

Eleventh Edition

NOVAK'S Textbook of Gynecology

Howard W. Jones III

Anne Colston Wentz

Lonnie S. Burnett



一九六四年四月八日

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WILLIAMS & WILKINS

Baltimore • Hong Kong • London • Sydney



Editor: Carol-Lynn Brown
Associate Editor: Victoria M. Vaughn
Copy Editors: Bill Cady, Megan Shelton, Stephen Siegforth
Design: Norman W. Och
Illustration Planning: Lorraine Wrzosek
Production: Anne G. Seitz
Cover Design: Norman W. Och

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Williams & Wilkins
428 East Preston Street
Baltimore, MD 21202, U.S.A.



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Accurate indications, adverse reactions, and dosage schedules for drugs are provided in this book, but it is impossible that they may change. The reader is urged to review the package information data of the manufacturers of the medications mentioned.

Printed in the United States of America
Tenth Edition
Published 1981

Reprinted 1981, 1982, 1983, 1984, 1985

Library of Congress Cataloging-in-Publication Data

Novak, Edmund R.
Novak's textbook of gynecology.

Includes bibliographies and index.

1. Gynecology. I. Jones III, Howard Wilbur, (date)- II. Wentz, Anne Colston, 1940- III. Burnett, Lonnie S. IV. Title. V. Title: Textbook of gynecology [DNLM: 1. Genital Diseases, Female. WP 100 N935t] RG101.N69 1988 618.1 87-14720
ISBN 0-683-04469-9

89 90 91 92
10 9 8 7 6 5 4 3 2

TO OUR FAMILIES



PREFACE TO THE ELEVENTH EDITION

The eleventh edition of *Novak's Textbook of Gynecology* represents some major changes. Since the textbook was originally published in 1941, a Novak, first Emil and later his son Edmund, has been involved with the book. Dr. Edmund Novak died during the preparation of the tenth edition, and thus this represents the first edition where the authorship and guiding hand of the Novaks has been absent. In addition, Drs. Howard and Georgeanna Jones who have authored the text for many years have decided to step aside. And yet, the tradition continues. The bulk of this new edition has been written by active, practicing academic gynecologists with strong ties to The Johns Hopkins School of Medicine, the Novaks, and the Joneses, and experience in writing for previous editions of this textbook.

We have tried to update the clinical aspects of gynecology while bringing in the relevant points of basic science and maintaining a strong emphasis on pathology. New chapters on breast disease, sexual assault, cervical intraepithelial neoplasia, and diethylstilbestrol exposure have been added, and several chapters have been divided or combined. Almost everything has been rewritten, and many new photographs and tables have been added. As can be imagined, this represents a major effort and was more demanding and time consuming than anyone could have foreseen. The result was a manuscript that was so thorough and all encompassing that it was too long! The size of the original manuscript was such that the new edition would have been too large for a single human being to carry and too expensive for the average practitioner to afford. With great difficulty, adjustments were made to produce a book that would adequately cover the ever-expanding field of gynecology and yet would be affordable and of a size that would allow it to be a ready reference.

Dr. Anne Colston Wentz and I, who have written chapters for the past two editions of the Novak text, were joined by Dr. Lonnie S. Burnett as principal authors. Dr. Burnett is a graduate of the Hopkins program and was on the faculty at Johns Hopkins for many years before moving to Nashville in 1976 to become Professor and Chairman of Obstetrics and Gynecology at Vanderbilt University. We have utilized the talents of many of the Vanderbilt faculty in revising and updating this eleventh edition. Dr. Peter Cartwright, Dr. Steve Entman, and Dr. Jean Anderson of the Department of Obstetrics and Gynecology have each contributed one or more chapters. Dr. John Phillips of the Genetics Center completely updated the chapter on genetics, and Dr. Alan Winfield (Radiology) and Dr. David Page (Pathology) coauthored the chapter on breast disease. The chapter on diethylstilbestrol exposure and its related problems was written by Dr. Ken Noller, Professor of Obstetrics and Gynecology at the Mayo Clinic and a member of the National Diethylstilbestrol Adenosis Project. We greatly appreciate their hard work and excellent contributions. For the many gynecologists around the world who have contributed illustrations, written letters of suggestions, and offered comments for this and previous editions, we are most appreciative.

There are many other people to thank for their tireless and skillful efforts. From the publishers, Williams & Wilkins, editor Carol-Lynn Brown has been most helpful, patient, and understanding. John Gardner was especially helpful in making some of the

hard decisions concerning the ideal size of the final book. The talents, hard work, and cooperative spirit of the many other people at Williams & Wilkins who helped with the illustrations, indexing, marketing and so many of the details that were required are also gratefully acknowledged.

