Preface: Soft Tissue Surgery: Techniques and Topics for Every Practice and Experience Level xi
Nicole J. Buote

Updates in Wound Management and Dressings 289
Nicole J. Buote

Wound healing is a complex process that traverses 4 main phases which overlap and are interdependent. Many patient-related factors can impede healing by disrupting the normal pathways from one phase to the next. Wound-related factors also determine the best techniques or dressings for each patient. Species differences between cats and dogs must be understood for the successful treatment of cats. New techniques such as fish skin graft application, photobiomodulation, and bioelectric dressings hold promise as an addition to our armamentarium against wounds. NPWT, hyperbaric oxygen, regenerative medicine techniques, and low-level laser therapies yield mixed results and large-scale controlled studies are needed.

Updated Information on Gastric Dilatation and Volvulus and Gastropexy in Dogs 317
Desiree Rosselli

Gastric dilatation and volvulus (GDV) is an acute, life-threatening syndrome of dogs, particularly large and giant breeds with a deep chest conformation. Rapid diagnosis is important for prompt initiation of stabilization therapy and surgical correction. Negative prognostic factors include hyperlactatemia not responding to fluid therapy, gastric perforation, or need for splenectomy or gastric resection. Gastropexy is essential for all dogs affected by GDV, following correct gastric repositioning. Prophylactic gastropexy for at-risk breeds can be performed via minimally invasive laparoscopic surgery.

Updates in Upper Respiratory Surgery 339
Heidi Phillips

This article discusses updates in brachycephalic and other upper respiratory surgery of dogs and cats, including schemata for classifying brachycephalic dogs in terms of severity of disease and indications for monitoring and treatment, new characterizations of the primary and secondary components of brachycephalic obstructive airway syndrome (BOAS), and updates to traditional brachycephalic airway surgical procedures as well as novel surgeries to treat BOAS, including laser-assisted turbinectomy, the cardiopulmonary effects of brachycephaly on some feline breeds, epiglottic entrapment and retroversion, and upper airway syndrome in Norwich terriers.
Updates in Hepatobiliary Surgery: New Data on Portosystemic Shunts and Cholecystectomy in Dogs and Cats

Mandy L. Wallace

Advances regarding surgical treatment of hepatobiliary diseases over the past 5 years have resulted in improved outcomes and decreased mortality in veterinary patients. Options for minimally invasive treatment of intrahepatic portosystemic shunts and gallbladder disease have led to decreased morbidity with similar outcomes to open procedures. For extrahepatic portosystemic shunts, studies evaluating long-term outcome between surgical attenuation and medical management, as well as between options for surgical attenuation, are being used to direct evidence-based treatment of this congenital anomaly. In addition, evaluation of timing in surgical intervention for gallbladder mucocoeles has led to an opportunity for decreased mortality rates after cholecystectomy.

Current Concepts in Urinary Surgery

Pamela Schwartz

Management of canine and feline ureteral obstructions and urinary incontinence can be both controversial and frustrating. There has been a movement toward minimally invasive procedures, which in certain cases, can be used to both confirm the diagnosis as well as treat the condition. This chapter focuses on the advancements in urologic surgery associated with ureteral obstruction and urinary incontinence with primary focus on ureteral stenting, subcutaneous ureteral bypass systems, transurethral bulking agents, and hydraulic occluders.

Concepts in Sterilization

Sarah J. Marvel

The topic of surgical sterilization in companion animals is evolving. Although early spay and neuter has been advocated to prevent overpopulation of unwanted pets, recent research has focused on the timing of gonadectomy in relation to risk of various neoplasms, orthopedic conditions, and miscellaneous conditions. Many of these studies are breed-specific or draw from large veterinary medical databases, making it difficult to guide recommendations on the timing of sterilization across various breeds and mixed-breeds. This article attempts to synthesize the data and help guide decision making on the type and timing of sterilization procedures performed, including gonad sparing sterilization surgeries.

