英文影印版

肛肠外科学

SURGERY OF THE ANUS, RECTUM & COLON

第2版 · SECOND EDITION

Michael RB Keighley
Norman S Williams

上册 · VOLUME 1

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内 容 简 介

本书为国外有关肛肠外科方面的经典著作。全面叙述肛门、直肠和结肠各类疾病的基础与临床，尤其是外科表现、诊断方式、处理原则及操作技术，并配有大量插图与表格，内容详尽、实用。原版影印出版，适合高年资肛肠外科医师及研究人员参考。

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FOREWORD

And so the second edition of the highly successful "*Surgery of the Anus, Rectum, and Colon*" has arrived. There is a nebulous aspect to the optimal timing of a second ... or new edition of any text book. Publishers tend to be aggressively proactive and persuasive in getting the authors "up" for another go at it. Authors rightly point out that their physical and emotional energy reserves need a bit more time to be recharged before tackling the next edition. We, the readers, are the beneficiaries of this acquiescence of our authors, Michael Keighley and Norman Williams, in marshaling their energies and talent, and producing an excellent reprise of their first joint contribution.

As we are fast approaching the end of the century and a new millennium, the burgeoning knowledge base required of the colorectal surgical specialist – or indeed the general surgeon with an interest in major abdominal or rectal surgery – is intimidating. Text books typically lag several years behind the "cutting edge" literature. E-mail "chat rooms" and, list servers are appearing in multiple disciplines, and could challenge the relevance of textbooks generally. And so, frequency of publications of new editions will be a key feature for those prominent, authoritative and successful text books, in keeping us surgeons aware of the spectrum of the specialty of colon and rectal surgery, as well as putting into perspective the new information acquired in the time from previous editions. It is this perspective "thing" that really can be best provided by a text book. And one cannot think of a better time to produce the second edition . . . as this century comes to an end.

This edition has been improved in many ways. Much of this has been listed in the Preface but several areas bear emphasis. The inclusion of specialized chapters from international experts on topics such as sexually transmitted diseases, laparoscopic bowel surgery and anorectal physiology adds value and authority to the second edition. Over a third of the book has been rewritten entirely with particularly useful additions to the colonic neoplasia section, molecular biology and heredity aspects of colorectal cancer, and newer technologies for the treatment of functional anorectal and colonic disorders.

But the book still looks and "feels" like the first edition – maintaining the successful formula of clear and explicit description of the problem; an objective review of the published work on the subject; a description of the authors experience and scholarly ventures into this area and finally, the author's overview, summarizing, collating and weighing the data. This might well be called the Goligher method, a formula that has been tried and tested over many editions of John Goligher's textbook, and which brought the reader to acquire each new edition with anticipation and delight.

Michael Keighley and Norman Williams are to be congratulated on the authorship of this excellent second edition of *Surgery of the Anus, Rectum and Colon*. I recommend it to all serious students or practitioners of the treatment of diseases of the large intestine.

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PREFACE TO SECOND EDITION

Spurred on by the apparent success of the 1st Edition, which has been reprinted twice and translated into Spanish and Italian, we were persuaded by our publishers to produce a 2nd Edition.

Despite supportive reviews for the 1st Edition, we were aware of some deficiencies. Neither of us felt able to write on colorectal trauma with authority and we are grateful for Dr Susan Galandiuk's contribution to this subject. We also felt the need to expand the gynaecological section, not only colorectal and gynaecological malignancy but also in functional and inflammatory disease. We are, therefore, grateful to Messrs John Shepherd, Adrian Lower and Gerry Jarvis for their contributions to this area. Mr Jeremy Lawson and Mr Neil Freeman have now retired and the paediatric section has been rewritten by Mr Mark Stringer and Caroline Doig. We were aware that the 1st Edition did not include a separate section on disordered physiology, although physiological aspects of disease were incorporated throughout the text where appropriate. We are grateful, therefore, to Dr David Lubowski for putting together an overview of the role of anorectal physiology in our introductory chapter. Dr Steven Wexner graciously gave up his contribution on sexually transmitted diseases which is now taken over by Dr Lester Gottesman who has an extensive practice in this subject which allows him to write on the subject with great authority. On the other hand, Dr Wexner has expanded his critique of laparoscopic procedures in inflammatory disease, stoma construction and colorectal malignancy as we are now beyond the learning curve and into regular practice in benign disease in some institutes. We are grateful for the support of Dr Tony Wilkey with Professor Peter Hutton in providing a chapter on anaesthesia. Likewise, we are grateful for Professor Michael Farthing's overview on tropical diseases. Mr Sina Dorudi has provided a chapter on the rapidly developing field of molecular biology in colorectal malignancy. Mr Chris Fowler has taken over the urological chapter from Professor John Blandy who has retired. The rest of the text has been produced by the two of us. As before we have exchanged manuscripts and constructively criticized each other's contributions.

