IACUC POLICY : H V W I L H O G 8 Q 6 L W Y D W L R Q

FOOD AND WATER REGULATION IN LABORATORY ANIMALS

, $ & 8 &

DEFINITION OF TERMS

Prior discussions of alteration in food and water access for laboratory animals focused on restriction. Recent adoption of the 8th Edition of the Guide for the Care and Use of Laboratory Animals (NRC 2011) has suggested that a more appropriate term is 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 (NRC 2003). 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.

PROTOCOL DEVELOPMENT

The development of animal protocols that involve the use of food or water regulation (FWR) requires the evaluation of three factors:

1. The necessary level of regulation. Describe how, why and to what extent food or water intake will be limited for animals on the study. The inclusion of a complete and accurate description of all phases of the study will assist the IACUC in its review and help to ensure that the institution remains in compliance with the Animal Welfare Act Regulations (AWARs) during its review (See Table 1)

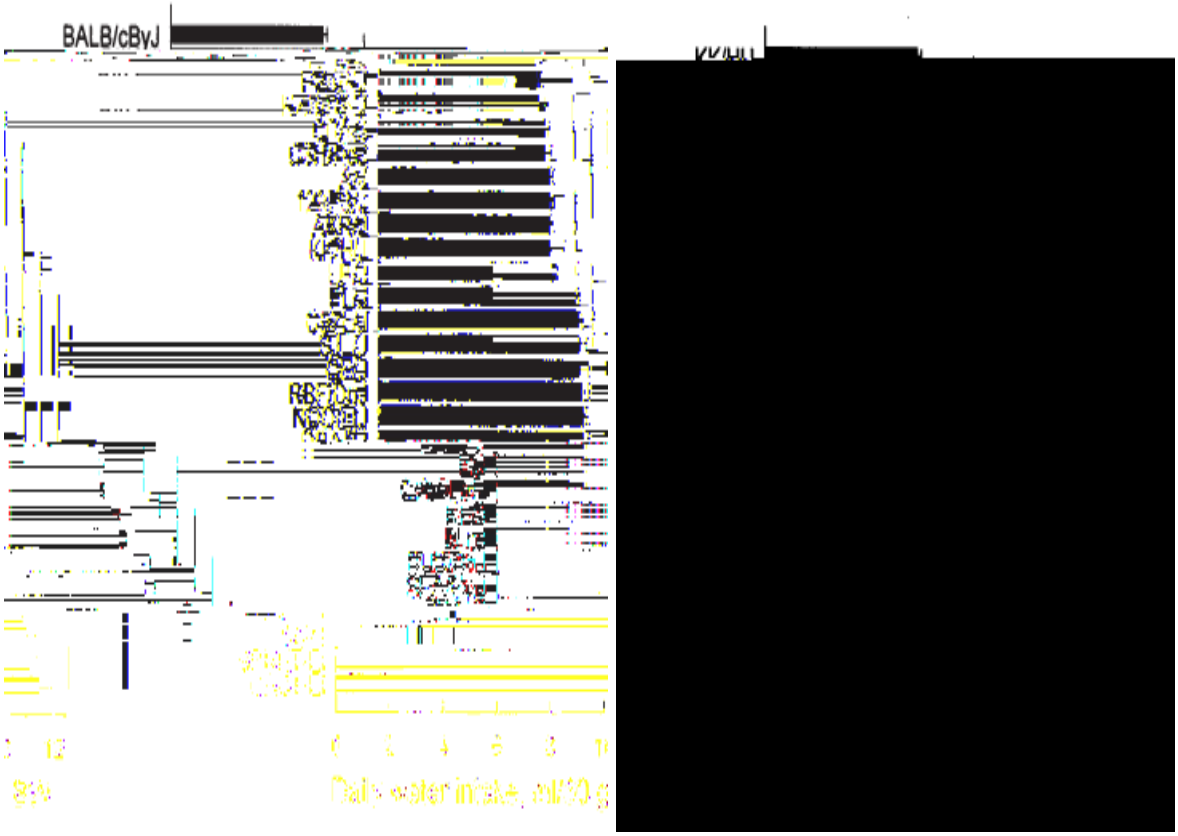
2. Potential adverse consequences of regulation. Describe, in detail, each phase of the

TABLE 1 | MINIMUM FREQUENCIES GIVEN IN THE AWARS[3] FOR FEEDING AND WATERING OF ANIMALS REGULATED UNDER THE AWA

Species	Minimum feeding frequency	Minimum watering frequency
Dogs and cats	At least once each day Section 3.9(a)	Continually available or no less than twice daily for at least 1 h each time Section 3.10
Hamsters and guinea pigs	Each day Section 3.29(a)	Daily Sect

[redacted]

Figure 2| PUBLISHED GRAPHS OF WATER AND FOOD INTAKE OF 28 COMMON MICE STRAINS



Bachmanov, A. A., Beauchamp, G. K., and Tordoff, M. G. (2002). Voluntary consumption of NaCl, KCl, CaCl2 and NH4Cl solutions by 28 mouse strains. Behav. Genet. 32:445–457

IACUC POLICY

FOOD AND WATER REGULATION IN LABORATORY ANIMALS

REFERENCES

1. Willems, Robert A., DVM (2009) Regulatory issues regarding the use of food and water restriction in laboratory animals. LabAnimal 38 (10): **325-328**

2. National Research Council (2011) Guide for the Care and use of Laboratory Animals, 8th Edition. National Academies Press.

3. National Research Council (2003) Guidelines for the Care and Use of Mammals in Neuroscience and Behavioral Research (National Academies Press, Washington, DC.)

4. Animal Welfare Act Regulations (2002) United States Department of Agriculture (APHIS)

5. Silverman, Jerald, et.al. (2007) The IACUC Handbook, 2nd Edition. CRC Press, Boca Raton, FL