Susan Burns, BS, RVT, VTS (Anesthesia)

Graduated from University of California at Davis in 1984

with a Bachelor of Science in Wildlife Biology.

Received Registered Veterinary Technician License in 1991.

Consultant for Pfizer Animal Health (Zoetis) November 2005 to present.

Applied for AVTA acceptance in 2009

and passed examination in October 2009.

Currently she is chairman of the AVTA exam committee.

Susan has spoken locally, statewide and nationally in the US on various anesthetic topics.

She has her own anesthetic consulting business and has been employed at East Bay Veterinary Specialist in Walnut Creek, California for the last 25 years.

Susan L. Burns

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EDUCATION

Veterinary Technician Specialty – Anesthesia	2009
California Registered Veterinary Technician	1991
BS in Wildlife Biology, University of California Davis	1984

Professional Experience

Speaking Engagements 2007-present

- **VCA-San Francisco Veterinary Specialists San Francisco, California,** *"Patient Monitoring with Multi Parameter Monitors* Oct/Nov. 2013
- **San Francisco SPCA San Francisco, California,** *"Ventilation & ETCO2"* March 2013
- **Central Veterinary Conference Kansas City, Kansas**, "*Geriatric Anesthesia: Welcome to Senior Living*", "*Pediatric Anesthesia: What You Didn't Learn in Kindergarten*" & "*Ventilation vs. ETCO2*" August 2011
- **San Francisco SPCA San Francisco, California**, "*Anesthetic SOS*" July 2011
- **San Francisco SPCA San Francisco, California**, "*Successful Everyday Anesthesia*" January 2011
- **Bishop Ranch Veterinary Center San Ramon, California**, "*Ventilation & ETCO2*" May 2010
- **Windsor Veterinary Hospital Santa Rosa, California**, *Jugular & Urinary Wet lab* January 2010
- **Windsor Veterinary Hospital Santa Rosa, California**, "*ICU Know How*" & "*Ventilation vs. ETCO2*" February 2010
- **Alameda County Veterinary Association Oakland, California**, "*Pediatric Anesthesia*" October 2009
- **San Luis Obispo Veterinary Technician Association Pismo Beach, California**, "*Pain Management*" March 2009
- **Pets Unlimited San Francisco, California**, "*EKG 101*" & *Jugular Wet lab* February 2009
- **Redwood Empire Veterinary Medical Association Santa Rosa, California** "*Pain Management*" January 2007

Published Articles

- **"Postoperative Pain Management Any Practice Can Afford"** –Firstline DVM360 Nov 2012
- **"Anesthetic Monitoring Savvy"** – Firstline DVM360 May 2012

Anesthetic Consultant 2009 – present

- Private anesthetic consultant to San Francisco SPCA July – Dec. 2011
- Consultant to hospitals on anesthetic & analgesic improvements

Pfizer Animal Health Hospital Consultant 2006 – present

- Evaluated patient care and workflow at veterinary hospitals and made recommendations to increase efficiency and improve patient care.
- Trained hospital staff members in dental radiology and urinary, jugular, and arterial catheter placement

Pfizer Animal Health TECC Program 2005 – 2009

- Power Point presentations on pain management to local veterinary hospitals

Encina Veterinary Hospital/East Bay Veterinary Specialists 2002 – present

- Present monthly anesthetic rounds to interns and staff

Guide Dogs for the Blind – Consultant (San Rafael, CA) 2001 – 2002

- Evaluated staff performances and hospital practices
- Recommended improvements to increase efficiency and patient care

PROFESSIONAL AFFILIATIONS

- Academy of Veterinary Technician Anesthetists
  AVTA Exam Chair: 2014
  AVTA Exam Committee Member: 2011-present
  AVTA Exam proctor: Sept. 2012, 2013
- National Association of Veterinary Technicians in America
- California Veterinary Medical Association
- International Veterinary Academy of Pain Management

AWARDS

- Contra Costa Veterinary Medical Association Outstanding RVT 2007

Anesthetic Power Points

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"Ventilation & ETCO2 – It's More Than Just Breathing":

Ventilation and its effects on ETCO2 will be addressed. Negative effects of dead space will be discussed as well as ventilation/perfusion mismatch. ETCO2, its meaning and implications, will be addressed along with analysis of normal and abnormal capnographs. Tidal volume and its relationship to ventilation and ETCO2 will be analyzed.

