

Contents

Preface	ix
MaryAnn G. Radlinsky	
Equipment and Instrumentation in Veterinary Endoscopy	817
Stephen J. Van Lue and Anne P. Van Lue	
Endoscopic procedures are minimally invasive in nature, and have been found to decrease the postoperative stress response and postoperative pain compared with similar procedures performed by an open approach. There is an ongoing effort to make minimally invasive surgery even less invasive through research and the development of new and improved medical devices. This article provides a general overview of the necessary equipment and instrumentation that will assist practitioners in making decisions for the incorporation of endoscopy/endoscopic surgery into their practice.	
Anesthesia for Endoscopy in Small Animals	839
Ann B. Weil	
This article discusses considerations for general anesthesia for various endoscopic procedures in small animals. Specific drug and monitoring recommendations are made. Special physiologic concerns of individual procedures affecting the anesthetized patient are discussed.	
Diagnostic Rigid Endoscopy: Otoscopy, Rhinoscopy, and Cystoscopy	849
Clarence A. Rawlings	
Diagnostic examinations are markedly improved by using rigid endoscopy in the ear, nasal cavity, and urinary tract. This article presents the procedure, equipment, indications, and examples of abnormalities of rigid endoscopy in these areas. Textbooks, "hands-on" courses, and in-hospital training are methods for learning about these techniques and their applications. In addition to improving diagnostics, endoscopy can also be used for therapy in these three body areas.	
Airway Evaluation and Flexible Endoscopic Procedures in Dogs and Cats: Laryngoscopy, Transtracheal Wash, Tracheobronchoscopy and Bronchoalveolar Lavage	869
Kate E. Creevy	
Flexible endoscopy is a valuable diagnostic approach to the upper and lower respiratory tract, because it allows direct visualization and sample collection. Techniques requiring a range of specialized equipment and	

varying levels of experience have been developed to access and evaluate each anatomic region. Familiarity with appropriate indications for each procedure and normal appearance, cytology, and culture results from each region will enhance diagnostic success.

Flexible Endoscopy in Small Animals

881

Steffen Sum and Cynthia R. Ward

Flexible endoscopy is a valuable tool for the diagnosis of many small animal digestive tract diseases. This article provides a basic introduction to small animal gastrointestinal endoscopy including its diagnostic advantages as well as its limitations and complications. Although proficiency in endoscopic techniques can only be obtained through many hours of practice, this article should also encourage and stimulate the novice endoscopist.

Gastrointestinal Laparoscopy in Small Animals

903

Lynetta J. Freeman

Since 1999, when the author first described the research and potential applications of minimally invasive gastrointestinal surgery in animals, veterinarians have begun to apply some of these techniques in treating client owned animals. Minimally invasive surgery is advocated with diagnostic, prophylactic, and therapeutic intent. There has been a transition from a minimally invasive caseload toward the expansion of diagnostic procedures, adoption of prophylactic procedures (such as lap-assisted gastroscopy), and performing more difficult therapeutic procedures. Small animal patients benefit from reduced tissue trauma and experience a rapid recovery. In this article, current research and minimally invasive gastrointestinal procedures in animals are discussed.

Advanced Laparoscopic Procedures (Hepatobiliary, Endocrine) in Dogs and Cats

925

Philipp D. Mayhew

This article discusses several advanced laparoscopic procedures that have now been described in clinical veterinary patients. Laparoscopic-assisted cholecystostomy tube placement, laparoscopic cholecystectomy, and adrenalectomy can all be performed safely and efficiently. Case selection guidelines as well as indications, techniques, and possible complications are discussed in detail.

Complications and Need for Conversion to Laparotomy in Small Animals

941

Janet Kovak McClaran and Nicole J. Buote

Laparoscopic procedures provide the advantage of decreased patient morbidity with improved visualization and rapid patient recovery. Complications associated with laparoscopic procedures are discussed. Conversion to open laparotomy may depend on a variety of factors related to the

patient, procedure, and surgeon. There are few contraindications for performing laparoscopic procedures, but complications or conversions to an open laparotomy may be expected in a percentage of patients.

Small Animal Exploratory Thoracoscopy **953**

Chad Schmiedt

Exploratory thoracoscopy in small animal veterinary medicine is, compared with an open exploratory thoracotomy, a minimally invasive diagnostic procedure with several benefits. Specific indications, patient positioning, and anesthetic considerations are discussed, as well as instrumentation and general techniques for endoscopic intrathoracic exploration and biopsy.

Interventional Thoracoscopy in Small Animals **965**

Eric Monnet

Thoracoscopy is a minimally invasive technique for viewing the internal structures of the thoracic cavity. The procedure uses a rigid telescope placed through a portal and positioned in the thoracic wall to examine the contents of the pleural cavity. Once the telescope is in place, either biopsy forceps or an assortment of surgical instruments can be introduced into the thoracic cavity through adjacent portals in the thoracic wall to perform various diagnostic or surgical procedures. The minimal invasiveness of the procedure, the rapid patient recovery, and the diagnostic accuracy make thoracoscopy an ideal technique compared with other more invasive procedures. This article discusses the use of interventional thoracoscopy (an emerging surgical technique) in veterinary surgery to perform pericardial window, subtotal pericardiectomy, or lung lobectomy to correct vascular ring anomalies, to ligate patent ductus arteriosus and the thoracic duct, and to aid in the treatment of pyothorax. Most procedures are performed under thoracoscopy, and some procedures can be thoracoscopically assisted.

Complications and Need for Conversion from Thoracoscopy to Thoracotomy in Small Animals **977**

MaryAnn G. Radlinsky

Thoracoscopy is useful for the diagnosis and treatment of many conditions in veterinary patients. It decreases patient morbidity and improves visualization and lighting of structures within the thorax due to the magnification and lighting adjacent to the structures evaluated. The complications of thoracoscopy are described, as is the need for converting to an open thoracotomy. Complications and the need for conversion depend on the patient and the procedure performed. Procedural complications are not discussed unless they specifically relate to thoracoscopy. As confidence is gained with thoracoscopy, the need for conversion may decrease over time. However, conversions may be required more often as the degree of difficulty of thoracoscopic procedures increases.