The value of preanesthetic analysis

A systematic approach increases clients' respect, establishes baselines and protects Pets' health.

By Kristin Tondra, DVM, MS
Contributing Author

Is it important to determine anesthetic risk? If you talk to clients, most–or all–are very concerned about anesthetic risk. Even when their Pet appears healthy and the procedure is routine, clients want to be accurately informed of all risks.

The majority of clients view their Pets as family members. Studies show that about 70 percent of Pet owners think of their Pets as children.[1] Caring clients will avoid unnecessary risk. How do we best manage risk, assuring our clients–and ourselves–that we are doing everything possible to maximize patient safety? What significant steps can we take to decrease anesthetic risk now and in the future?

Using a systematic approach to preanesthetic patient evaluation is one essential step that will improve outcomes. The goals of a preanesthetic medical assessment are to:

- Decrease morbidity and mortality during surgery
- Determine the health status of a patient to minimize the risk of adverse events
- Increase quality of care while decreasing cost
- Promote a systematic and problem-oriented approach to the anesthetic procedure
- Help earn clients' trust by ensuring their Pet's safety and well-being
- Provide baseline test results for future health care when applicable.

Gathering information

The preanesthetic evaluation answers three questions for the practitioner.

1. Is the patient in the best possible condition or optimal health to undergo anesthesia?
2. Can the patient's condition be improved before the anesthetic procedure?
3. Does the health status or concurrent medication influence the anesthetic event or delay, or even cancel, the procedure?

The most important step of the preanesthetic examination is accurate determination

of the patient's health status. The preanesthetic evaluation is critical in minimizing the risk of morbidity and mortality and enabling the clinician to anticipate and possibly prevent potential complications during anesthesia.

Proper assessment of a patient's health, use of the safest anesthetic agents and diligent monitoring and support of perfusion permit most procedures to be done with reasonable safety and the desired outcome. Appropriate anesthetic protocol and support of perfusion require understanding of the overall objectives of anesthesia and surgery.

Patient evaluation

Illustrations by Christian Hammer

may reveal reasons to delay or cancel the procedure while pursuing additional testing or to reschedule the procedure until the Pet is stable, more information is presented or a more experienced team is available to manage the higher-risk patient.

A standardized, systematic approach is the best method to minimize risk (see *Evaluating preanesthetic patients*, page 30). Consistency eliminates confusion that may occur in busy hospitals with multiple doctors using different protocols. A consistent protocol also permits analysis and aids in the establishment of best practices. An evidence-based approach shows that some protocols are safer than others, and objective data further define and improve patient care. Doctors performing the preanesthetic evaluation (*i.e.*, the physical examination and medical history) will interpret their findings differently, which influences their analysis of the anesthetic process. However, our practice's large caseload provides the opportunity to perform credible outcome analysis of the entire anesthetic process.

Another goal of preanesthetic testing is the establishment of baseline data. Despite practitioners' efforts, client compliance with preanesthetic testing is still an issue. In many cases, collecting the preoperative blood sample may be the only opportunity to determine baseline clinical pathologic data. Practitioners and clients should not underestimate the value of establishing a biochemical and hematologic baseline for patients. Charting trends over time is one of the best opportunities for early diagnosis and treatment of disease. Many clients will comply with routine blood analysis if the veterinary team thoroughly explains the overall benefits.

Elements of the evaluation

A complete history and thorough physical examination are key elements of the preanesthetic examination.

The Pet's medical history alerts the clinician to important information–previous

anesthesia reactions, immunization status, chronic disease processes and parasitism, just to name a few. Clients may also provide information about genetics (von Willebrand's disease), behavior (separation anxiety) and nutritional status that can affect patient comfort or surgical outcome. The physical examination may enable clinicians to detect abnormalities, review the Pet's overall condition and confirm the goals of the procedure.

Preanesthetic laboratory screening is accepted as standard patient care, but the level of screening varies among veterinarians. Limiting this evaluation to several key parameters, such as total protein, hematocrit, ALT, BUN (Azostick) and glucose, gives some idea of the health status but can fail to offer a complete clinical picture. Minimal screening limits patient evaluation and outcome analysis. One goal is to minimize overall cost of patient care. Miniprofiles provide value but often increase long-term costs and may fall short of minimizing risk. Therefore, we support evaluating with a full CBC and biochemical profile before every anesthetic event.

Even in apparently healthy Pets, additional screening may be warranted when initial test results are not within normal limits. When abnormal values are determined, the veterinarian needs to pursue the underlying cause. Team members should secure clients' contact numbers so they can call when unexpected findings require additional testing. Further investigation may require urinalysis, electrocardiography, diagnostic imaging (radiographs, ultrasound), bile acid assays and clotting tests. Breeds predisposed to congenital abnormalities or even mixes of these breeds may benefit from more aggressive screening. For example, Shih Tzus should be screened for renal dysplasia and Maine Coon cats for hypertrophic cardiomyopathy. Preanesthetic algorithms are helpful tools to assist in patient evaluation (see pages 32, 34-35, 38).

Client connection

It is our job to ensure that clients understand that taking a medical history, conducting a physical examination and evaluating laboratory data enable the doctor to make better medical decisions. Though client input is important in making decisions, the most observant client may overlook details during the medical history that may have a significant impact during anesthesia.

