



SUMMIT MEDICAL

Equipment Company

Premiere inhalant anesthesia systems for research and private practice veterinarians

WASTE ANESTHETIC GAS MANAGEMENT OPTIONS AND PREVENTION OF EXPOSURE TECHNIQUES -- RESEARCH

1. TRAINING

A. IT CANNOT BE OVERSTATED THAT TRAINING IS THE KEY TO LOWERING THE RISK OF EXPOSURE TO INHALANT ANESTHETICS.

1. Proper techniques and protocol

2. ANESTHESIA SYSTEM SERVICE / MAINTENANCE

B. NOT JUST THE VAPORIZER, BUT THE **SYSTEM** NEEDS TO BE INSPECTED FOR LEAKS, DAMAGED COMPONENTS, CRACKED CONDUCTIVE TUBING, PROPER WAG MANAGEMENT, ETC.

3. EMPLOYING PROPER AND PRUDENT PRACTICES

A. 10 SECOND TEST (FOR REBREATHING AND NON-REBREATHING SYSTEMS)

B. DUMPING BAG AND / OR PURGING ANESTHESIA DELIVERY APPLIANCE

C. REPLACE FACE MASK / NOSE CONE DIAPHRAGMS FREQUENTLY USING 12 MIL LATEX (NOT SURGERY GLOVE WHICH DOES NOT HAVE SUFFICIENT ELASTICITY).

1. USE PROPER COAXIAL NOSE CONE -- NOT SYRINGE CASE

2. SLIDING TOP vs. HINGED INDUCTION CHAMBER

3. HOODED INDUCTION CHAMBER



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4. FUME HOOD

- A. Not BSLII Cabinet – These re-circulate approximately 70% of the room gases.
- B. Fully vented (ducted) Chemical Fume Hood directly to outside

5. DOWNDRAFT TABLE

- A. Vented (ducted) to the outside
- B. Not the “portable” ones with Activated Charcoal without ducting to the outside
- C. Effective approximately 3” above table top @ approximately 200 cuft/min

6. SNORKEL

- A. Minimum 200 cu ft/min movement
- B. WAG Conduit needs to be close to snorkel and/or snorkel needs to be close (3”) away from delivery appliance (induction chamber or nose cone or stereotaxic nose cone) to be effective
 - 1. Can prevent operator from performing task because it is imparing access

7. ROOM AIR EXCHANGES

- A. The higher number of room air exchanges, the greater the dilution factor.

8. IN-HOUSE VACUUM

- A. IS THE DEFINITIVE FOR EFFECTIVE WAG MGMT
- B. Goes from inside room to outside building – not janitor’s closet
- C. Typically needs to be attenuated and/or have interface used



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D. Can be used without attenuation for Induction Chamber

9. NON-RECIRCULATING VENT (GOES STRAIGHT TO OUTSIDE AND DOES NOT RECIRCULATE IN THE HVAC SYSTEM)

- A. Approximate the inhalant anesthesia system to non-recirculating vent (ducted to the outside).
- B. Approximate the WAG conduit to the non-recirculating vent.

10. PASSIVE FLOW FROM INSIDE BUILDING TO OUTSIDE BUILDING

- A. Hole in wall from inside room to outside building: See Passive PVC WAG Kit

11. ACTIVATED CHARCOAL FILTERS

- A. See Jenny Smith, DVM, DACVA, "Comparison of 3 Commercially Available..."

- 1. Breakthrough
- 2. Channeling
- 3. De-sorption

- B. Needs to be weighed first, recorded, and weighed periodically.

- 1. Usually 50 gm weight gain then exhausted (OR, IN SOME CASES LESS THAN WEIGHT ON LABEL)
- 2. Moisture from exhaled breath from large species adds weight

- C. Needs to be in holder, upright, and not on side.

9. ACTIVATED CHARCOAL RESPIRATOR

- A. Uncomfortable to wear
- B. Can obstruct vision
- C. Difficult to know when it is exhausted

10. ANY COMBINATION OF ABOVE METHODS – ACT IN SYNERGY