At least a third of the book has been rewritten for this 2nd Edition. Areas of major change include:

- The medical management of anal fissure
- The physiological impact of anal fistula surgery
- New treatments for bowel incontinence
- Multidisciplinary management of constipation with particular reference to outlet obstruction, rectocele and techniques for improving impaired rectal evacuation
- The aetiopathology of inflammatory bowel disease and its medical treatment, particularly the role of newer agents
- Restorative proctocolectomy with particular reference to pouch salvage procedures
- The biology and natural history of cancer
- Hereditary colon cancer
- The polyposis syndromes
- The role of adjuvant therapy in colorectal cancer
- The surgical management of recurrent rectal cancer and hepatic metastases
- The management of anal cancer and anal intraepithelial neoplasia (AIN)
- The role of laparoscopy in colorectal disease

As in the 1st Edition, we have continued to adopt the Socratic principle of reviewing all the available evidence and giving our balanced views on what we consider the most appropriate method of management based on our own clinical experience. This approach is one of the features that so endeared readers to John Goligher's book, which carries the same title. Sadly, Professor J C Goligher died during preparation of the 2nd Edition. Before his death he wrote to us expressing great enthusiasm for the 1st Edition and gratitude that his original style was being incorporated in this book. Needless to say, Professor Goligher's inspiration has continued to be a beacon in the preparation of this new edition.

Our professional responsibilities do not diminish with the years, particularly those of an administrative nature. Clinical practice must still go on, often in an increasingly demanding and judgmental society. Yet without our respective practices, we could not have contemplated a revision to our work. We are also extremely grateful for the continued support of our long suffering wives who have allowed us to withdraw from some of our family responsibilities in order to make this 2nd Edition possible.

PREFACE TO FIRST EDITION

We have been conscious of the need to produce an up-to-date reference work on the ever-expanding and now internationally recognized specialty of coloproctology. We believe that the concept of a book primarily based on the experience of two individuals has certain advantages over an edited text contributed to by numerous experts to cover particular fields of the subject.

We have based our management policies on experience gained when we were both in Leeds, and subsequently in Birmingham and London. The ties with Leeds, particularly with Professor John Goligher, his teaching and his clinical material, have been an inspiration to both of us. We are privileged to be able to continue his tradition and to retain the title of the book which bore his name for five editions.

The entire book, apart from 11 specialized chapters (anaesthesia, sexually transmitted disease, urology, gynaecology, tropical disease, laparoscopic colectomy and five paediatric chapters) have been written by one of us, and then read and amended by the other. We have attempted to approach controversial issues in a Socratic manner, but we hope we have made it clear where our preferences lie. Occasionally, where a difference of opinion remains between us, we have made it obvious and leave readers to make up their own mind.

Work began several years ago, but the entire text has been rewritten during preparation in order to bring it completely up-to-date. There is some repetition, since we see this work as providing a reference to the management of specific diseases rather than a book which is likely to be read in its entirely. We have deliberately chosen to provide a book which is heavily illustrated so that there can be no confusion over the techniques of operative management. We have also tried to provide a comprehensive bibliography throughout so that the reader can draw from the experience of others in understanding the disease and its optimum therapy.

