



General Anesthesia –

What you need to know for your pet's Dentistry Procedure

General anesthesia is a vital part of any veterinary dental treatment plan. Not only does it allow us to safely work in your pet's mouth (we'd rather keep all our fingers!), it also allows us to fully examine the entire oral cavity (including the back of the throat, under the tongue, and under the gumline where most disease is lurking). We are able to take dental x-rays quickly and without risk of hurting your pet (if they were to suddenly move we could really hurt their gum tissues). For more information on this topic, please see our FAQ on Anesthesia and so-called "anesthesia-free dentistry".

General anesthesia is also one of the most risky and complex components of treating your dog or cat's mouth, and something that we at Sacramento Veterinary Dentistry Services take very seriously. The doctors at SacVDS have had specialty training in anesthesia in order to ensure that we are using the most up-to-date methods, drugs, and techniques. We follow guidelines set out by the American Society of Anesthesiologists and the American Animal Hospital Association to make sure that we choose our anesthetic protocols and monitor our patients under anesthesia in similar ways to what you would experience at a human hospital. We value our patient's health and safety as highly as you do!

At the Consultation: In order to safely put your pet under anesthesia, they must first pass a *physical examination*. They will be weighed, have a body temperature reading taken, and have pulse rate and respiratory rates recorded. We check the color of their mucous membranes, and listen to their heart and lungs as well as feel their abdomen for normal structures. If during this first step we find any abnormalities, we may recommend further tests including chest or abdomen x-rays, further evaluation by a cardiologist, or abdominal ultrasound prior to clearing them for anesthesia.

At the Consultation or Prior to the Procedure: We recommend *bloodwork* including a complete blood count and chemistry panels on all patients prior to general anesthesia. This allows us to evaluate measurements of liver and kidney function, blood proteins, blood glucose, electrolytes, and different blood cell counts. Based on this information, we may be able to detect hidden organ dysfunction, and to alter our anesthesia protocol to make it as safe as possible. Other more specific tests may also be recommended based on the physical examination and bloodwork findings.

The night before the procedure: We recommend that every patient be fasted overnight in preparation for anesthesia so that we can minimize the risks of vomiting when they are asleep. This means feeding them their normal meal for the evening, giving their normal medications, and then *picking up all food and treats after 10pm*. Water is ok for them to receive up until the drive to the hospital in the morning. There may be certain situations where we will alter these instructions (for instance, in young puppies and kittens where prolonged periods of fasting can lead to low blood glucose), but the majority of our patients need to be fasted overnight.

The day of the procedure: When you drop your pet off between 8 and 8:30 the morning of their procedure, they will again be weighed, have their body temperature, pulse and respiratory rates recorded, and have a full physical examination. If bloodwork has not already been performed, it will be performed at this time. They will then be housed in a run until their procedure while we determine the appropriate drugs and fluids that they will receive as part of their anesthetic protocol.

Pre-anesthetic sedation: Prior to catheter placement, we will often give a medication that acts as a mild sedative and stops pain before it starts. This helps them relax, allowing us to place a catheter more easily, as well as to pre-emptively treat pain and make anesthesia smoother for our patients.

IV Catheter: Every patient has a sterile IV catheter placed in a large vein to allow us to inject anesthetic medications, other drugs, and IV fluids, allowing us to help maintain them under anesthesia more safely. The site of the vein will be clipped, cleaned, and disinfected prior to catheter placement.

Anesthesia: Induction – In order to put an animal under anesthesia, we will give them an anesthetic drug injected through their IV Catheter that will help them to relax and fall asleep, allowing us to place an endotracheal tube in their airway. This tube is important as it both allows us to administer oxygen, and anesthetic gas, as well as to prevent water and debris from being inhaled.

Anesthesia: Maintenance – We use inhalant anesthetic gas mixed with oxygen to maintain our patients under anesthesia (keep them asleep). This inhaled medication (Isoflurane) is a human anesthetic that is fast-acting, easy to fine-tune to the appropriate concentration which allows us to keep our patients at a safe depth of anesthesia, and allows our patients to wake up quickly after the procedure has been completed.

Anesthetic Monitoring: This is one of the most important parts of our job. We closely monitor your pet's vital signs and anesthetic parameters when they are under anesthesia using sophisticated electronic equipment monitored by a veterinary technician at all times during the procedure. Some of the parameters that are monitored include Heart Rate and Rhythm (EKG), Respiration, Ventilation, Blood Pressure, Body Temperature, Blood Oxygenation. By having one person dedicated to monitoring anesthesia, we can be sure to note abnormalities and treat them to maintain anesthesia safely while efficiently treating their oral disease.

