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ANESTHESIA – GENERAL INFORMATION

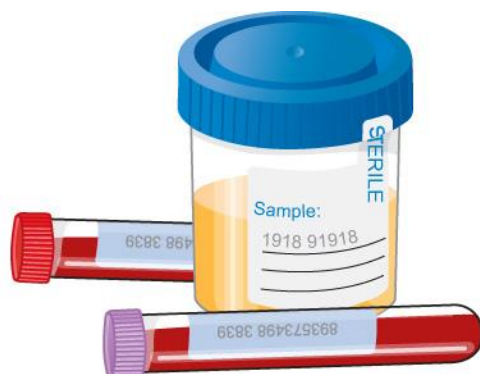
Pet owners are often very anxious about veterinary procedures that involve anesthesia. This handout was written to alleviate some of these concerns.

Anesthesia comes from the Greek word meaning “lack of sensation”. Anesthesia is accomplished by administering drugs that depress nerve function. With general anesthesia, the patient is made unconscious for a short period of time. During this unconscious state there is muscular relaxation and a complete loss of pain sensation. Other types of anesthesia include local anesthesia, such as numbing an area of skin or a tooth, and spinal anesthesia, such as an epidural block, that results in anesthesia of the spinal nerves to a particular part of the body.

What are the risks of anesthesia?

There is always risk of an adverse reaction when we use any anesthetic agent, no matter whether it is for a minor short-term sedation or for a complete general anesthesia lasting several hours. It is estimated that approximately 1 in 100,000 animals will have some sort of reaction to an anesthetic agent. These reactions may range from mild swelling at the site of injection or a mild decrease in cardiac output, to a full-blown episode of anaphylactic shock or death. However, many experts put the risk of anesthetic death as less than the risk of driving to and from the hospital to have the anesthetic procedure.

Other rare complications of anesthesia include organ system failure such as kidney liver or heart failure, visual impairment, clotting disorders and seizures. We will take every precaution to minimize these risks during your pet’s anesthesia. Only when the benefits outweigh the risks will we perform anesthesia on your pet.



Are there things that can be done to minimize the risks?

Preoperative blood tests are used to screen for subclinical problems. Certain medical conditions will increase the risk of having an anesthetic complication. These conditions include liver or kidney disease, diabetes, anemia, dehydration, and certain infectious diseases such as Feline

Leukemia and Feline Immunodeficiency Virus. Blood tests will increase the chance of detecting a hidden problem that could prove to be life threatening. In older animals, chest radiographs may be recommended to ensure that there is no pre-existing pathology in the heart or lungs that might increase the risk of an adverse reaction.

Immediate vascular access for emergency drug administration is one of the most important factors in the successful treatment of cardiovascular or respiratory failure in either the awake or the anesthetized patient. By placing an intravenous (IV) catheter and line, we ensure that we have this lifeline already in place, should the need arise. Anesthetics, fluids and emergency drugs can be administered through the IV line. Intravenous fluids help maintain blood pressure in the anesthetized patient and will replace lost fluids (during surgery, fluids are lost through evaporation from body cavity surfaces, through bleeding, and in any tissues that are being removed).

Upon completion of the procedure, intravenous fluid therapy speeds the recovery process by diluting the anesthetic agents circulating in the blood stream and by enhancing their metabolism and elimination through the liver and kidneys. Patients that receive IV fluid therapy generally wake up faster than those that do not. This risk is almost completely eliminated in patients that receive peri-operative intravenous fluid therapy. For these reasons, surgery patients should receive intravenous fluids except for certain very short procedures, in which those patients receive subcutaneous fluids.

You should ensure that the pet's complete medical history is available prior to the day of anesthesia, especially if your pet has been seen at another veterinary clinic. Important information for us to know prior to anesthetizing your pet includes the immunization status of the pet, the results of any tests for diseases such as Feline Leukemia and Feline Immunodeficiency Virus, any pre-existing medical conditions, any known drug reactions, any medications or supplements that have been given in the past few weeks, the pet's reproductive status (ie whether it has recently experienced an estrus or heat cycle), and whether any surgical procedures have been performed in the past.

Why do I have to sign an anesthetic consent form?

It is important that you fully understand what will happen to your pet, and that you acknowledge that the risks have been explained to you. We also want to be very clear on what additional procedures you would like to be done, such as implanting a microchip.



Can you describe a typical anesthesia?

All anesthesia patients are weighed on admission and then undergo a thorough pre-anesthetic examination, which includes an examination of the chest, palpation of the abdomen, and assessment of the gums (checking for hydration status and evidence of good circulatory status). The medical history will be reviewed, and additional diagnostics such as blood or urine testing, electrocardiogram (EKG) or x-rays of the chest or abdomen may be performed prior to administration of any anesthetic drugs.

In the great majority of cases we use an induction and maintenance of the anesthetized state with an anesthetic gas mixed with oxygen. In order to ensure accurate delivery of

the gas anesthetic, a breathing tube, called an endotracheal tube, is inserted into the windpipe or trachea. In addition to delivering the gas to the lungs, the endotracheal tube seals off the airway so that fluids cannot be accidentally aspirated while the patient is unconscious and unable to swallow.

How do you monitor an anesthetized cat?

Anesthetic monitoring in a veterinary hospital is similar to that found in any human hospital. Below is a list of common veterinary anesthesia monitoring equipment and personnel:

The Surgery Assistant is the most important monitor during an anesthetic procedure. The assistant is professionally trained to observe and monitor the patient throughout the entire procedure, from induction until recovery. The assistant adjusts the anesthetic levels according to the patient's vital signs and ensures that the patient remains stable throughout the procedure.

Pulse Oximetry is used to monitor the amount of oxygen in the patient's blood and the pulse rate. This instrument should always be used in conjunction with other pieces of monitoring equipment.

Electrocardiogram (ECG) is sometimes referred to as an *EKG* from the German term. It is used to observe the pattern of the heartbeat. It is very important to detect abnormal heartbeats called *arrhythmias*. If abnormal heartbeats are observed, appropriate changes in anesthesia and/or emergency medications can be administered.

Heart Rate Monitor measures the number of heartbeats per minute. This is important to monitor so that increases or decreases can be detected early and anesthetic adjustments made quickly, resulting in smoother anesthesia for our patients.

How long does it take for my cat to recover from anesthesia?

With today's anesthetics, many of which are reversible, your cat should be almost completely normal by the time of discharge. Sometimes we give medication to prevent pain, and some patients may appear quiet with this medication. However, the gas anesthesia is gone from our patients and they are usually standing within 5 minutes or so after the procedure. Most times we will monitor them in the clinic for a couple of hours to make sure their recovery from anesthesia is complete.