Apart from extensive writing from our own libraries, much has also been compiled during travel, sabbatical appointments and at overseas conferences. This has provided us with an international perspective of the clinical management of coloproctological disorders. Nevertheless, it has been necessary to include experts to address specific subjects about which we cannot write from personal experience. Such contributions include: Anaesthesia – Professor Peter Hutton; Paediatrics – Mr Jeremy Lawson and Mr Neil Freeman; Gynaecological aspects of coloproctology – Mr Charlic Chan; Urological aspects of coloproctology – Professor John Blandy; Tropical and infectious diseases – Professor Michael Farthing, including sub-sections on Bilharzia by Professor Mageed Barsoum, and Chagas' disease by Professor Angelita Habr-Gama; and Sexually transmitted disease – Dr Hiliary Andrews, Professor Andrew Sim and Dr Steven Wexner. Since the USA experience in laparoscopic colectomy was more advanced than our own we asked Dr Steven Wexner to cover the subject. We are also grateful to the following for their critique in relation to specific surgical procedures: Dr Stanley Goldberg – haemorrhoidectomy; Dr Bob Beart – restorative proctocolectomy; Mr Mark Coldman – tuberculosis; Dr Marvin Corman – graciloplasty; Mr David Cant – colorectal trauma; and Dr Michael Veidenheimer – diverticular disease.

Throughout the text we have attempted both to review the available data from the world literature, which has been tabulated where possible, as well as to draw on personal experience from our own clinical practice particularly in the operative treatment of colorectal disorders. One of us (MRBK) has a personal practice which has been entirely based in Birmingham since 1976. The other (NSW) has been on the staff at Leeds before moving to The Royal London Hospital in 1986. We hope you enjoy reading this book as much as we have in gathering the information for you.

M.R.B. Keighley
N.S. Williams

ACKNOWLEDGEMENTS

The second edition has been no less of a commitment than the first. We are extremely fortunate to have been able to engage the talents of Gillian Lee for this 2nd edition. The clarity of and sensitivity of her artwork was much appreciated in the 1st edition and we are glad of her continued expertise in this respect. We are also grateful to the Publishing team of WB Saunders at Harcourt Brace and Company Limited, London on its advice and technical support. We thank Dr S Scott Sanders who has kindly supplied some more histopathology illustrations; other colleagues who contributed illustrations have been appropriately acknowledged at the end of legends.

In addition to all those junior and senior colleagues who contributed advice and assistance in the first and second editions, we should like to acknowledge in particular the support in the second edition of John Abercrombie, Janet Ansell, Alex Buttafuoco, Mark Chapman, Andrew Connelly, Dominic Corry, Sina Dorudi, James Eccersley, Rodney Hallan, Hiro Hasegawa, Frances Hughes, Charlie Knowles, Stephan Korsgen, Peter Lunniss, James Mander, Andrew Maw, Gunju Ogunbiyi, Shaun Purkiss, Simon Radley, Rita Ratani, Mark Scott, Hugo Taylor, Heng Tee Tan, Jonathan Tilsed, Steve Warren and Taka Yamamoto.

We are indebted to the following companies for their generous support towards the artwork in this second edition:

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We very much appreciate the support of our secretaries – Janet Mutch and Andrea Hickey in London and Lynne Hopwood, Jayne Hamill, Julia Reeves and Yvette Young in Birmingham. Finally we know that the task would never have been accomplished without the patience of our long suffering wives.

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ANATOMY AND PHYSIOLOGY INVESTIGATIONS

PART ONE: SURGICAL ANATOMY

The anatomy of the colon, rectum and anus will not be described in detail here: specific anatomy is described in relation to diseases of the colon and rectum and can be found throughout this book. The purpose of this chapter is to give an overall description of the anatomy of the region and to highlight particular aspects of surgical importance.

GENERAL POSITION AND RELATIONS OF THE COLON

The large bowel is easily recognized and distinguished from the small intestine by its larger diameter and the presence of appendices epiploicae and taeniae coli. The three taeniae consist of condensations of longitudinal smooth muscle fibres commencing at the base of the appendix and continuing throughout the colon; in the upper rectum these three bands disappear as they fuse to the continuous longitudinal muscle of the rectum (Figure 1.1).

