

SURGERY OF THE STOMACH AND DUODENUM Third Edition

Edited by Lloyd M. Nyhus, M.D.

and Christopher Wastell, M.S.

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SURGERY OF THE STOMACH AND DUODENUM Third Edition

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Foreword

The advances in surgery in the past half century have been due not so much to increased technical facilities as to our increased understanding of the physiological behavior of the well and of the unwell. This has come about not only through the productive research of physiologists and biochemists but through the very important work of surgeons who have acquired experience in methods of research and have learned to apply them to clinical problems. Thus, surgery and physiology have had many profitable encounters, but the most impressive rewards have been reaped in gastroenterology and perhaps, in particular, in the area of gastroduodenal disorders. The evidence for this assertion is contained in the third edition of this magnum opus.

The title belies the vast scope of this book, which spans the interests of surgeons, physiologists, clinical investigators, and gastroenterologists alike. The editors are to be congratulated in assembling much of what is known about the basic pathophysiology of the stomach and duodenum, in relating this to modern surgical management, and in indicating future trends. Their success in achieving these objectives splendidly reflects the great and inspiring influence exerted

by the late Dr. Henry Harkins on the development and clarification of our knowledge of gastroduodenal disease and the place of surgery in its treatment. His disciple Dr. Lloyd Nyhus, who is now the senior editor, chose wisely when he decided to join forces with Christopher Wastell. Together, in seeking collaborating authors, they have cast their net widely but have included only those who have made significant contributions to this field of endeavor. The contributors come from both sides of the Atlantic Ocean and from both sides of the equator. Consequently, readers are provided with an unprecedented fund of information from international experts, enhanced where indicated by "special" and "editorial" commentaries.

We still have a long way to go in our attempt to unravel all the perplexing problems of peptic ulcer disease. However, advances have been made in our time, the significance of which can best be seen from a historical perspective. Appropriately, this perspective is given in the first chapter, which consists of a magnificent historical review by Owen and Sarah Wangenstein; the high standard set here is maintained throughout this momentous volume.

A work of this quality does not require a foreword—its value is self-evident—but I suspect that the pace now set by the contributing authors in their clinical practice and by others in the field

will, with the additional stimulus provided by this synthesis of ideas, call for another edition in the not very distant future.

Andrew Watt Kay

Preface to the Third Edition

It has been 22 years since the senior editor of this book (L. M. N.) departed for Europe to begin collecting source material. The Preface to the First Edition offers an insight into our purpose then; our intentions have not altered, and the flavor of our earlier work is retained in this third edition.

Christopher Wastell became known to the senior editor during Westminster Hospital's symposium on chronic duodenal ulcer held in the spring of 1973 in London. It was obvious that we held many of the same views on medicine, the arts, and travel. Our decision to join forces in the preparation of this edition was truly a spontaneous one, made on the way to Heathrow Airport after the symposium. Indeed it has been a happy choice for both of us. Not only have we had a superb "meeting of the minds," but the partnership has resulted in a bridging of the Atlantic; we have received contributions from leaders in the field all over the world. The student of the stomach and duodenum will find these contributions to be excellent in every regard; our thanks go to these wonderful teachers who have given of their valuable time so unselfishly. In addition, a special word of thanks goes to Sir Andrew Watt Kay for his foreword.

This edition is consistent with its predecessors in basic format and retention of the innovative "Special Comment" sections. But, as the careful reader will note, a revolution has occurred during the past decade in the operative treatment of peptic ulcer. Accordingly, many of the chapters have been completely rewritten and, of course, all the chapters are updated. At the time of the first edition, emphasis was placed on subtotal gastrectomy for the treatment of duodenal ulcer. This procedure, although still used, plays a minor role today. The next decade will be equally exciting, with new discoveries at both the basic physiological-biochemical level and the clinical level.

In order for gastric surgery to reach its apogee, the three conditions set forth in the Preface to the First Edition still obtain, namely: (1) surgical procedures must be based on a sound physiological background, (2) any resective operation must be applied quantitatively, and (3) operative therapy must be individualized to fit the needs of each patient.

We continue to believe that *Surgery of the Stomach and Duodenum* will be valuable to a broad spectrum of those interested in the subject. It is hoped that basic scientists, house staff

personnel, candidates for surgical examinations, gastroenterologists, and the world of surgery in general will find areas of significant interest here.

The editors express their appreciation to Fred Belliveau and Lin Richter of Little, Brown and Company for their patience, advice, and understanding, and to Kathy O'Brien for an outstanding job of supervising the copyediting and editorial production of the book. Dr. Nyhus is particularly indebted to Barbara Saunders, June

Svec, and Myrna Schlegel of the Department of Surgery, The Abraham Lincoln School of Medicine, University of Illinois College of Medicine, for their long hours of typing and proofreading and for the many other difficult tasks that they performed in the development of this book.

Mr. Wastell extends his thanks to Mrs. Althea Johnston for her help in typing and retyping manuscripts in addition to carrying out the other multifarious duties of a busy secretary.

