**The Why, the When and the How of Pressure**

**Testing your Anesthesia Machine**

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**Why should you pressure test your anesthesia machine?** The anesthesia machine is one of the most important pieces of equipment used in a veterinary practice. It is vital that all the veterinary personnel know how to properly pressure test the anesthesia machine to keep staff and patients safe.

**Why is this so important**? One of the most important functions of an anesthesia machine is to provide oxygen to the patient. Depending on where a leak is located, a leak could prevent the patient from receiving adequate oxygen. The next function is to provide anesthetic agent to the patient. If there is a leak after the anesthetic vaporizer, the leak would be considered hazardous to veterinary personnel.

**When should you pressure test?** The American College of Veterinary Anesthesia and Analgesia provides recommendations for evaluating anesthetic equipment in their 2013 position statement on the control of waste anesthetic gas. 1The recommendations include “anesthesia machines and ventilators, breathing systems, and scavenging systems should be checked for leaks prior to each use.”

The reason it is important to perform a pressure test before each use is it ensures that nothing was bumped or disconnected while in use with the previous patient. This will ensure the patient and staff will be safe for each procedure.

**How do you pressure test your anesthesia machine?** Please follow these simple steps provided by Vetamac, to walk you and your staff through pressure testing your anesthesia machine:

**Follow these steps for a quick and easy check of your rebreathing system:**

 • Occlude the inspiratory, expiratory and rebreathing bag port.

 • Close the pop-off valve.

 • Using the flowmeter (DO NOT USE THE FLUSH VALVE), increase the pressure on the

 manometer to 30cm/H2O.

 Turn the oxygen off.

 • Observe the manometer for 30 seconds.

 • If the manometer remains at 30cm/H2O, the equipment is safe to use.

 If the manometer increases in pressure, there is a significant oxygen leak in the

 flowmeter or flush valve and needs to be corrected before using the machine.

 • If the manometer pressure begins to drop, set the oxygen flow at

 200cc/minute and observe the manometer.

 The pressure on the manometer should remain constant or rise.

 If the manometer continues to drop there is a leak in the equipment which needs to

 be isolated and corrected before using the machine.

 • If a leak is detected, turn off oxygen cylinder or disconnect equipment.

 Contact your Vetamac service technician for assistance.

 • VERIFY THE POP-OFF VALVE IS OPEN AFTER PRESSURE TESTING IS COMPLETE!!

 • Perform individual tests on breathing circuit & bag to detect possible leaks

 in these components.



*References:*

*1. American College of Veterinary Anesthesia and Analgesia. ACVAA Guidelines and Position Statements. Commentary and recommendations on control of waste anesthetic gas in the workplace. 2013. Available at: acvaa.org/ veterinarians/guidelines.*

*2. -Bryant, S Anesthesia Equipment. Anesthesia for Veterinary Technicians, First Edition, Ames, IA: Wiley-Blackwell Publishing,*

*3. -Dorsch, Jerry A and Dorsch Susan E. Understanding Anesthesia Equipment, “Vaporizers and Standards.”, Fifth Edition, 2008, Wolters Kluwer Health*