The caecum is the widest part of the large bowel and lies in the right iliac fossa just above the lateral half of the inguinal ligament on the iliacus muscle; it is variable in position since, unlike the ascending colon, it is usually completely intraperitoneal. It is therefore at risk of becoming involved by volvulus. The appendix lies at the lower pole of the caecum and the ileum joins the medial and posterior aspect of the viscus. The ileum, 5–10 cm proximal to the ileocaecal valve, often adheres to the posterior abdominal wall by an anterior peritoneal attachment. This must be freed in order to mobilize the ileocaecal region.

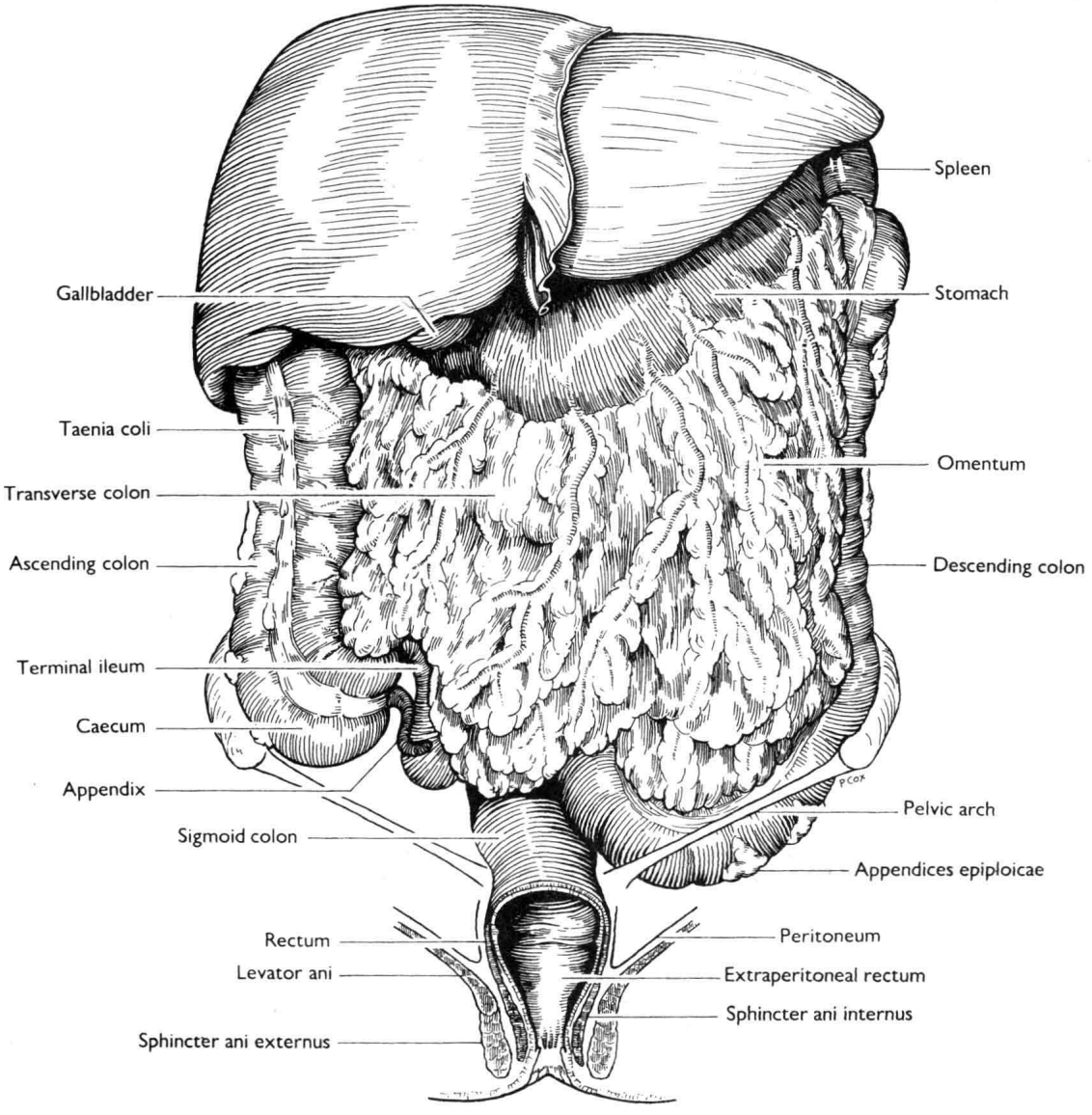

Figure 1.1 General topography of the large bowel and rectum. The relations of the large bowel to the omentum, stomach, liver, gall bladder and pelvis are demonstrated.

