

Clemson University
Institutional Animal Care and Use Committee (IACUC)

Policy Number: 3.3

Policy Title: Food and Fluid Restriction

Section 1: Purpose

The following policy is intended to provide information to Principal Investigators regarding considerations for food and/or fluid restriction studies and the management of animals on those studies.

Section 2: Scope

This policy applies to all vertebrate animals used for research, teaching, testing, or demonstration within or associated with the University.

Section 3: Policy

Food and/or Fluid Restriction Defined

For the purposes of this policy, food and/or fluid restriction is defined as limited, scheduled access to food or fluid sources or the restriction of the total volume of food and/or fluid available for consumption. The restriction is performed as an experimental tool and is study specific.

Consideration for the Design of Studies Involving Food and/or Fluid Restriction

- The least restriction necessary to achieve scientific objectives should be used with an emphasis on maintaining animal wellbeing. The following factors influence the amount of food and/or fluid restriction that can be tolerated by study animals:
 - species, strain/breed, gender, and age
 - thermoregulatory demand
 - housing type
 - feed characteristics such as time of feeding, nutritive value, and fiber content.
 - prior and/or additional experimental manipulation.
- The potential adverse effects from the restriction must be considered and addressed.
- Animals should be closely monitored to ensure food and fluid intake meet their nutritional requirements.
- Methods for assessing the health and well being of animals must be defined. Criteria should also be established for the temporary or permanent removal of an animal from the study if health and wellbeing are negatively impacted to an unacceptable level.
- Written records should be maintained for individual animals. These records should reflect:
 - weekly body weights
 - consumption of feed and fluid
 - hydration status

- behavioral or clinical changes

Behavioral Studies Involving Food and/or Fluid Restrictions

The degree of food or fluid restriction necessary for consistent behavioral performance is influenced by the difficulty of the task, the individual animal, the motivation required of the animal, and the effectiveness of animal training for a specific protocol related tasks. These factors must be considered when designing the study.

In the case of conditioned-response research protocols, use of a highly preferred food or fluid as positive reinforcement instead of restriction, is recommended.

Caloric Restriction as a Husbandry Technique

Management of caloric intake is an accepted practice for long-term housing of some species and serves as an adjunct to clinical, experimental, and surgical procedures. Benefits of moderate caloric restriction in some species may also include increased longevity and reproductive efficiency, and decreased obesity, cancer rates, and neurogenerative disorders. Minor feed restrictions used as husbandry techniques to better manage animals do not need special considerations during an IACUC review.