Guidelines and Policy on Food or Fluid Restriction

Food or Fluid Restriction:

*Food* – Animals should be fed palatable, uncontaminated diets that meet their nutritional and behavioral needs at least daily, or according to their particular requirements, unless the protocol in which they are being used requires otherwise (Guide page 65).

*Water* – Animals should have access to potable, uncontaminated drinking water according to their particular requirement (Guide page 67).

*Food and Fluid Regulation* - Regulation of food or fluid intake may be required for the conduct of some physiological, neuroscience, and behavioral research protocols. The regulation process may entail scheduled access to food or fluid sources, so an animal consumes as much as desired at regular intervals, or restriction, in which the total volume of food or fluid consumed is strictly monitored and controlled. The objective when these studies are being planned and executed should be to use the least restriction necessary to achieve the scientific objective while maintaining animal well-being.

The development of animal protocols that involve the 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 addition, the following factors influence the amount of food or fluid restriction that can be safely used in a specific protocol: the species, strain, or stock, gender, and age of the animals; thermoregulatory demand; type of housing; time of feeding, nutritive value, and fiber content of the diet; and proper experimental manipulation.

The animals should be closely monitored to ensure that food and fluid intake meets their nutritional needs. The *Guide* states that body weights should be recorded at least weekly and more often per IACUC approval and review for animals requiring great restriction, and written records should be maintained for each animal to document daily food and fluid consumption, hydration status, and any behavioral and clinical changes used as criteria for temporary or permanent removal of an animal from a protocol.

**Important Criterion that the IACUC will use for review:**

- The least restriction that will achieve the scientific objective should be used.
- Criteria must be defined (such as weight loss or state of hydration) for temporary or permanent removal of an animal from the experimental protocol.
- A monitoring program should be established and should include records of the following: ensuring that food and fluid intake meets nutritional needs, daily observation of the animals (including weekends and holidays), weight records, and any behavioral and clinical changes that are to be used as criteria for temporary or permanent removal for a protocol. The Animal Resource Center will provide an area on the work chart records for the PI or their staff to complete this task. Work charts are located on all animal room doors.
Body Condition charts for Mice

BC 1
Mouse is emaciated.
- Skeletal structure extremely prominent; little or no flesh cover.
- Vertebrae distinctly segmented.

BC 2
Mouse is underconditioned.
- Segmentation of vertebral column evident.
- Dorsal pelvic bones are readily palpable.

BC 3
Mouse is well-conditioned.
- Vertebrae and dorsal pelvis not prominent; palpable with slight pressure.

BC 4
Mouse is overconditioned.
- Spine is a continuous column.
- Vertebrae palpable only with firm pressure.

BC 5
Mouse is obese.
- Mouse is smooth and bulky.
- Bone structure disappears under flesh and subcutaneous fat.

A "+" or a "-" can be added to the body condition score if additional increments are necessary (i.e. ...2+, 2, 2-...)

ARC updated 3/2012
IACUC Approved:
Body Condition charts for Rats

**BC 1**
*Emaciated*
- Segmentation of vertebral column prominent if not visible.
- Little or no flesh cover over dorsal pelvis. Pins prominent if not visible.
- Segmentation of caudal vertebrae prominent.

**BC 2**
*Under conditioned*
- Segmentation of vertebral column prominent.
- Thin flesh cover over dorsal pelvis, little subcutaneous fat. Pins easily palpable.
- Thin flesh cover over caudal vertebrae, segmentation palpable with slight pressure.

**BC 3**
*Well-conditioned*
- Segmentation of vertebral column easily palpable.
- Moderate subcutaneous fat store over pelvis. Pins easily palpable with slight pressure.
- Moderate fat store around tail base, caudal vertebrae may be palpable but not segmented.

**BC 4**
*Overconditioned*
- Segmentation of vertebral column palpable with slight pressure.
- Thick subcutaneous fat store over dorsal pelvis. Pins of pelvis palpable with firm pressure.
- Thick fat store over tail base, caudal vertebrae not palpable.

**BC 5**
*Obese*
- Segmentation of vertebral column palpable with firm pressure; may be a continuous column.
- Thick subcutaneous fat store over dorsal pelvis. Pins of pelvis not palpable with firm pressure.
- Thick fat store over tail base, caudal vertebrae not palpable.