The ascending colon is fixed by adherent anterior peritoneum throughout its length. At the hepatic flexure numerous veins lie immediately underneath the peritoneum and these may have to be diathermized when dividing the peritoneum during mobilization of the hepatic flexure. These veins enlarge considerably in portal hypertension. The lower part of the ascending colon lies on the iliopsoas muscle with the genital branch of the genitofemoral nerve. The upper part of the right colon lies on the quadratus lumborum muscle and the origin of the transversus abdominis (Figure 1.2).

The hepatic flexure lies over the lower pole of the right kidney, medial to which are the second and third parts of the duodenum. The second or third part of the duodenum may be damaged during mobilization of the hepatic flexure, particularly when resecting colonic Crohn's disease with an associated abscess.

The transverse colon is variable in length and its middle part may reach into the pelvis. Proximally, the first 5–10 cm is retroperitoneal but the rest of the transverse colon has a complete peritoneal covering. The greater omentum, arising from the greater curvature of the stomach, lies over the transverse colon. The inferior peritoneal coat of the omentum is adherent to the anterior surface of the transverse colon and the transverse mesocolon containing the middle colic vessels and lymphatics. These peritoneal layers can be divided so that the transverse colon and mesocolon can be freed from the omentum (Figure 1.3).

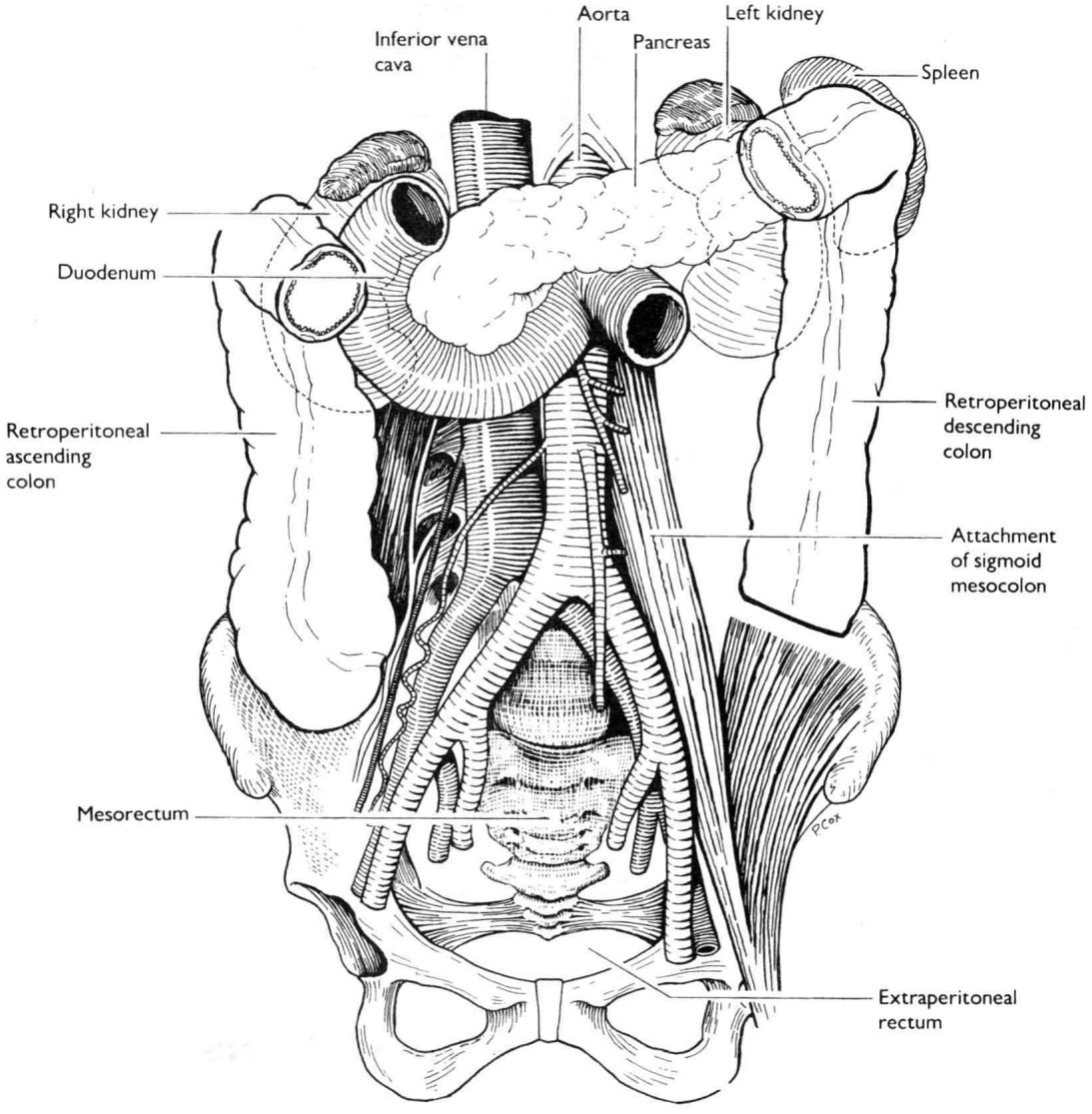

Figure 1.2 The posterior relations of the colon and rectum are demonstrated, particularly (1) the relations of the right colon to the right kidney, the duodenum and the iliopsoas muscle, (2) the descending colon to the spleen, the tail of the pancreas, the left kidney, the transversus abdominis and iliacus, and (3) the mesorectum to the bifurcation of the aorta, the left iliac vein and the sacrum.

