Basic Laparoscopic Techniques and Advanced Endoscopic Suturing

A Practical Guidebook

This page is intentionally left blank

Basic Laparoscopic Techniques and Advanced Endoscopic Suturing

A Practical Guidebook

STEPHEN CHEW ♦ ARNAUD WATTIEZ ♦ LAN CHOMICKI

SINGAPORE UNIVERSITY PRESS
NATIONAL UNIVERSITY OF SINGAPORE

World Scientific
Singapore • New Jersey • London • Hong Kong

© 2000 Singapore University Press
Yusof Ishak House
National University of Singapore
31 Lower Kent Ridge Road
Singapore 119078

and

World Scientific Publishing Co. Pte. Ltd.
PO Box 128, Farrer Road, Singapore 912805
USA office : Suite 1B, 1060 Main Street, River Edge, NJ 07661
UK office : 57 Shelton Street, Covent Garden, London WC2H 9HE

ISBN 9971-69-234-1 (Paper)

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, electrical, chemical, mechanical, optical, photocopying or otherwise, without the prior permission of the copyright holder.

Typeset by: Scientifik Graphics (Singapore) Pte Ltd
Printed by: Humanities Press

CONTENTS

<i>Foreword</i>	vi	11. Monopolar Energy for Tissue Cutting and Coagulation	87
<i>Preface</i>	vii	12. Co-ordination During Laparoscopic Surgery	95
<i>About the Authors</i>	viii	13. Co-ordination 2: The Surgeon and his Assistants	103
1. Laparoscopic Surgery: It's a Different World	1	14. Enhancing Ergonomical Efficiency During Laparoscopic Surgery	113
2. Basic Laparoscopic Equipment	7	15. Laparoscopic Suturing: Basic Instrument Handling and Set-Up	123
3. Insufflation Techniques for Safe Laparoscopic Access	15	16. Laparoscopic Suturing: Needle Insertion and Loading	137
4. Laparoscopic Instruments: Basic Handling Techniques	27	17. Needle Passage 1: Closing Incisions	159
5. Tissue Inspection and Orientation	35	18. Needle Passage 2: More Suturing Techniques	175
6. Laparoscopic Cutting	41	19. Intra-corporeal Knotting Techniques	189
7. Tissue Dissection in Laparoscopic Surgery: Basic Issues	51	20. Continuous Laparoscopic Suturing	209
8. Tissue Dissection 2: Dissection in Pathological States	61	21. Extra-corporeal Knotting in Laparoscopic Surgery	223
9. Essential Electrosurgery for the Laparoscopic Surgeon: Basic Concepts	67	22. Extra-corporeal Slip Knots	239
10. The Bipolar Electrosurgical Forceps and Haemostasis	77	23. The Role of Laparoscopic Suturing in Gynaecological Endoscopic Practice	253

FOREWORD

Laparoscopy has evolved from a diagnostic to a therapeutic tool. Its widespread use is an acknowledgement of its effectiveness and usefulness.

However, as with all tools and techniques, its success is dependent on the operator's skills and familiarity of the tools and techniques. Hence, there is a need for learning of the principles properly and for continual practice prior to exposure to the patient. It is hoped that this practical guidebook will fill this niche, to provide the beginner with a strong foundation to equip himself or herself to master endoscopic surgery.

I congratulate the authors in coming up with this timely volume.

NG SOON-CHYE

Department of Obstetrics & Gynaecology, NUS

August 2000

PREFACE

Laparoscopic procedures are now commonplace in nearly all surgical disciplines. In addition, many procedures previously carried out only at open surgery, are now being performed through the laparoscope. Furthermore, this trend towards minimally invasive surgery is still growing and will certainly continue into the new millennium.

However, even in the midst of such astounding progress, there is still a pressing need to address the basic cornerstone skills and techniques involved in laparoscopic surgery. Unfortunately, there is a relative dearth of published material for those interested in acquiring the basic technical skills necessary for safe and effective endoscopic surgery. This monograph has thus been written for and is dedicated to all who are keen to develop their basic endoscopic skills.

The book has been written in two broad sections. The first section (Chapters 1–14) will deal with the basic techniques of instrument handling, camera holding, tissue orientation, cutting, dissection, electrosurgery; as well as issues of co-ordination, ergonomics and efficiency in laparoscopic surgery. The next section (Chapters 15–22) will cover the various aspects of laparoscopic suturing, including the techniques of intra-corporeal and extra-corporeal knot tying. The current role of laparoscopic suturing in gynaecological endoscopy is also briefly dealt with in Chapter 23. We will mainly be taking a practical approach with emphasis on proper technique, avoidance of mistakes and practical tips for trouble shooting. The authors have also taken pains to analyse the *art* of laparoscopic suturing and have tried to turn the subject into an understandable and teachable *science*. Much of the text has been based on our own working experience and from our involvement in the training of endoscopic surgeons at our institutions.

We are confident that the book will serve well as a useful reference and a practical guide for all who are actively involved in laparoscopic surgery.

ABOUT THE AUTHORS

Dr Stephen Chew S.L. is a Senior Lecturer in the Department of Obstetrics and Gynaecology, National University of Singapore. He received his Masters Degree in Obstetrics and Gynaecology from the University of Singapore in 1993 and is the author of several publications in journals and proceedings. He has a special interest in laparoscopic surgery and is presently actively involved in the teaching of basic laparoscopic skills and advanced suturing techniques at the National University of Singapore.

Dr Arnaud Wattiez is the Director of the International Centre for Endoscopic Surgery at Clermont Ferrand, France, an institution which has earned worldwide recognition as a leading international endoscopic centre. He is actively involved in the teaching and demonstration of advanced laparoscopic techniques.

Dr. Lan Chomicki was trained in Poland as a gynaecologist. She is a Senior Tutor at the International Centre for Endoscopic Surgery at Clermont Ferrand, France. To date, she has personally trained over 100 doctors from various parts of the world in the basic skills of laparoscopic surgery.