

Is your Anesthesia Machine Safe?

By: Michelle McConnell, LVT, VTS (A&A)

There are a few questions every anesthetist needs to ask when using an anesthesia machine to maintain patient and staff safety. Just because a machine has been in use for years does not necessarily make it safe. Also, proper yearly maintenance should be performed on the anesthesia machine to ensure all components are functioning correctly.

Does your anesthesia machine function correctly?

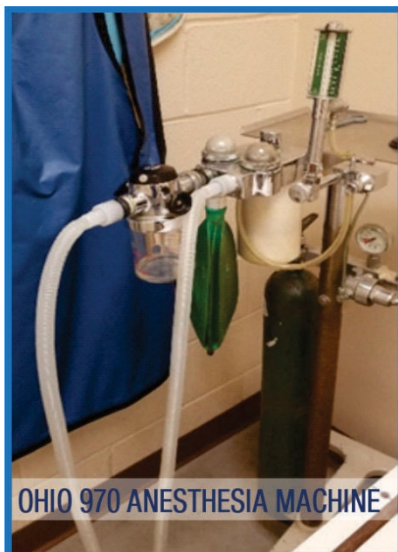
All anesthesia machines should perform the following four functions:

1. Deliver oxygen
2. Deliver anesthetic
3. Remove carbon dioxide
4. Remove waste gas (WAG)

If your anesthesia machine does not perform these above functions all attempts should be made to upgrade or obtain a new unit. Most precision vaporizers can be mounted on newer anesthesia machines by your Vetamac Technician. This might be a way to obtain a new anesthesia machine while saving money by using an older style precision vaporizer. Vetamac recommends all vaporizers be cleaned and recalibrated at least every 5 years to ensure parts inside the vaporizer are functioning properly and to maximize their life expectancy.

This is a picture of an Ohio anesthesia machine. It does not have a precision vaporizer. Vetamac does not recommend the use of non-precision vaporizers. Vetamac recommends adding a new Tec 3 style vaporizer to this machine to ensure patient safety.

Is your machine old, outdated or missing important parts?



The Ohio 970 anesthesia Machine in the picture is also missing a pressure manometer. The pressure manometer or gauge allows the anesthetist to safely perform IPPV for the patient. The pressure manometer also allows the anesthetist to perform a pressure test on the anesthesia machine ensuring there are no hazardous leaks.

A pressure test cannot be performed correctly without a pressure manometer. The machine pictured at the right has a Vetamac pressure manometer installed. This upgrade can be performed on any Ohio 970 anesthesia machine.



The pictures below are a Surgivet anesthesia machine before and after a one-way valve upgrade. Vetamac recommends upgrading from the vertical to horizontal one-way valves. The older style vertical one-way valves will allow rebreathing of CO₂. The anesthetist might even see ICO₂ or increased CO₂ levels if CO₂ is being monitored. Vetamac can perform this upgrade to your older model Surgivet machine.



Is your machine right for your veterinary patient?

The veterinary market is starting to see used human anesthesia machines. These units might seem like an economic buy from a human hospital or found on eBay but unfortunately, they are not suited for the veterinary patient. The settings in the computer systems and ventilators are set to human standards, not veterinary patients. Due to complexity of servicing the machines, the service and maintenance costs will be substantially higher. In the end, it is more economical and safer for veterinary patients to purchase a veterinary anesthesia machine.

It is the job of the anesthetist to ensure patient safety through an anesthetic episode. Ensuring your equipment is functioning and up to date will improve outcomes. All attempts should be made throughout the year to maintain anesthetic equipment.

Works cited: Veterinary Anesthesia Lumb&Jones