ANIMAL EMERGENCY & SPECIALTY CENTER

Anesthesia

Is anesthesia safe?

At AESC we understand that when your pet undergoes anesthesia, you are very worried. However, we do take every possible measure to make anesthesia as safe as possible! Anesthesia related mortality (death) is very unlikely: in a study performed by Dr. Gaynor (a board certified anesthesiologist) less than 0.5% of the animals suffered a fatal complication from anesthesia. This study population included all animals undergoing anesthesia which means that the complication rate for animals undergoing routine anesthesia (without systemic disease) is even lower!

There are several preliminary and precautionary steps that should be done prior to anesthesia. First, a complete history is essential for your pet's safety and crucial to us – so please let us know of any problems that you might be aware of (systemic disease, heart disease, problems with previous anesthesia, etc). Please provide as much information as possible, even if you feel it is not related to the immediate problem. Second, our complete physical examination in conjunction with radiographs will assist in identifying your pet's anesthetic risks, such as underlying heart and lung disease. Third, blood sampling can detect underlying kidney and liver disease, which potentially affects metabolism and excretion of all anesthetic drugs (including pain medications). Finally, a urine analysis may be recommended to further assist in detecting kidney disease. All of these preliminary steps help us to choose a safe anesthetic protocol which will be tailored to your pet individually.

What happens during anesthesia?

For the majority of procedures, the following basic steps are used. Pre-Medications are administered under the skin (subcutaneously) or in the muscle (intramuscular). These act to sedate, decrease anxiety, and prevent pain sensation, as well as maintain a suitable heart rate during the surgical procedure. Once these drugs have taken effect (approximately 30-45 minutes after administration), an IV catheter is placed to allow easy access to the vein (which is why we need to clip parts of the legs as well). At the start of anesthesia, IV fluids are started; carefully selected induction drugs are given through the IV catheter. Once your pet reaches a certain "plane" of anesthesia with the induction drugs, a tube is placed in the trachea to administer oxygen and a gas inhalant, such as isoflurane. Overall, gas anesthesia is very safe and is metabolized quickly which is helpful in reducing potential risks. Your pet will remain on 100% oxygen to help with oxygenation and a gas inhalant to keep the 'anesthetic plane' throughout the surgical procedure, along with intravenous fluids and continuous pain medications. When the gas is turned off at the end of the procedure the patient is left on pure oxygen and the residual gas in the lungs is breathed out allowing the patient to "wake up."

During anesthesia, there are several parameters or physiologic functions that we monitor closely: blood pressure, body temperature, blood oxygen levels (pulse oximetry), heart rhythm and rate (electrocardiograph), and even the amount of carbon dioxide being exhaled (end tidal CO2). Detecting specific changes in these parameters can help prevent a crisis and allow intervention when necessary. All of these parameters are monitored continuously with the help of state-of-the-art equipment and our highly trained nurses. In fact, the medications and monitoring equipment used at AESC is the exact same as in human hospitals. For example, body temperature is maintained by a specialized machine called a Bair Hugger, it surrounds the patient with continuous warm air and is used in conjunction with a heated table. Your pet's blood pressure is carefully monitored through an arterial catheter generally placed in the back leg near the ankle (tarsus). This gives the ability of monitoring direct pressures and allows us to watch different waveforms or changes as they are occurring. Another invaluable machine is the ECG. It gives an uninterrupted look at the

cardiac cycle which permits us to analyze each individual part of the heartbeat. This allows quick and constant detection of any abnormalities. Our goal is to provide a safe and healthy anesthetic procedure and recovery, by maintaining all physiological parameters in a normal range.

And after anesthesia what can I expect?

Our goal is to have a safe and healthy recovery with minimal to no discomfort. In general, most animals recover quickly from the anesthesia, but can still benefit from spending one night in the intensive care at AESC. This allows us to continue the administration of IV fluids and pain medications and make sure you're your pet recovers without problems. Once your pet is able to go home you may notice your pet seems lethargic or tired for a couple days. This is not unusual, all animals react differently to pain medications, hospitalization, and anesthesia. To properly address your pet's pain we will always continue a selected course of pain medications post operatively.