

## These are a few of my favorite things....

### Part one: Anesthesia Monitoring Implements

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I have a few favorite anesthesia monitoring implements for my patient vitals that I can say are tried and true for me. The purpose of monitoring patients' vitals is to maximize the safety of the anesthetic episode from start to finish. By continuously monitoring patient vitals, we can observe the patient's reaction to the anesthetic episode and any adverse reactions from anesthetics or underlying disease processes. The following have become my favorites over the years:

- 1. Your Hands and Eyes!** I believe a good anesthetist will be able to take the whole picture including physical clues the patient is sending you. You may not be able to always touch every part of your patient, but you could palpate pulses in many different areas. You can palpate the pulses to ensure they are strong and regular. My two favorites are the lingual artery located on the underside of the tongue or the dorsal pedal artery located on the dorsal aspect of the metatarsus. You can watch the chest of the patient or the anesthesia rebreathing bag for different respiratory patterns and volume of respirations. Always watch and feel your patient for clues.
- 2. IVBP via arterial catheter:** Invasive blood pressures are obtained from the placement of an arterial catheter in an artery (usually the dorsal pedal). This requires an IVBP monitor with transducer and the technical skills needed to place and maintain the catheter. This method will give you the most accurate and continuous blood pressure readings. Anything less than 70 mmHg mean pressure is considered below normal.
- 3. Capnography:** This is a noninvasive method of measuring partial pressure of carbon dioxide or PaCO<sub>2</sub>. Normal range is 35 to 45 mmHg and may be moderately higher in patients under anesthesia. The waveform can tell us many things in an anesthetized patient which include ventilation adequacy, anesthetic depth, hypo/hyper ventilation, airway obstruction, apnea and even cardiac arrest. It does take some time to learn how to interpret the wave forms and what they mean in the anesthetized patient.
- 4. NIBP via ultrasound Doppler:** This is a noninvasive method for obtaining a systolic blood pressure. An ultrasound crystal is placed on the artery and an occlusion cuff is placed above on the limb with a sphygmomanometer to obtain readings. Heart rate is amplified and can be heard from an amplifier connected to the ultrasound. Heart rate and quality can be obtained from the amplifier. Anything less than 90 mmHg is considered below normal in dogs and 100 mmHG in cats.

It is important to obtain the complete picture during an anesthetic episode and use a full arsenal of monitors and parameters. By no means should just my three favorites be used. An ECG, SPO<sub>2</sub>, oscillometric NIBP, respiratory monitor, along with any other monitoring implements should be used with every patient with every anesthetic episode to complete the full picture.

*"You see only what you look for. You recognize only what you know."* Merrill C. Sosman

## Vetamac's Standards of Care:

As with any type of equipment, preventive maintenance is important for the longevity of the system. Vetamac has researched the most common anesthetic machines used in practice and developed a preventive maintenance schedule. This service includes a list of components to replace to minimize risk of equipment failure between service dates. We have developed a specific protocol for each anesthetic machine make and model, as recommended by the equipment manufacturer, and will use as our guide to service your equipment. Our goal is to provide you peace of mind and maximize your investment with this standardized approach.

