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Surgical oncology is experiencing rapid transition in veterinary medicine. Mast cell tumors and soft tissue sarcomas are two of the most common neoplasms in small animal patients. Clinicians should be familiar with the need for staging and the procedures involved in treating patients with these tumors. Clinicians should be comfortable with available adjuvant therapies and when to use them in certain patients.

**Facilitation of Soft Tissue Surgery: Surgical Staplers and Vessel Sealing Devices**  
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Recent advances and acceptance of various medical devices have clearly helped in the efficiency, simplicity, and effectiveness of veterinary surgery. The goals of surgery include efficient methods and minimal surgical times, delicate tissue handling techniques, confidence with tissue reconstruction, and minimizing contamination, leakage and complications. Mechanical means of suturing, cutting, and hemostasis assist with accomplishing these goals. Most recently, stapling instrumentation and vascular sealing devices have become common instruments on all levels of surgery because of their ease of use and increase in surgical efficiency.

**Current Concepts in Hepatobiliary Surgery**  
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The most common hepatic procedures performed in companion animals are liver biopsies and partial hepatectomies. Surgery of the biliary tract most often involves the gallbladder, although surgical intervention of the bile duct may also be performed. Hepatobiliary surgery is often challenging, being performed in patients with significant systemic illness and associated with potentially life-threatening complications. An in-depth understanding of the regional anatomy, use of a team concept for patient management, particularly for patients undergoing partial hepatectomy surgery, and provision of intensive perioperative monitoring and support helps minimize complications and maximize outcome.

**Current Concepts in Congenital Portosystemic Shunts**  
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Congenital portosystemic shunts (CPSS) are vascular abnormalities that allow portal blood to bypass the liver and join systemic circulation. Laboratory and imaging studies are performed preoperatively to diagnose CPSS and hopefully identify an anatomic location of the shunt. CPSS
can be found in different locations in both small and large breed dogs. Most CPSS are best managed surgically. The goal of surgical management of CPSS is to slowly redirect blood from the shunting vessel through the portal vasculature while avoiding portal hypertension. Many surgical management methods are available, including open and less invasive procedures, such as laparoscopy and embolization.

Thoracic Surgery; Important Considerations and Practical Steps 489
David Michael Tillson

Thoracic surgery is a challenge for any veterinary surgeon. A review of several important articles on topics relative to thoracotomy procedures is presented. Discussion also includes an evaluation of availability of appropriate surgical facilities, necessary equipment before undertaking thoracic surgical procedures, and the essentials and pitfalls to making an approach and effectively closing the thoracic cavity of a dog or cat. This article reviews the 3 primary types of thoracotomy: lateral (intercostal) thoracotomy, median sternotomy, and transdiaphragmatic thoracotomy. Essential anatomy, surgical approach, and various techniques to ensure effective and durable thoracotomy closure are presented.

Current Concepts in Minimally Invasive Surgery of the Abdomen 507
Milan Milovancev and Katy L. Townsend

Minimally invasive surgery of the abdomen constitutes an increasingly common and developed set of surgical options in small animal veterinary patients. In addition to established procedures, such as laparoscopic gonadectomy and biopsies, more advanced procedures, such as adrenalectomy, cholecystectomy, cisterna chyli ablation, and lymph node extirpation, are described. Some laparoscopic procedures have been reported using different techniques or approaches, reflecting the field’s progression beyond its infancy. Advances in equipment and experience among an ever-growing group of veterinary surgeons are expected to result in progressively more widespread adoption of minimally invasive procedures.

Current Concepts in Minimally Invasive Surgery of the Thorax 523
MaryAnn Radlinsky

Thoracoscopy is a technique that has been shown to decrease patient morbidity and is rapidly becoming more diversely applied for diagnostic and therapeutic interventions in veterinary medicine. This article describes the basic equipment and application of thoracoscopy in small animal surgery. The diagnostic and therapeutic applications are introduced and briefly described.

Current Concepts in Wound Management and Wound Healing Products 537
Jacqueline R. Davidson

Current concepts in wound management are summarized. The emphasis is on selection of the contact layer of the bandage to promote a moist wound environment. Selection of an appropriate contact layer is based on the stage of wound healing and the amount of wound exudate. The
contact layer can be used to promote autolytic debridement and enhance wound healing.

**Current Concepts in Negative Pressure Wound Therapy**

Lisa M. Howe

Negative pressure wound therapy (NPWT) is becoming recognized in veterinary medicine as a viable option for the management of complex wounds. NPWT has many advantages over traditional wound care and results in quicker and improved wound healing in many instances. This article discusses the art and science of NPWT, as well as the many current indications, complications, advantages and disadvantages, and future directions of NPWT in small animal veterinary medicine. This therapy will likely have a growing role in veterinary medical practice for complicated wound management and other usages in coming years.

**Antimicrobial Considerations in the Perioperative Patient**

Dawn Merton Boothe and Harry W. Boothe Jr

Surgical site infections are among the complications that can be reduced with the timely implementation of appropriate antimicrobial therapy. A 3-D approach to judicious antimicrobial use focuses on the de-escalation of systemic antimicrobial therapy, design of dosing regimens, and decontamination of the surgeon, patient, and environment. De-escalation can be accomplished in part through proper antimicrobial prophylaxis. Dosing regimens should be designed to maximize efficacy and minimize resistance. Decontamination includes disinfection of inanimate surfaces and timely application of appropriate antiseptics at concentrations that maximize efficacy.