Current Concepts in Small Animal Gastrointestinal Surgery

Penny J. Regier

Both handsewn and stapled anastomosis techniques are performed commonly in veterinary medicine. This article discusses variations and
comparisons of these techniques with different suture patterns, suture materials, types of stapling equipment, and staple sizes along with benefits of surgical reinforcement techniques and leak testing. In addition, a minimally invasive surgical approach for gastrointestinal surgery is discussed briefly. This article also briefly highlights current research under way in determining more accurate means of assessing intestinal tissue viability, because determining when and where to resect compromised, and potentially devitalized, intestine is of utmost importance for patient outcomes.

Current Concepts in Parathyroid/Thyroid Surgery
Katy L. Townsend and Kathleen M. Ham

This article provides a review with a focus on clinical updates in treating patients with surgical parathyroid or thyroid disease. Primary hyperparathyroidism is a common cause of hypercalcemia. Patients are older and often asymptomatic, and urinary stones and urinary tract infection are common. Surgical treatment is recommended with an excellent prognosis. Thyroid tumors in dogs are the most common endocrine neoplasm. Functional thyroid testing, laryngeal examinations, and regional lymphadenectomy should be considered during surgery, along with use of vessel-sealing devices to mitigate hemorrhage. Long-term outcomes for dogs with advanced disease can be reached, so surgical resection should be an option.

Update on Adrenalectomy
Galina Hayes

Surgical removal is the standard of care for adrenal tumors greater than 2.0 cm diameter. For tumors smaller than 2.0 cm, imaging techniques evaluating patterns of contrast washout may offer a promising avenue for early identification of adrenal malignancy. Pretreatment of pheochromocytoma with phenoxycbenzamine is associated with reduced surgical mortality risk. Surgical technique can be laparoscopic or open, depending on tumor anatomy and the experience of the surgeon. Vascular invasion is a contraindication for a laparoscopic technique. This review provides a summary of minimally invasive and open adrenalectomy techniques, including a discussion of management of vascular invasion and partial cavectomy.

Current Concepts in Head and Neck Surgery
Judith Bertran and Alexander C.S. Thomson

This article is intended to “brush up” on the literature updates for the management of head and neck surgeries, particularly mandibulectomy and maxillectomy. Few new techniques have been described in the past decade in dental and oral oncological surgery. A tendency of developing more aggressive surgical strategies to treat complex oral tumors is evident from the recent veterinary literature and the emerging novel techniques for bone regeneration of maxillofacial defects. In addition, this article also focuses on the basic oral surgical oncology principles, an important part of any maxillofacial surgery.
Updates in Laparoscopy
Nicole J. Buote

Minimally invasive surgery continues to be an active area of experimental and clinical research in veterinary medicine. The advances we make in this field correspond to multiple benefits for our patients. New MIS approaches (retroperitoneal, NOTES, robotics) continue to be investigated to provide better visualization and manipulation of important anatomic structures for specific procedures. Increasing the number of MIS techniques available to our patient population is of utmost concern for clinicians and owners and is encouraging exciting new clinical research. New technologies (near-infrared fluorescence, barbed suture, 3D printing) are at the forefront of these developments.

Updates in Thoracoscopy
Valery Fairfax Scharf

Video content accompanies this article at http://www.vetsmall.theclinics.com.

Novel approaches and innovations in small animal thoracoscopy are being rapidly developed; this article aims to describe recent updates in commonly performed thoracosopic procedures, including lung lobectomy, pericardiectomy and pericardial and cardiac neoplasia evaluation, chylothorax treatment, cranial mediastinal mass resection, persistent right aortic arch treatment, and management of pyothorax and primary spontaneous pneumothorax.

Updated Concepts in Oncologic Surgery: Apocrine Gland Anal Sac Adenocarcinoma and Mast Cell Tumors
Megan Ann Mickelson

Advancements within the field of veterinary surgical oncology are constantly presenting themselves, especially with continued development of comprehensive cancer programs. With the use of more advanced imaging techniques within veterinary medicine, tumor staging is improving and techniques novel to veterinary medicine are being evaluated for potential clinical application. Recommended tumor staging and treatment approach for apocrine gland anal sac adenocarcinoma in dogs has evolved, with the anticipation of good long-term patient outcomes. Preoperative staging for mast cell tumors and recommendations for surgical margins to obtain for wide surgical excision is being reassessed by surgeons.