Using Rodent Anesthesia Machines

Division of Laboratory Animal Resources
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Proper induction of inhaled Isoflurane anesthesia using a vaporizer delivery system is critical to performing humane surgery on animals. Levels of induction and surgical planes should be monitored carefully and often. Please refer to the document attached to the rodent anesthesia machine prior to the use of the machine.

The following illustrations may assist you in becoming familiar with the various parts of the anesthesia machine and associated equipment.
Training in the proper use of the DLAR Rodent Anesthesia Machines PRIOR to being able to reserve/rent one is ........ MANDATORY for new research personnel.
Typical Setup for rodent anesthesia
Component parts include...

- Small scavenger system
- Oxygen supply flow meter
- Vaporizer
- Induction chamber/Nosecone
- Delivery Flow Meters
- Induction chamber
- Induction hose
- Scavenger system
- Exhalation hose
- Tank-type Scavenger system
Vaporizers hold the anesthetic and regulate the amount of Isoflurane that is mixed with the oxygen.
The amount of Isoflurane in the vaporizer can be seen in the sight glass located on the left side as you look at the vaporizer.

The reservoir can be accessed by unscrewing the cap and filling to the required level. The vaporizer MUST BE TURNED OFF BEFORE THE CAP IS REMOVED in order to fill the reservoir. Be careful not to overfill the chamber.
The Oxygen gauge is located on the left side as you look at the machine. The hose should be connected directly to the vaporizer. The settings should be between 1.5 – 3 cm depending on whether you are using single or multiple induction.
Please be sure that all hoses are properly and securely connected before use.
Canister type of scavenging system

This system is based on the amount of weight accumulated as a result of waste gases building up in the filter media. It should be checked before and after each use of the anesthesia machine and the weight gain recorded on the canister. The canister should remain in its’ holder and not be placed on a flat surface. There are vents in the bottom to allow for circulation.
This type of scavenging system requires you to turn it on at the bottom of the canister. Please check to be sure that all exhaust hoses are in place and well connected. You will see a green indicator light come on when it is working properly.
Adjusting the Isoflurane Vaporizer

To adjust the amount of Isoflurane delivered, you must push down on the white lever and turn the knob simultaneously to the desired level. If wearing sterile gloves, remember to use sterile gauze or towels to adjust the lever. No sterile gauze is needed if your gloves are NOT sterile. The adjustment knob is automatically locked in place when you release the white lever.
The setup for two induction chamber delivery. The flow meter on the left delivers anesthesia to the induction chamber. The flow meter on the right delivers anesthesia to the nose cone.
Nose Cone
Induction Chamber
Dual Setup
Safety Precautions

- Be **EXTREMELY** cautious when using **ANY** flammable liquids or materials such as Ethanol or alcohol.
- Equipment that generates heat or risk of spark such as hot bead sterilizers or items used to cauterize should be kept away from oxygen and anesthetics such as Isoflurane.
- Be certain the scavenger system is turned on.
Fire and Explosion Danger is VERY REAL
Who To Call For Help

- Glenn Florence        257–1026
- Jason Oakes          323–6586
- Wade Washington      323–6027
- Dr. Cheryl Haughton  257–3548
- Dr. Jeanie Kincer    323–5469
- Dr. Jeff Smiley      323–0289