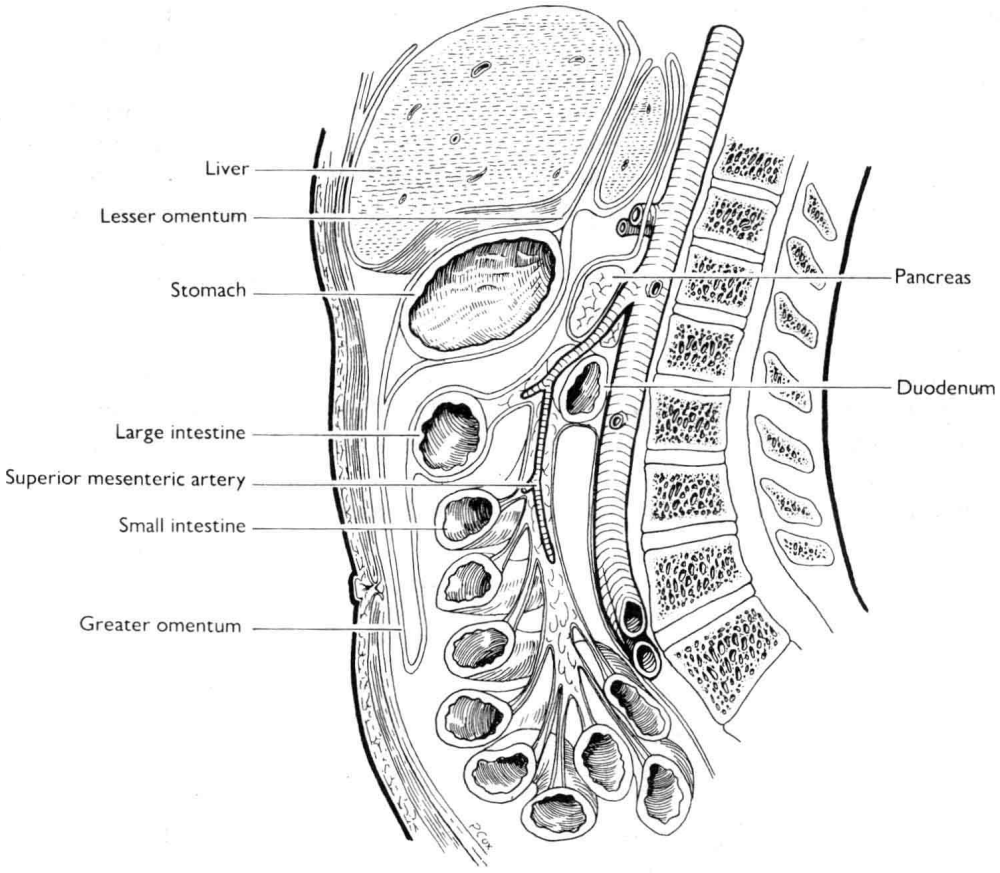

Figure 1.3 Sagittal section of the abdomen to demonstrate the blood supply to the transverse colon and small bowel, the greater omentum, the greater sac and the lesser sac.

The splenic flexure is usually situated at a higher level than the hepatic flexure and it lies more laterally, making it less accessible. The splenic flexure lies over the lower pole of the left kidney and may touch the lower border of the spleen, which usually lies just above and lateral to it. The spleen may become damaged either by the tip of a retractor during mobilization of the splenic flexure or by excessive traction on the gastrosplenic ligament. The splenic flexure lies retroperitoneally and there is a condensation of loose connective tissue arising laterally which connects the colon to the under-surface of the diaphragm: this is termed the phrenicocolic ligament. The blood supply to the splenic flexure lies medially to it and is not normally in danger during mobilization and division of the peritoneum.

The descending colon is firmly adherent to the posterior abdominal wall, being entirely retroperitoneal. It lies on the transverse abdominis, quadratus lumborum and, lower down, on the iliopsoas muscle.

The sigmoid colon is intraperitoneal and very variable in length; it is the narrowest part of the large bowel. The sigmoid commences just below the pelvic brim and terminates at the upper rectum, just below the sacral promontory. The sigmoid mesocolon is V-shaped, running upwards and medially over the psoas muscle, the genital vessels and the ureter to the aortic bifurcation. It then runs downwards over the sacrum to the upper rectum. The sigmoid colon is subject to volvulus.

THE RECTUM AND ITS RELATIONS

The rectum commences where the taenia coli fuse to form a continuous longitudinal muscle coat. The upper third of the rectum is surrounded by peritoneum, apart from a small segment posteriorly through which the mesorectum provides its blood supply from the superior haemorrhoidal vessels

