Advances in
Equine Laparoscopy
This book is accompanied by a companion website:

www.wiley.com/go/ragle

The website includes:

• Video clips demonstrating selected techniques
Advances in
Equine Laparoscopy

Edited by
Claude A. Ragle
Dedication

This book is dedicated to my colleagues in laparoscopy who shared so generously to enrich our knowledge to care for the horse.
Contents

Contributors ix
Foreword xi
John P. Walmsley
Foreword xv
Mark D. Markel, Chair of the Board of Trustees ACVS Foundation
Preface xvii
Acknowledgment xix

Section I Laparoscopic Skills and Instrumentation 3

1 Foundations of Laparoscopy 5
   John P. Caron

2 Fundamental Laparoscopic Skills 13
   Claude A. Ragle and Boel A. Fransson

3 Suturing and Knot-Tying Techniques 21
   Fabrice Rossignol and Josef Boening

4 Fundamentals of Energy Sources 35
   Scott E. Palmer

5 Reusable Equipment 41
   Christopher J. Chamness

6 Disposable Equipment 57
   John C. Huhn

Section II Laparoscopy in the Standing Horse 69

7 Sedation and Analgesia in the Standing Horse 71
   Tamara Grubb

8 Diagnostic Techniques 83
   Dean A. Hendrickson

9 Evaluation of Horses with Signs of Acute and Chronic Abdominal Pain 93
   Andreas Klohnen

10 Closure of the Nephrosplenic Space 119
    Michael Roecken

11 Adhesiolysis 129
    Dean A. Hendrickson and Kayla Cochran

12 Mesenteric Rent Repair 135
    Dean A. Hendrickson

13 Cryptorchidectomy 139
    Dwayne H. Rodgerson

14 Peritoneal Flap Hernioplasty Technique for Preventing the Recurrence of Acquired Strangulating Inguinal Herniation in the Stallion 149
    Hans Wilderjans
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Inguinal Hernioplasty Using Cyanoacrylate</td>
<td>161</td>
<td>Fabrice Rossignol, Céline Mespoulhes-Rivière, and Josef Boening</td>
</tr>
<tr>
<td>16</td>
<td>Intersex Gonadectomy</td>
<td>167</td>
<td>Donna L. Shettko and Dean A. Hendrickson</td>
</tr>
<tr>
<td>17</td>
<td>Bilateral Ovariectomy in the Mare</td>
<td>177</td>
<td>Claude A. Ragle</td>
</tr>
<tr>
<td>18</td>
<td>Ovariectomy for the Removal of Large Pathologic Ovaries in Mares</td>
<td>189</td>
<td>Hans Wilderjans</td>
</tr>
<tr>
<td>19</td>
<td>Imbrication of the Mesometrium to Restore Normal, Horizontal Orientation of the Uterus in the Mare</td>
<td>203</td>
<td>Palle Brink, Jim Schumacher, and John Schumacher</td>
</tr>
<tr>
<td>20</td>
<td>Nephrectomy</td>
<td>211</td>
<td>Michael Roecken</td>
</tr>
<tr>
<td>21</td>
<td>Repair of the Ruptured Equine Bladder</td>
<td>221</td>
<td>Dean A. Hendrickson and Monika Lee</td>
</tr>
<tr>
<td>22</td>
<td>Equine Thoracoscopy</td>
<td>229</td>
<td>John Peroni</td>
</tr>
<tr>
<td>23</td>
<td>General Anesthesia in the Recumbent Horse</td>
<td>241</td>
<td>Tamara Grubb</td>
</tr>
<tr>
<td>24</td>
<td>Colopexy</td>
<td>253</td>
<td>David G. Wilson</td>
</tr>
<tr>
<td>25</td>
<td>Mesh Incisional Hernioplasty</td>
<td>257</td>
<td>John P. Caron</td>
</tr>
<tr>
<td>26</td>
<td>Cryptorchidectomy</td>
<td>267</td>
<td>John P. Caron</td>
</tr>
<tr>
<td>27</td>
<td>Inguinal Hernioplasty</td>
<td>277</td>
<td>Fabrice Rossignol and Josef Boening</td>
</tr>
<tr>
<td>28</td>
<td>Inguinal Herniorrhaphy in the Foal</td>
<td>287</td>
<td>John P. Caron</td>
</tr>
<tr>
<td>29</td>
<td>Ovariectomy in the Mare</td>
<td>295</td>
<td>Ted Fischer</td>
</tr>
<tr>
<td>30</td>
<td>Ovariohysterectomy in the Mare</td>
<td>301</td>
<td>Claude A. Ragle</td>
</tr>
<tr>
<td>31</td>
<td>Laparoscopic- and Endoscopic-Assisted Removal of Cystic Calculi</td>
<td>311</td>
<td>Michael Roecken</td>
</tr>
<tr>
<td>32</td>
<td>Splenectomy</td>
<td>323</td>
<td>Ceri Sherlock and John Peroni</td>
</tr>
<tr>
<td>33</td>
<td>Hand-Assisted Laparoscopy</td>
<td>329</td>
<td>Dwayne H. Rodgerson</td>
</tr>
</tbody>
</table>

**Section III  Laparoscopy in the Recumbent Horse  239**

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>Index</td>
<td>335</td>
</tr>
</tbody>
</table>

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Advances in Equine Laparoscopy is a textbook that will be welcomed by all equine laparoscopic surgeons. Since the 1980s, when merely examining the equine abdomen endoscopically was an exciting revelation, some techniques such as laparoscopic ovariecotomy and cryptorchidectomy have developed and matured to become the treatment of choice for most surgeons. By 2012, however, a wide range of laparoscopic procedures have been reported and a publication conflating all this information is most appropriate.