Take home message: Dead space is a problem in small patients, capnographs give vital information and patient ventilation is often necessary.

"Successful Everyday Anesthesia for the Everyday Technician: How ASA Levels Will Lead You and Your Patient to a Better and More Successful Anesthetic Outcome":

This power point will cover developing an anesthetic plan based on determination of a patient's ASA level. Monitoring the anesthetized patient's vital signs with emphasis on cardiovascular, ventilation (PaCO2 vs. ETCO2 as well as capnograph interpretation) and SPO2 parameters will be addressed. Treatment of hypotension utilizing inotropes and pressors will be discussed. The power point is a good review for technicians in private practice that have multi parameter monitors available to them or are about to purchase one.

Take home message: ASA levels are the bases for developing an anesthetic protocol, following trends is vital during anesthesia and maintaining adequate blood pressure is one of the keys to a successful anesthetic outcome.

"Pediatric Anesthesia – What You Didn't Learn in Kindergarten":

This power point will analyze physiology that is specific to the neonate/pediatric patient and how this relationship changes the anesthetic experience and outcome for this group of patients. This presentation will also cover analgesic, induction and maintenance drugs with regards to their affect on the neonate/pediatric patient. Anesthetic support, monitoring and post operative pain management will also be discussed.

Take home message: Pediatric patients are not small adults, pediatric physiology causes anesthetic/analgesic drugs to react differently and pediatric patients experience pain.

"Geriatric Anesthesia – Welcome to Senior Living":

Geriatric physiology will be discussed and how age can change the anesthetic experience/outcome for these patients. Analgesics, induction and maintenance drugs will be reviewed with regard to this group. Anesthetic support, monitoring and post operative pain management will also be discussed.

Take home message: Geriatric physiology causes anesthetic/analgesic drugs to react differently, hypoventilation is an important issue to be recognized in geriatrics and geriatric pain may also have a chronic component.

"Anesthesia SOS: A Guide for Successfully Anesthetizing the Moderately Diseased to Critical Patient":

This power point presentation will cover a brief explanation of ASA levels and how this will guide the anesthetist into selecting the appropriate drugs for the ASA 2 thru 5 patient. The presentation will also cover analgesic, induction and maintenance drugs with regards to their effectiveness and usefulness in cardiac, renal and hepatic patients undergoing anesthesia. NSAIDS and locals will also be covered. Monitoring the diseased patient with special emphasis on blood pressure, ETCO2 and hypothermia will be addressed. Pressors and inotropes will be discussed as a possible treatment option for anesthetic hypotension in the diseased patient. Finally, a variety of "go home" medications for the impaired post operative patient will be covered with emphasis on newer dosing recommendations. **This is a 2 hour lecture**

Part 1: Take home message: ASA levels will guide the anesthetists in developing an anesthetic protocol and different drug combinations can provide a safe anesthetic experience for the diseased patient.
Part 2: Take home message: Utilizing NSAIDS (when appropriate) and locals will significantly aid in decreasing post operative pain, treatment of hypotension is imperative for a successful outcome in the diseased patient and newer analgesic drugs offer many options when treating post operative pain.

Note: The next 3 Power points can be utilized for a dry lab or separated into 3 individual power points for lecture.

"Understanding your Anesthetic Machine and All the Stuff that Goes with It":

This power point will explain how all the various parts of the anesthetic machine operate including choosing the appropriate size/type of anesthetic bag, circuit and flow rate. Common and uncommon troubleshooting issues will be covered as well.
Take home message: Understanding an anesthetic machine allows the anesthetist to troubleshoot during anesthesia, calculating and selecting the appropriate anesthetic and breathing circuit size.

"Patient Monitoring with Multi parameter Monitors – Why are All These Parameters Important?"

This power point will discuss traditional and newer parameters of monitoring – ECG, SPO2, ETCO2, noninvasive and invasive blood pressure as well CVP monitoring will be covered. Abnormal waveforms and values will be covered including treatment of these abnormalities during the anesthetic period.
Take home message: Recognizing and interrupting abnormal parameters and correcting these abnormal values.