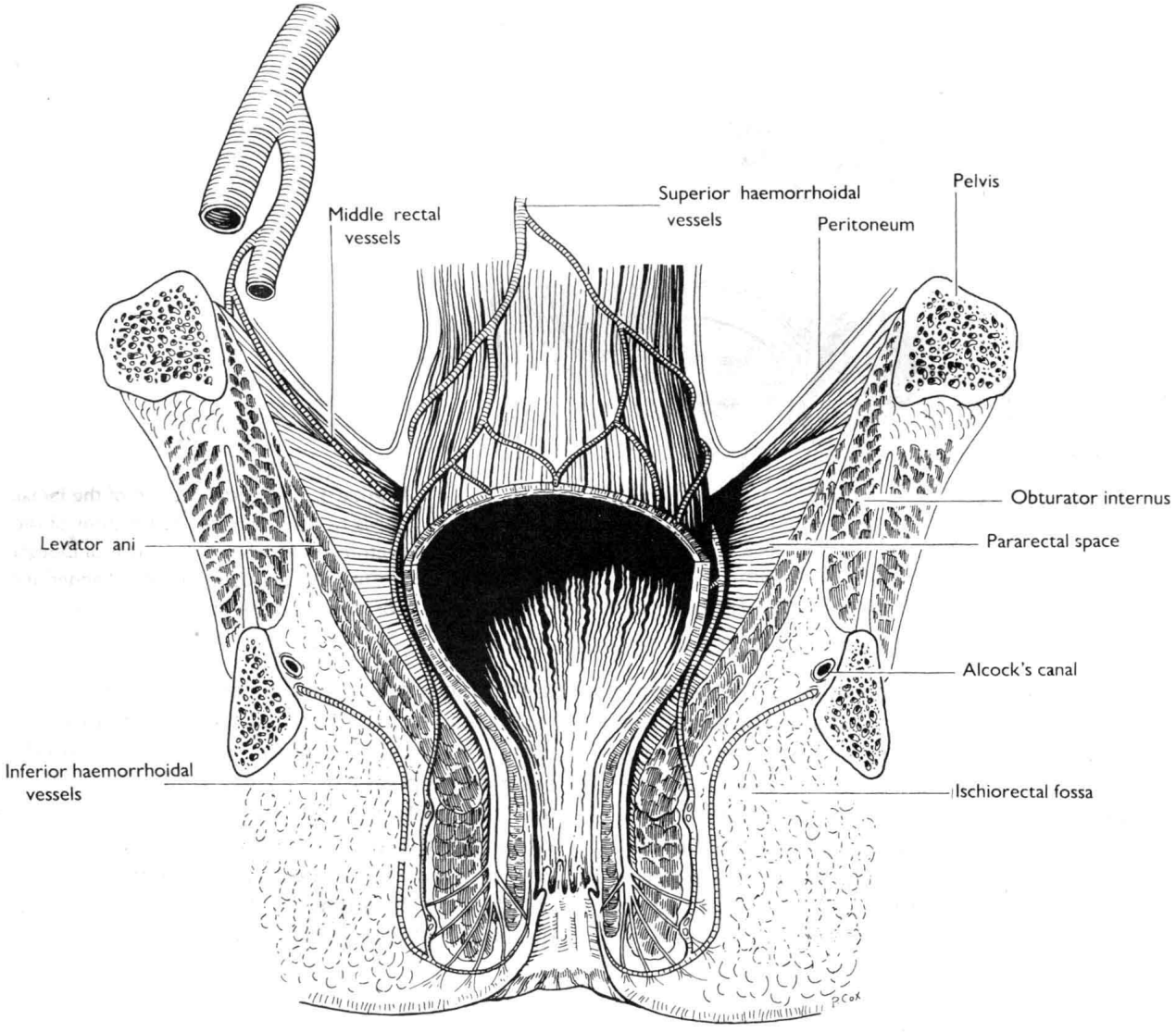

Figure 1.4 Coronal section of the anorectum to demonstrate (1) the relations of the rectum to the levator ani, and (2) the arterial supply to the rectum from the superior haemorrhoidal vessels and the inferior haemorrhoidal vessels.

(Figure 1.4). The middle third of the rectum is essentially retroperitoneal and is only covered anteriorly by peritoneum. At this point the mesorectum becomes wider and the posterior rectum is entirely devoid of peritoneum. At the base of the rectovesical or rectouterine pouch the rectum becomes completely infraperitoneal. On account of the obliquity of the levator ani, the rectum is intimately related laterally to the pararectal space, but below and laterally to the pelvic diaphragm and to the apex of the ischiorectal fossa. The pararectal space is formed by the peritoneum above, the obturator internus and the side walls of the pelvis laterally, by the rectum medially and by the levator ani below. The ischiorectal fossa is roofed by the sloping levator ani above the anorectum, with the external and internal sphincters forming the medial boundary. Laterally lies the ischium with Alcock's canal which transmits the pudendal nerve and the inferior haemorrhoidal vessels. The space is deficient below.

The rectum follows the curve of the sacral hollow in its lower two-thirds but at the level of the levator ani, where it enters the anal canal, it turns abruptly backwards and downwards (Figure 1.5). This anorectal angle, which is maintained by the puborectalis sling, has in the past been regarded as an important mechanism in maintaining continence.

The posterior relations of the rectum are the sacrum, the coccyx, the puborectalis muscles and the middle sacral vessels. The sacral plexus and the autonomic nerve fibres in the pelvis, together with