

**SOUTH FEDERAL ANIMAL HOSPITAL, P.A.
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IS ANESTHESIA SAFE?

Veterinarians anesthetize animals on a daily basis. At least once a week, a pet owner expresses concern about anesthesia. Is it safe? Will my pet survive the procedure?

Modern anesthesia is very safe. The risk of a pet dying under anesthesia is less than 1%. The rare patients that are lost under anesthesia are generally emergency surgeries, when the patient's condition is extremely critical. The risk of a pet dying under anesthesia while undergoing a routine spay, neuter, dental cleaning, or mass removal is extremely low, but this risk can be affected by the anesthetic drugs used and the type of monitoring of the patient.

Can you imagine an anesthesiologist in a human hospital using either ether or chloroform in the 21st century? Of course not. But, unfortunately (and surprisingly), there are no standards of care of veterinary anesthesia, and some clinics are still using out-of-date techniques. Here is a list of questions to ask your veterinarian the next time your pet is scheduled for an anesthetic event:

- 1. Is pre-anesthetic blood work run? All patients, not just the old or sick, should have basic pre-anesthetic blood work performed checking the blood sugar, kidney values, and red blood cell count. Many animals will require more extensive pre-anesthetic blood work. Even in animals under one year old, blood work will occasionally detect abnormalities that could affect anesthesia.**
- 2. Are intravenous fluids administered during anesthesia? Many drugs used for general anesthesia tend to cause blood pressure to decrease. Intravenous fluids will combat this decrease. In addition, if there are any adverse reactions during anesthesia, an intravenous catheter allows immediate administration of emergency drugs.**
- 3. Is the pet's body temperature maintained during anesthesia? All animals, especially cats and small dogs, lose a lot of body heat under anesthesia. The resulting hypothermia can slow down the anesthetic recovery. Anesthetized pets should be placed on a recirculating warm water pad or over a warm air blanket.**
- 4. Is the pet intubated, and what anesthetic gas is used?**

Intubation means that the patient has an endotracheal tube placed through the mouth and into the trachea, through which gas anesthetic is administered. The endotracheal tube allows controlled respirations if the patient is not breathing well on his/her own, and prevents accidental inhalation of stomach contents if the pet vomits during anesthesia. Virtually every surgical procedure done in dogs and cats

requires intubation and gas anesthesia. The modern gas anesthetics are isoflurane, and sevoflurane. Methoxyflurane and Halothane are no longer used.

5. Is pain management used? Surgery hurts! It doesn't matter if the patient is a human being, a dog, or a guinea pig. Analgesia is the relief of pain, and in modern anesthetic protocols we strive for pre-emptive analgesia (blocking the pain pathways before the painful procedure starts), and balanced anesthesia (trying to block the pain pathways from as many directions as possible).

6. What monitoring techniques are used? It is critical to monitor the patient's vitals while under anesthesia to ensure that the respiratory and cardiovascular systems are functioning well, and to ensure that the patient is not under too lightly or too deeply. Most important is that someone besides the surgeon (who is occupied) is monitoring the heart rate, respiratory rate, and anesthetic depth.

Additional commonly used monitoring techniques include:

- a. An electronic electrocardiogram (EKG) to monitor the heart rhythm for arrhythmias.**
- b. A pulse oximeter to monitor the percentage oxygenation of the blood, which should be close to 100%.**
- c. A machine to monitor the blood pressure.**

Another concern that pet owners have is the cost of anesthesia. Why is it so expensive? Why does Dr. X charge \$300 for a dental procedure, while Dr. Y down the street only charges \$100? As you can see, modern anesthesia involves a lot of equipment and expertise, and this unfortunately costs money. When it comes to anesthesia, you usually get what you pay for, and cutting corners by not intubating patients, not keeping patients warm, not using intravenous catheters and fluids, or skimping on pain medications and monitoring can save money, but the price is decreased comfort and safety for your pet.

At South Federal Animal Hospital we are proud to say that all the above protocols are part of our routine anesthesia techniques.