"Ventilators and Ventilation – Making the Ventilator Your Friend":

This presentation will discuss ventilation terminology and how a ventilator works. It will also identify the different ventilator components and their function during mechanical ventilation. Ventilator set up will be discussed as well as PEEPing. Ventilator troubleshooting will be covered as well.
Take home message: When and how to ventilate a patient, setting up and troubleshooting a mechanical ventilator

"Let's Get Real: Performing Affordable Pain Management in the Single Doctor or Multi Doctor Small Veterinary Practice":

This presentation will review the pain pathway and the many economical pain management drugs that are available to target specific areas of this pathway. Emphasis will be on drugs that any small veterinary practice can afford as well as new and affordable techniques and drugs that aid in better patient analgesia.
Take home message: Understanding the pain pathway to better treat pain, inexpensive drugs and techniques are available to provide great analgesia.

" Successfully Anesthetizing the Neurological Patient from Head to Tail":

This lecture will discuss neurological physiology and how neurological disease can change anesthetic protocols. Balanced anesthesia and pain management in neurologic patients will also be presented. Emphasis will placed on ETCO2 and BP monitoring as well as ventilation and its role in successfully anesthetizing the neurological patient. Post operative pain management will also be discussed.
Key Points:
1. Understanding neurological physiology and how neurological disease can affect anesthetic protocols.
2. Multi modal pain management is vital for a successful perioperative outcome.
3. ETCO2 and ventilation play an important role in successfully anesthetizing the neurological patient.

"The Heart of the Matter – Anesthetizing the Cardiac Patient":

Cardiovascular physiology will be discussed with regard to how changes in cardiac output can change the anesthetic experience/outcome for cardiac patients. Review of the different cardiac mechanical malfunctions will be discussed and how anesthetic protocols should be changed accordingly. Cardiac "friendly" anesthetic and analgesic agents will be reviewed and discussed along with anesthetic support/ monitoring of these patients during anesthesia. Post operative pain management will also be reviewed.

Key Points:

1. Understanding cardiac physiology and cardiac mechanical malfunction is a must when anesthetizing cardiac patients
2. Understanding the pharmacology of the different anesthetic agents that are utilized in cardiac patients is essential for a positive postoperative outcome.
3. Perioperative pain management in the cardiac patient is essential to aid in the reduction of other noxious anesthetic agents.

"Anesthesia on a Budget – How to Successfully Perform Anesthesia When You Are on Alpha Beta Centari": Review of basic anesthetic monitoring techniques along with inexpensive anesthetic equipment purchases will be discussed. This presentation will also review the many economical anesthetic/analgesic drugs that are available. Emphasis will be on drugs that any small veterinary practice can afford as well as new and affordable techniques and drugs that aid in better patient anesthesia & analgesia.

Key Points:

1. Good anesthetic monitoring always starts at the "hands on" level.
2. Inexpensive anesthetic equipment can be purchased to assist with anesthetic monitoring and support.
3. Many inexpensive analgesics are available to aid in perioperative pain management.

"Local and Regional Anesthetic Blocks – Why We Need Them":

Many different types of local and regional anesthetic blocks will be reviewed and discussed with regard to the positive effects these blocks can have on overall multi modal pain management and patient comfort. Diffusion soaker catheters will also be discussed.

Key Points:

1. Local and regional blocks are very effective and inexpensive and therefore are ideal in any small veterinary practice.
2. Local and regional blocks can dramatically decrease the use of other noxious anesthetic agents.
3. Perioperative pain control can be greatly increased in all patients with any type of disease.

"Hitting the Ground Running and Landing on Your Feet: Performing ASA 4/5 cases in a Busy Private Veterinary Specialty Practice"

Description: As least 2 ASA 4/5 case logs will be presented (if time permits 3). All aspects pertaining to anesthetizing the ASA 4/5 will be discussed - preoperative bloodwork, U/S, perioperative pain management, pressor and colloid utilization and MAC reduction. Developing anesthetic protocols for ASA 4/5 cases with little time is difficult. This is a common occurrence in private specialty veterinary practice and is a skill that a potential VTS anesthetic candidate should develop.

Key Points:

1. Assign an ASA level so that you know where you are going and what to set up.
2. Anticipate problems ahead of time e.g. have things set up even if they aren't in your initial anesthetic plan.
3. There are things that are beyond your control i.e. the veterinarian has final word even if you don't agree and many times you are the surgery and anesthetic technician i.e. you can't record vitals as often as is necessary, but you can still "monitor" your patient status with your eyes and ears.