria must be defined (such as weight loss or state of hydration) for temporary or permanent removal of an animal from the protocol.
- A monitoring program must be established for each animal that includes:
 - Daily observation of the animals (including weekends and holidays).
 - Maintenance of a daily log that is kept with the animals that documents:
 - Food and fluid consumption
 - Hydration status as appropriate
 - Behavioral and/or clinical changes used as criteria for temporary or permanent removal from a protocol
 - Body weight

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References:

1. NRC (2011) *Guide for the Care and Use of Laboratory Animals*. Washington D.C. National Academies Press
2. NRC (2003) *Guidelines for the Care and Use of Mammals in Neuroscience and Behavioral Research*. Washington D.C. National Academies Press.