L. M. N.

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Preface to the First Edition

In 1955–1956, one of the editors (L. M. N.) received a John Simon Guggenheim Foundation Fellowship for the express purpose of studying current European trends in gastric surgery. In the proposal to the Guggenheim Foundation, the following excerpt, based on a suggestion from the senior Editor (H. N. H.), is of interest: “The plan is to use the material collected as the background for a book on gastric surgery, the basic format to include both historical considerations and up-to-date clinical and experimental observations.”

Insight into the magnitude of such an undertaking by the two of us alone was rapidly gained with each passing month in Europe, and subsequently the groundwork was laid for publication of a monograph with outstanding authorities contributing chapters on the many important facets of “Surgery of the Stomach and Duodenum.”

During the past sixty years, a number of books related to this subject have been published. As is shown in Appendix C [Annotated Reference List of Books Pertaining to the Surgical Aspects of the Stomach and Duodenum], however, they are either more general or more specialized than our volume, or peripheral to

our topic. Thus some books cover the entire field of diseases of the stomach, medical and surgical (e.g., Eusterman and Balfour, *The Stomach and Duodenum*, 1936). Others (e.g., Conway, *The Biochemistry of Gastric Secretion*, 1953) deal only with narrow aspects of it. Others (e.g., Illingworth, *Peptic Ulcer*, 1953) are both scientifically original and clinically sound, but are more limited in scope than our book. Furthermore, none of the more comprehensive surgical monographs on our overall subject were written by surgeons who have also spent considerable time in the experimental laboratory working on gastric physiology. Still other books were written by physiologists or other scientists without clinical surgical experience.

We consider this an important point. We intend that, insofar as possible, experimental studies shall precede surgical application in our practice. We further hope that the number of these experiments will exceed the number of our gastric operations. The latter passed the thousand mark some time ago, but the number of experiments is far in excess of this. We believe that this book on “Surgery of the Stomach and Duodenum” is unique in that it is based on personal physiological investigations followed by

clinical applications covering the entire subject. There are some authorities who have more experience in gastric physiology than we have, there are many with more clinical surgical experience, and there are a few with more combined experience in these two fields. Several of this last group are authors of sections or chapters of our book, and another has written the Foreword. The writing of a comprehensive book on our subject, from the combined physiological and surgical standpoints, has not heretofore been attempted, although some might consider Somervell, *Surgery of the Stomach and Duodenum* (1948), in this category. Furthermore, at the clinical level alone, the last comprehensive book in English on the subject was Paterson, *The Surgery of the Stomach: A Handbook of Diagnosis and Treatment* (1914).

One other point deserves comment. Some surgeons assert that animal experiments on the stomach are not applicable to human patients. Quite often these disbelievers do not have experience with experimental mammalian work on the stomach. We recognize, of course, that any conclusions drawn from animal experiments must be applied with judgment and caution to human patients. The animal to be tested should be chosen to fit the particular experiment. For this reason, we have utilized pigs and monkeys in preference to other mammals for selected experiments. Claude Bernard in his classical *Introduction to Experimental Medicine* pointed out the importance of selecting the right animal as well as the right experiment.

We have been extremely fortunate in obtaining the willing cooperation of world-renowned authorities on our subject to indeed make the book comprehensive. Many have contributed whole chapters, while others, in Special Comments at the ends of chapters, have presented succinctly and knowledgeably their views on particular aspects of the chapter subjects.

An attempt has been made to cover in detail the acceptable operative procedures currently in use. In an era of surgery when individualization of the procedure to the specific problem of each patient is vying for acceptance, an intimate knowledge of many operations becomes mandatory. If gastric surgery is to reach its apogee, three important conditions must be met: (1) surgical procedures must be based on a sound physiological background; (2) any resective operation must be applied quantitatively; and (3) operative therapy must be individualized to fit the needs of each patient.

It is hoped that this book will be of interest to physiologists, to members of surgical house staffs, to candidates for surgical examinations, and to gastroenterologists, other internists, and practicing surgeons. The generalist will find many valuable suggestions for the proper management of patients with gastroduodenal problems in the preoperative phase. We are certain that many views presented are controversial; however, controversy is not necessarily evil. Through it, a wider audience may be interested.

The editors wish to express their appreciation to Mr. Fred Belliveau of Little, Brown and Company, for his patience, advice, and understanding, and to Miss Margaret Mutch for an outstanding job of copy-editing the final manuscript. The faithfulness to deadlines of our contributors was no less than magical. We are particularly indebted to Miss Jessie Phillips of the Department of Medical Illustration of the University of Washington School of Medicine, and we shall always remember with gratitude the help given us by Mrs. Margrette Mackey, Mrs. Roberta Beckman, Miss Marjorie Peterson, and Mrs. Mary Stamper, who spent long hours typing, proofreading, and performing the many other onerous chores involved in the making of a book.

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