

LABORATORY ANIMAL FACILITIES
STANDARD OPERATING PROCEDURE
FOR
OPERATION/MAINTENANCE OF QUANTIFLEX ANESTHESIA MACHINE/
SURGIVET SAV2500 VENTILATOR UNIT

- 1.0 Purpose
This procedure outlines how to operate and maintain the Quantiflex Anesthesia machine in conjunction with the SurgiVet SAV2500 Ventilator.
- 2.0 Scope
This procedure applies to all personnel needing to operate this equipment.
- 3.0 Procedure
- 3.1 Connect anesthesia machine to oxygen supply.
- A. To wall supply by connecting green O₂ line to wall port and turn white handled lever to vertical position to turn oxygen on.
 - B. To portable E tank of oxygen connected to machine itself.
- 3.2 Place clean set of hoses (circuit) to the inspiration and expiration ports.
- 3.3 Place proper size rebreathing bag on machine (based on animal's size to be anesthetized).
- 3.4 Make sure Isoflurane vaporizer is full.
- A. To refill:
 - 1. Make sure oxygen flow rate is off.
 - 2. Unscrew cover to fill port.
 - 3. Add Isoflurane using the non spill pour spout on the bottle.
 - 4. Fill vaporizer to fill line (clearly defined in window gauge of vaporizer).
 - 5. Screw port cover back on.
- 3.5 Pressure test the machine.
- A. Close pop off valve.
 - B. Occlude circuit with finger and fill bag by pushing the flush O₂ button.
 - C. Take pressure to 25 centimeters of water or until bag is full.
 - D. Pressure should hold in machine.
 - E. Set O₂ flowmeter at 200 cc. If pressure is still falling, you must find the leak.
 - 1. Places to look for leaks include:
 - a. Inspiratory and expiratory valves.
 - b. Around the absorber.
 - c. Pop off or relief valve.
 - d. Around the vaporizer.
 - e. Hole in bag or hoses.

2. Find leak (if not obvious) by mixing a soapy solution and spraying on machine looking for air bubbles.
- 3.6 Plug in SurgiVet Ventilator to electrical outlet.
- 3.7 Attach green O₂ hose at rear oxygen port in back of ventilator to the T attachment on the anesthesia machine's oxygen port.
- 3.8 Make sure the 14" ventilator hose is connected at one end to the back port labeled bellows and the other end to the back of bellows port labeled 17mm (right side of ventilator).
- 3.9 Remove the bag from the anesthesia machine and connect the 48" supply hose. The other end is connected to the back port of the ventilator bellows labeled 22 mm.
- 3.10 The gas evacuation hose port (center in back of ventilator) should be connected to the anesthesia machine's F/air filter.
- 3.11 Set ventilator settings to start position:
 - A. Inspiratory flow should be turned completely counter clockwise, then backed off just a little. Do not tighten down.
 - B. Breaths/minute—usually 8-12 (but based on species being ventilated).
 - C. Inspiratory time arrow should be pointing at the * (at the top of the dial).
- 3.12 The external relief valve (located in back of ventilator) should be closed completely.
- 3.13 Prior to attaching your anesthesia/ventilator unit to the anesthetized patient:
 - A. Place finger over circuit end.
 - B. Slightly press the O₂ flush valve on the anesthesia machine to raise the ventilator bellows to the top of the bellows housing. (When using ascending bellows, it is necessary to raise the bellows the first time before turning on the ventilator.)
 - C. Turn the ventilator ON/OFF switch to the ON position.
- 3.14 Turn your oxygen flow rate to 1-2 L/min.
- 3.15 Turn your vaporizer on (usually 1-2% ISO).
- 3.16 Attach your circuit to the endotracheal tube of your patient.
- 3.17 Ventilation method employed is based on pressure. Therefore:
 - ***A. Watch the patient pressure manometer on your anesthesia machine and be prepared to adjust the inspiratory flow control to obtain a reading of 20 centimeters of water.
 - B. Always turn the inspiratory flow control slowly to obtain your optimal pressure.
- 3.18 Anesthesia percent changes should be based on vigilant monitoring of your anesthetized patient, using available monitoring equipment as a supplement only to actual visualization of the animal's condition.
- 3.19 When surgical procedure is complete:
 - A. Turn off gas anesthetic completely.
 - B. Allow oxygen to be ventilated into patient for at least 2 minutes.
 - C. Shut off ventilator.
 1. Watch patient closely to observe breathing on it's own volition.

2. If this does not occur within one minute, turn the ventilator back on.
 3. Continue the above steps until animal breathing oxygen without ventilator assistance.
 - D. Let animal breathe oxygen for an additional period of time until arousal signs begin:
 1. Eye reflex.
 2. Breathing faster.
 - E. Turn off oxygen, disconnect circuit from animal's endotracheal tube.
 - 3.20 Shut off oxygen source.
 - 3.21 Unplug ventilator
 - 3.22 Remove and clean anesthetic hose circuit and ventilator supply hose in mild soapy water, rinse well and allow to dry.
 - 3.23 See the Datex-Ohmeda bellows assembly manual for cleaning and sterilization of the bellows housing for the ventilator.
 - 3.24 Anesthetic machine's F/air filter should be changed regularly. See SOP 4.A.16.
 - 3.25 The anesthesia machine CO₂ absorbent should be changed every 8-12 hours of anesthetic use. (Changing should be coincided with F/air filter use.)
 - 3.26 Vaporizers are calibrated annually by Gerry Maute, the SurgiVet sales representative. 1-800-241-4224, ext. 3596.