Even though you have the best interests of your patients and clients in mind, you

may experience resistance from clients when requiring an apparently healthy Pet to undergo blood work before anesthesia, especially for routine procedures such as sterilization or dental prophylaxis. Clients may, and often do, question testing. Even still, it is our obligation to educate these clients about the value relative to patient safety. Visual aids help clients understand that normal organ function during anesthesia is critical, especially heart, lung, kidney and liver function. In our bond-centered practice, we strive to provide affordable, high-quality care. The values of preventive-care packages help make routine procedures more affordable. When preanesthetic testing is the standard of care, the additional volume of testing helps control cost. In reaching our goal of treating Pets like family, it is appropriate to offer a high standard of care at all times. Comprehensive patient evaluation demonstrates concern and fosters trust as well as client confidence.

Improving standards of care

The standard of care in veterinary practice is continually moving forward. Emerging scientific data clearly indicate the benefits of careful patient evaluation before anesthesia (see DataSavant article, page 18).

A decade ago, pain management was not the standard of care in veterinary practice, even though the veterinary oath has included "the relief of animal suffering" since it was adopted in 1969. Today pain management is recognized as a vital part of patient care. The expectation is that all patients are evaluated for the presence of pain and then treated accordingly. Objective data are continuously being evaluated to create universal standards for pain control, and the profession will benefit by establishing similar guidelines for preanesthetic evaluation. At Banfield, we have analyzed data generated by preanesthetic evaluations to develop evidence-based protocols that ensure the safety of our patients during anesthesia.

Some practitioners may argue that young, apparently healthy Pets do not benefit from routine preoperative screening. There is a down side to this line of reasoning. It is appropriate to analyze each patient. Clients expect our decisions to be based on their Pet's health. Services that provide clear medical benefit and maximize patient outcomes must be incorporated into the standard of care. Our clients want to minimize the risks to their Pets. Preoperative testing helps minimize risks during an anesthetic procedure. A systematic approach derived from evidence-based information will help

practitioners ensure patient safety and identify and often eliminate medical problems early in the evaluation process. There is no question that healthy patients also benefit from a thorough preanesthetic evaluation. Additionally, gathering such data serves to establish baseline information for comparison later. Using evaluation protocols will help gain the trust and respect of our clients–and ensure Pets' health.

References

1. *The 1995 AAHA Report: A Study of the Companion Animal Veterinary Services Market.* American Animal Hospital Association, Lakewood, CO;1995.

Selected Reading

1. The American College of Veterinary Anesthesiologists. Position paper on the treatment of pain in animals. Available at: www.acva.org/professional/Position/pain.htm. Accessed Jan 18, 2006.

2. Holmes MA. An Introduction to Evidence-Based Veterinary Medicine, in *Proceedings*. Northeast Veterinary Conference 2004.

3. Cockcroft PD, Holmes MA. *Handbook of Evidence-Based Veterinary Medicine*. Padstow, Cornwall, England Blackwell Publishing.

4. Short CE. Pain Management as a Standard of Practice (VET-299), in online *Proceedings*. Western Veterinary Conference 2004.

Kristin Tondra, DVM, MS, is a certified chief of staff and partner at Banfield, The Pet Hospital, in Burnsville, Minn. In 1998, she received her veterinary degree from the University of Minnesota College of Veterinary Medicine. Dr. Tondra also earned her master's of science with an emphasis on population medicine in 2001. While completing this degree, she gained practical experience in population medicine by working part time in a mixed animal practice and doing food safety consulting. Dr. Tondra joined Banfield in February 1999. She lives in Waconia, Minn., with her husband, Mike, and two cats, a dog and a short-tailed opossum.

Be a Catalyst for Team Training

As doctors, we rely on capable and efficient team members to help us be more productive and provide the highest quality of Pet care. We would like our paraprofessionals to step into our hospitals well-trained, organized and able to perform their duties on the first day of work—with little to no effort on our part. This, however, is impossible; even experienced team members still need to learn how your particular hospital runs.

Many resources exist to help veterinary practitioners develop their teams. Professional journals, continuing education conferences and reputable Web sites all provide a wealth of information that can turn an average team into a finely tuned powerhouse of efficiency and client service. Doctors who are part of a Banfield hospital have access to practice-wide training manuals, the Banfield Learning Center, field trainers and databases to assist with the process. All these tools, though, have little value unless you become a catalyst for team training.

Training is especially vital when it comes to developing excellent PetNurses. A doctor who asks questions and listens to PetNurses helps team members learn to work well together, uphold practice goals and meet clients' needs.

To become a catalyst for training, follow these steps:

1. **Target a team member for individual development.**
2. **Set appropriate expectations for that team member's learning and growth.**
3. **Use incentives and positive feedback to motivate the team member to excel.**
4. **Develop the team member through continuing education and other training resources.**

If you follow each of these steps with all of your team members, they will soon become highly efficient. They will also feel valued and satisfied with their work, which means they are more likely to stay on at your practice. By acting as a catalyst, you have the power to build a strong team and retain your best employees.

—Kathy Engler, DVM, DABVP, Director of Veterinary Career Development, Banfield, The Pet Hospital