Regional Anesthesia: In patients that need oral surgery, we often provide regional nerve blocks prior to the procedure using a medication similar to Novacaine. By numbing the area we are working in, we can use less general anesthesia helping them to recover more quickly, and keep our patients comfortable after the procedure.

Anesthetic Recovery: After the procedure is completed, we will continue to monitor your pet until they are awake and able to stand. The length of recovery varies depending on the patient, on the length of anesthesia, and the type of medications given. Though typically sleepy the night they go home, most of our patients are 100% back to normal (or feeling better than before!) by 1-2 days after the procedure.

Postoperative Pain Management: We use multi-modal pain management to help us control our patient's pain. This means that we use multiple agents that act through different mechanisms to reduce pain, allowing us to achieve a better level of pain control with fewer side effects. This may be in the form of a liquid, a tablet that can be disguised in food, or a topically applied medication. If your pet has had a full-mouth periodontal treatment, he or she may not need pain medications. However, if we have performed any deep cleaning, oral surgery, or other advance dental procedures, we will likely send home pain medications for the first several days after they go home.

Frequently Asked Questions:

Why is anesthesia necessary?

- Anesthesia is a necessary part of every pet's complete oral health assessment and treatment for several reasons:
 - o The majority of oral disease happens below the gum line. This disease can't be completely identified without dental x-rays and probing. Both dental x-rays and probing cannot be performed on an awake pet for their health and safety (we may injure them with our probe if they suddenly move, we would unnecessarily expose them to extra radiation if they were to move during x-rays).
 - o We can't ask our pets to stick out their tongues and not bite us when we want to look under their tongue or in the back of their mouth.
 - o Anesthesia allows us to both diagnose and treat any disease found in the oral cavity- and allows us to treat the disease where it is active- under the gumline.

What about Anesthesia-Free techniques?

- As mentioned before, Anesthesia is the only way to be able to fully examine and diagnose all the disease that can occur in your dog or cat's mouth. It is both unsafe for them and for their doctors to perform the appropriate diagnostics in an awake patient.
- In addition, Anesthesia-free "dental cleanings" usually involve heavy physical restraint while their teeth are scraped, which can be stressful, often painful, and occasionally can result in injury. Tooth scraping performed by untrained individuals on an unanesthetized patient may succeed in removing the visible build-up, but will not remove the disease-causing build-up that is under the gum-line. This leads to a false sense of security- Anesthesia-free tooth scraping does *Not* treat your pet's dental disease. These scrapings also leave the surface of the tooth damaged (Hand instruments used to scrape the teeth, especially when used improperly by untrained individuals, can cause damage to the enamel of the tooth) which allows more plaque and dental calculus to build up.
- While anesthesia-free cleanings may seem like they cost less up front, the long-term consequences of putting off diagnosing and treatment of periodontal disease can end up in far more expensive costs in the future. It breaks our hearts when dogs who have had these cleanings for years end up needing every tooth extracted due to uncontrolled periodontal disease that could have been identified and treated under anesthesia.

Is Anesthesia Safe for my Pet?

The answer to this question depends on several factors that are evaluated and confirmed prior to Sacramento Veterinary Dentistry Services putting any patient under anesthesia.

-We perform a full physical examination on every patient at their consultation and prior to their anesthesia. At this examination we check every parameter to check if they can be safely anesthetized. If we find any concerns, we may recommend certain tests to help us anesthetize your pet more safely.

-We recommend full bloodwork be performed on every patient, whether young or old, to screen for occult disease that may be anesthesia more risky.

-If based on physical examination and bloodwork your pet is deemed safe to anesthetize, we will determine what anesthetic protocol will be the safest for your pet. We make sure every pet patient is fully monitored under anesthesia with one of our technicians dedicated to monitoring. We also make sure that your pet is monitored closely until they are ready to go home. Most pets can be anesthetized safely and are 100% back to normal by the day after their procedure.

Is my pet too old for anesthesia?

Age is not a disease, and some older cats and dogs may be in better health than some young patients that have systemic concerns. When you bring your pet to Sacramento Veterinary Dentistry Services, we will evaluate your pet individually to determine their health status and whether they can be safely anesthetized. Anesthesia is individualized to each patient and even patients with health constraints can have safe anesthesia, and receive the dental care that they need. The risks of anesthesia are most often far outweighed by the benefits of what can be diagnosed and treated when anesthesia is performed safely by trained individuals.