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**UC Davis
Institutional Animal Care and Use Committee (IACUC)**

Title: Anesthesia Machine/Vaporizer Service and Verification Guidelines

I. Purpose:

The purpose of this document is to provide guidelines regarding recommended scheduling for anesthesia machine/vaporizer calibration, and maintenance. All users are advised to follow the manufacturer's recommendations if they differ from this document.

II. Background:

Anesthesia machines and vaporizers must be in good working condition to reduce anesthetic gas leaks, to ensure the best performance of scavenging equipment, and provide the appropriate percentage of anesthetic delivery. Each piece of equipment involved in the delivery of inhalant anesthetics must be evaluated regularly to ensure appropriate function and integrity. This includes monitoring for leakage, improper design, or defects.

III. Definitions:

Service: performed by the manufacturer or qualified service agent of the vaporizer or anesthesia machine. May require the unit to be shipped to the service agent. Needs to be performed per manufacturers recommendation or if the unit fails verification.

Verification: may be performed by qualified in-house personnel. Required annually.

IV. Guidelines:

- A. **Vaporizer service:** Accuracy of anesthetic agent output from an agent-specific precision vaporizer must be verified annually or prior to use any time the vaporizer has been out of service for more than a year. If the verified delivery is $\pm 15\%$ out of calibration of the target value, the unit must be serviced by qualified personnel or the vendor.

All agent-specific precision anesthetic vaporizers must be serviced by qualified personnel or vendor at the intervals recommended by the

manufacturer. Manufacturer recommendations generally range from one to ten years depending on the model and anesthetic being used.

Discoloration (yellowish-brown) in the “Fill” sight glass of a vaporizer is an indication of need for servicing by qualified personnel or company.

B. Documentation:

1. Vaporizers: Must have a sticker with verification or service date and initials of the person who performed the verification or service. A paper copy of the results of verification or service should be available if requested.
2. Anesthetic machines and vaporizers that are in storage should be tagged “Not in use”.

V. Services available:

Below is a list of services available on campus and through private industry.

1. For verification of gas delivery concentration of anesthesia machines/vaporizers:
Campus Veterinary Services (CVS)
(530)752-0514
lahc@ucdavis.edu
2. Service Centers:
Vet Equip
1452 N Vasco Rd #303
Livermore, CA 94551
(800) 466-6463
(925) 463-1828
service@vetequip.com
www.vetequip.com

VI. Resources:

1. Occupational Health and Safety in the Care and Use of Research Animals
<https://www.nap.edu/catalog/4988/occupational-health-and-safety-in-the-care-and-use-of-research-animals>
2. UC Davis Safety Services Hazardous Materials Management and Disposal
<https://safetyservices.ucdavis.edu/units/ehs/hazardous-materials-management>