In the human field, despite several reports of endoscopic procedures in the nineteenth century, the received birthplace of laparoscopy was in Dresden in 1901 when George Kelling examined a dog’s abdomen using a Nitze cystoscope; this was followed by endoscopic examinations of the human abdomen. As early as 1927, the first human laparoscopic textbook, *Lehrbuch und Atlas der Laparo- und Thorakoskopie* by Korbsch, was printed. Another significant early contributor was Heinz Kalk, who developed new lens systems in 1929 and published widely on liver and gall bladder disease. Progress predicated not only on the ambition of surgeons but also on technological developments. It was not until the late 1960s that the real expansion of laparoscopy began when Step toe’s *Laparoscopy for Gynaecology*, describing laparoscopic sterilization techniques, instrumentation, and the use of electrocoagulation, was published.

In the 1970s, over 250,000 laparoscopic sterilizations were performed annually in the United States, but there was little formal training and complication rates were high. As a result, the American Association of Gynecologic Laparoscopists was founded to inform surgeons and to monitor complications, and at about the same time, Chamberlain and Brown (1978) in Britain analyzed prospectively the complication rate in 50,000 laparoscopies. Gradually, an evaluation of what was going wrong and the introduction of credentialing programs has led to a reduction in morbidity and mortality in human laparoscopy.

There are other influences on the use of new techniques: One is the kudos of being able to perform them and another is public pressure for them to be performed, neither driven by the most important indication, viz, the outcomes of the procedures. In human surgery, Cameron and Gadacz (1991) considered these influences a factor in the high incidence of bile duct injuries in laparoscopic cholecystectomies, which were 10 times that of open surgery. Nowadays, medical laparoscopy is under constant review and boasts many laparoscopic procedures that have proven benefits over open surgery.

Laparoscopy has been a stimulating and challenging addition to the veterinary surgeon’s repertoire and as a veterinary discipline it is scarcely 25 years old. As with other fields of surgery, the
development of veterinary laparoscopy has followed that of human laparoscopy but has progressed more slowly. The size of the horse’s abdomen and the weight of some abdominal organs have restricted the range of possible procedures. Like human surgeons in the early days, those of us performing equine laparoscopies in the late 1980s had little guidance and progress was slow, even though our arthroscopic hand–eye skills possibly gave us a better start than our human colleagues who at first only had training in general surgery. There are few studies analyzing morbidity and mortality associated with equine laparoscopy. Anecdotally, high complication rates do not seem to have been the problem they were in human surgery: Perhaps they just have not been reported or maybe we have learned from the human experience. Either way, analysis of complication rates is called for, but at least formal laparoscopic tuition is now available and has become part of the residents’ training program so we can hope that many of the pitfalls will be avoided.

No doubt we also have been driven to perform laparoscopies for the benefit of our image as state-of-the-art surgeons, a fatal trap if our technique is insecure or if there are no benefits to the horse over open surgery. Client pressure can be difficult to ignore or assuage and can also lead us into performing procedures beyond our capabilities. For the benefit of our patients and ultimately their owners, we have a responsibility to evaluate our outcomes; comparative studies that will prove or disprove the benefits of procedures being performed laparoscopically are sorely needed. Once we have this information, we are in a stronger position to advise owners on the best course of action and we are unlikely to perform a laparoscopy because it is fun to do but has no benefit.

A great contribution to the discipline was made when in 2002 Ted Fischer’s landmark textbook, *Equine Diagnostic and Surgical Laparoscopy*, was published giving equine laparoscopists confidence to increase their repertoire and to consolidate their experience. This new text, *Advances in Equine Laparoscopy*, is the fruition of these experiences. Despite its title, the basics are not forgotten. The critical appraisal of training methods is a reminder that certain skills are difficult to acquire and there are many ways to learn them. Laparoscopic skills are some of the most difficult to master in the field of surgery, and a basic competence in instrument and tissue handling in a 3-D cavity with 2-D vision is absolutely essential. Laparoscopic knots cannot be learnt during surgery nor can intracorporeal suturing and knot tying, two famously difficult techniques to master. However since they may be needed in a crisis, especially when hemorrhage is involved, they must be part of the surgeon’s armory before he or she embarks on laparoscopy in the clinical patient. This book offers the opportunity for the inexperienced to discover what there is to learn and how to go about it, and for the experienced it is a reminder to maintain their skills. The thorough coverage of most procedures in common use today provides a basis and, one would hope, a stimulus for comparative studies between open surgery and laparoscopy. It is a reflection of the acceptance of equine laparoscopy that the evaluation of open techniques may have to be retrospective for some procedures. However, an objective appraisal is called for and where enough studies are published even a meta-analysis would be useful.

The time is opportune for a text that not only consolidates our knowledge of the bread-and-butter laparoscopic procedures, such as ovariohysterectomy and cryptorchidectomy, but also offers detailed accounts of those that are proving their efficacy such as closure of the nephrosplenic space and herniorrhaphy. More advanced procedures including nephrectomy, splenectomy, cystotomy, and ovariohysterectomy are also covered. Written by surgeons with good experience of the techniques, this book will facilitate a widening of the laparoscopic repertoire and encourage experienced surgeons to master advanced techniques. Laparoscopy is an unforgiving activity that depends on good technique, and a study of this book will enable surgeons to avoid the mistakes of their predecessors, progress more safely, and benefit the horse and its owner. The skill, knowledge, and judgment of the surgeon are the factors on which the success of surgical procedures depends. *Advances in Equine Laparoscopy* will enhance the quality of all three and will make a significant contribution to the development of this discipline.
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