

IACUC Policy on Anesthesia Machine Vaporizer Calibration

10/13/15 MW

IACUC Approved: 11/19/15	Other Approvals:
Revised and Approved:	

The Guide for the Care and Use of Laboratory Animals, 8th edition states: For anesthesia delivery, precision vaporizers and monitoring equipment (e.g., pulse oximeter for determining arterial blood oxygen saturation levels) increase the safety and choices of anesthetic agents for use in rodents and other small species.¹

The USDA Animal Welfare Act and Animal Welfare regulations § 2.33 Attending veterinarian and adequate veterinary care require: (b) Each research facility shall establish and maintain programs of adequate veterinary care that include (1) The availability of appropriate facilities, personnel, **equipment**, and services to comply with the provisions of this subchapter. (2) The use of appropriate methods to prevent, control, diagnose, and treat diseases and injuries, and the availability of emergency, weekend, and holiday care. Failure to maintain such standards could result in adverse effects for animals undergoing research and teaching.²

The Occupational Health and Safety in the Care and Use of Research Animals states: "Several occupational diseases - including cancer, spontaneous abortion, and liver disease - have been associated with exposure to waste anesthetic gases. Monitoring exposure to waste anesthetic gases in animal operating rooms" is important in ensuring the health and safety of personnel.³

Pursuant to the Guide and 2.33 AWR, the University of Hawaii IACUC requires the following:

- All anesthetic vaporizers must undergo calibration verification by a professional service technician as recommended by the manufacturer and be serviced if necessary.
- If manufacturer's recommendations are unavailable, vaporizers should be calibrated every 3 years, but no later than December of the three year cycle.
- During years that calibration is not required, verification of output should occur. This can be done by an anesthesia machine technician.
- If these deadlines cannot be met, the vaporizer should be removed from use.
- All service events are required to be documented in a designated record file or log book. The lab manager or designee must acknowledge each service event by signature and date.
- The IACUC will examine the service records and calibration dates during semiannual inspections.

References:

1. The Guide for the Care and Use of Laboratory Animals, National Research Council, 2011, National Academy Press, Washington, DC
2. Animal Welfare Act and Animal Welfare Regulations, United States Department of Agriculture, 2013
3. Occupational Health and Safety in the Care and Use of Research Animals, National Research Council, 1997, National Academy Press, Washington, DC