UNIVERSITY STANDARD

Title

UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
STANDARD FOR ANESTHETIC VAPORIZERS

Introduction

PURPOSE
The standards and procedures described below provide guidance to all researchers and animal handlers for maintaining safe and effective anesthetic vaporizers.

SCOPE OF APPLICABILITY
All personnel engaged in the use of anesthetic vaporizers in studies involving research animals.

The UNC-CH IACUC expects that anyone involved in animal work at the University will comply with this Standard. Requests for exceptions to this Standard must be reviewed and approved by the IACUC and/or DCM Management.

Standard

To maintain safe and effective operation, all anesthetic vaporizers must periodically be serviced by a trained professional. Service and maintenance should be performed on an established schedule, consistent with the manufacturer's recommendations. The manufacturer of your vaporizer should have recommended intervals for calibration and maintenance. Please keep a copy of the manufacturer’s service and maintenance recommendations with your vaporizer available to the IACUC for review. If no such recommendation exists, or can be documented, vaporizers must be evaluated every two years. It is the investigator’s responsibility to provide the IACUC with the manufacturer's specifications for calibration frequency. All calibrations should be documented and readily available during IACUC laboratory inspections. A sticker applied to the vaporizer by the servicing agent will document any service or calibration to a precision vaporizer. The certification label should contain the name of the servicing agent and the date of service.

Additional indications of the need for vaporizer service includes the following:
1. Discoloration (yellowish brown) in the "Fill" sight glass of a vaporizer
2. Sticking valves or knobs
3. Subjects not responding (as anticipated) to the level of anesthesia provided
4. Cracked or damaged hoses

[Note: There is a difference between services performed on-site and sending the vaporizer to the manufacturer for preventive maintenance. During most on-site calibrations, the vaporizer is checked to ensure it is delivering the amount of anesthetic as reflected by the setting. When vaporizers are sent in for preventive maintenance, a detailed maintenance is performed that includes cleaning and replacement of worn gaskets and other parts. Note that NIOSH (Health Care Workers Guidelines/Chap5) states that all anesthetic equipment must be regularly monitored for leakage, improper design, or defects. This includes the anesthesia machine as well as the vaporizer since anesthetic machines can develop improperly functioning components such as flutter valves, gaskets, and scavenging equipment.]

EXCEPTIONS
Requests for exceptions to this Standard must be reviewed and approved by the IACUC.

Definitions

IACUC: Institutional Animal Care and Use Committee
DCM: Department of Comparative Medicine
NIOSH – National Institute for Occupational Safety and Health
University Standard: The minimum acceptable limits or rules used to achieve Policy implementation, enforceable by the IACUC.

Related Requirements

EXTERNAL REGULATIONS AND CONSEQUENCES:
NIOSH – Guidelines for Protecting the Safety and Health of Health Care Workers

UNIVERSITY POLICIES, STANDARDS, AND PROCEDURES

For more detailed guidance, please refer to the University Policy on the Care and Use of Vertebrate Animals for Research, Training and Teaching Purposes.

Contact Information
Subject | Contact | Telephone | Email
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Animal Health | DCM Vet Services | 919-966-2906 |  |
Annual on campus calibration service | DCM Vet Services | 919-966-2906 |  |

### Important Dates

- Effective Date and title of Approver: 10/2018; UNC IACUC
- Revision and Review Dates, Change notes, title of Reviewer or Approver: 04/2018; UNC IACUC

Approved by: UNC IACUC

Dr. Roland Tisch  
UNC IACUC Chair  
4/2018