

## IACUC Policy on Anesthetic Gas Monitoring

### Background

Gases that leak into the environment during inhalant anesthetic procedures are referred to as waste anesthetic gases. The hazards of exposure to anesthetic gases have been documented to include sterility, miscarriage, cancer, nausea, headache, fatigue, irritability, liver and kidney disease. Safe limits of exposure have been established by OSHA and NIOSH as well as the manufacturers of the anesthetics. There are various methods used to minimize exposures. FLSC has established the following procedures to limit exposures to waste anesthetic gases.

### Procedures

1. All anesthetic machines must vent to a fume hood or through an F/air™ or other anesthetic gas scavenging canister.
2. All anesthetic gas scavenging canisters must be monitored by weight after each use. The canister is discarded when a preset increase in weight has been achieved. Canisters are weighed before use and the gram weight increase calculated for disposal. This is recorded on the canister. Canister weight and date are recorded directly on the canister after each use. When canisters reach the discard weight they must be removed from use.
3. Canisters for disposal must be placed in a leak proof container (a sealed plastic bag is sufficient). A Chemical Discard Tag will be filled out and attached to the outer container of the canister. The canisters are then placed for Chemical waste pick up by Risk Management and Safety.
4. Soda-sorb is monitored in rebreathing system anesthetic machines by hours of use. The double canister of soda-sorb is discarded after 16 hours of use irregardless of color change. The hours of use are recorded after each use on a card located on the anesthetic machine.
5. All bell jars used for inhalation anesthetic induction must be used in a fume hood vented to the outside or in a specially equipped gas scavenging hood to prevent exposure to personnel during the opening and closing of the charged chamber.
6. All bell jars must be aired in the hood to remove all anesthetic vapors prior to removal for disinfection.
7. All persons handling inhalation anesthetic must wear nitrile gloves.
8. Anesthetic bottles are aired for a minimum of 48 hours in a fume hood prior to disposal.
9. No nose cones are authorized for use without a tight seal around the face or muzzle unless the animal is placed in a fume hood during the anesthetic procedure.
10. All anesthetic machines are serviced annually. The service includes pressure testing of machine and all components to identify and repair any system leaks, calibration and verification of output of the vaporizer to ensure optimum performance.
11. The environment in surgical/anesthesia areas is monitored triennially for levels of waste anesthetic gases. The monitoring is done by the office of Risk Management & Safety at the University of Notre Dame. Risk Management & Safety will employ the method(s) they deem most appropriate to determine the exposure of employees to environmental anesthetic waste gases.
12. Risk Management will provide a copy of the testing results and a summary of the results to FLSC management.