

**Colorado State University  
Institutional Animal Care and Use Committee  
(IACUC)**

***Policy on the Maintenance of Anesthetic Vaporizers***

It is the responsibility of the Colorado State University (CSU) Institutional Animal Care and Use Committee (IACUC) to ensure judicious and humane use of animals used in its teaching and research programs that is consistent with federal requirements. To ensure proper anesthesia for the animals undergoing inhalation anesthesia for research or teaching purposes, and to ensure the safety of personnel conducting the procedures, the following maintenance policy must be followed.

**I. Proper Flow**

In order to ensure the appropriate and adequate delivery of inhalational anesthetic agents during general anesthesia, an inspection performed by a trained technician is required of all veterinary anesthetic vaporizers utilized in Colorado State University research projects involving animal subjects. This should occur at least every two years. The inspection is to include a quantitative evaluation of the anesthetic gas concentration within the anesthetic vaporizer outflow. Should the anesthetic gas concentration deviate from the concentration predicted by the anesthetic vaporizer settings, the anesthetic vaporizer must be sent to the manufacturer or equivalent service provider to be calibrated. Machines used less than once/year should be labeled as 'out of service' and the flow re-checked prior to re-use.

**II. Machine Maintenance**

Furthermore, should an anesthetic vaporizer show signs indicative of substandard function, the machine must be immediately removed from use and serviced by a qualified technician or returned to the manufacturer for calibration. Indicators might include discoloration (yellowish-brown) in the "Fill" sight glass of a vaporizer, cracked or damaged hoses, sticking valves or knobs, or animals not responding as anticipated to the level of anesthesia provided.

**III. Personnel Safety**

For personnel safety, vaporizers should be checked for leaks prior to every use. Scavenging canisters should be replaced based on manufacturer's instructions, typically after a defined weight increase or time of use.

**Institutional Endorsement**

The "Policy on the Maintenance of Anesthetic Vaporizers" approved by the IACUC on May 25, 2021 for recommendation to the Institutional Official supports the research, teaching, and service mission of Colorado State University, and ensures that the welfare of animal subjects used therein will be protected. Therefore, as the Institutional Official, I declare the IACUC-recommended policy to be the institutional policy of the Colorado State University Animal Care and Use Program.



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Institutional Official

July 12, 2021

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Date