We certainly want to thank both Dr. Howard and Dr. Georgeanna for all their support and advice. The phenomenal success of previous editions of this textbook has been due in no small part to their contributions. Their guidance and encouragement have been invaluable in our attempts to carry on this noble tradition.

To our secretaries, Charlotte Haddix, Velma Mills, Beverly Steels, and Angela Sullivan, we express our sincere thanks for typing the manuscript, checking the references, obtaining the permissions, and the countless other details required for successful publication.

Lastly, we must say a special word of thanks to our families who endured the trials and tribulations of this effort: Pat, Dennis, Betty, Kathie, and Hal, we couldn't have done it without your patience and loving support.

Nashville

H.W.J.

A.C.W.

L.S.B.

PREFACE TO THE TENTH EDITION

Tragedy has accompanied the preparation of the tenth edition of this text. Nine editions had the guiding experience of a Novak—first that of Emil, clinician and gigantic pioneering gynecological pathologist and, following his death in 1957, that of Edmund who followed his father's footsteps. The untimely death of Edmund occurred in the Spring of 1979 just as the tenth revision was to begin. However, he had already started his final scientific effort, the revision of Chapter 20 on tuberculosis, a problem of very personal interest to him, for early in his career he was hospitalized with this disease for almost 2 years.

In order to secure a prompt and contemporary revision, and with an eye to the future, a young and vigorous mini-team of collaborators was recruited for the tenth edition. The two senior authors were pleased and proud to include Dr. Conrad Julian, Resident of Hopkins and for several years a member of its staff, and later Professor of Obstetrics and Gynecology at Vanderbilt University in Nashville. Dr. Anne Colston Wentz, also Hopkins trained, and now Professor of Obstetrics and Gynecology at the Vanderbilt University in Nashville, and Dr. Howard Jones III, trained at the University of Colorado and the M. D. Anderson Hospital in Houston, and now Assistant Professor of Obstetrics and Gynecology at Vanderbilt University in Nashville. It was believed that this group of active clinicians would provide a contemporary and youthful view, and it was hoped that the senior authors would provide a desirable homogeneity.

It is necessary to record that after completing most of the work on Chapters 1, 16, 17, 22, 23, and 24, Conrad Julian died suddenly and unexpectedly in late November 1979. These chapters were finalized by the other authors.

Except for the chapter on unchanging anatomy and portions of others, the book has been essentially rewritten with a view to emphasizing current views of contemporary gynecology.

It is interesting to read Emil Novak's preface to the first edition. He was among the pioneers to realize that the then emerging field of gynecological endocrinology was here to stay, and the first edition emphasized this subspecialty. Through the revisions, that feature has continued and expanded with the development of knowledge. About one-third of the chapters of the tenth edition concern not only the physiology of the reproductive process, which now extends from the brain to the pelvis, but also with the still growing aspects of abnormalities of these mechanisms.

An emphasis on pathology was another original feature of this textbook. This has been continued because more than a mere acquaintance with pathology is an absolute requirement for the superior practice of gynecology. It is fortunate, and indeed not coincidental, that the younger and newer collaborators have a special interest in this aspect of our specialty.

For whatever reason, the time allocated to gynecology (and obstetrics) has tended to be curtailed in the curricula of several medical schools in the United States. Fortunately, this has been less so elsewhere in the world. Such a change has required an abbreviated approach to learning the specialty: the development of a core curriculum

(which means leaving out something), the development of terminal objectives, enabling objectives, multiple choice examinations, and the other requirements of an abbreviated mass approach. For these reasons a condensed version of this text is provided in paperback for students whose principal interest may be in other specialties.

This longer edition is intended for more serious students and for practitioners. It includes, of course, not only all material suggested in the various core curricula, but other material necessary for a comprehensive coverage of general gynecology, gynecological oncology, and gynecological endocrinology. While familiarity with, and reference to, original sources are essential components of scholarship, the approach in this book is unshamedly tempered by years of clinical experience. This simply means that attitudes have been molded by reference to the most instructive and important original source of all—the patient.

The authors are grateful to colleagues and friends who have supplied illustrative and other material. We must especially mention Dr. Edward F. Lewison, world authority on the breast, who has provided in a section of one chapter a definitive view of the gynecologist's role in the diagnosis and treatment of diseases of this important reproductive organ.

Dr. Donald Woodruff, a long-time friend and collaborator of the senior authors, has contributed a superlative chapter on diseases of the vulva and equally comprehensive and useful chapter on the vagina. These two chapters by an international authority in these areas greatly strengthens the book.

We are especially grateful to Mrs. Nancy Gilliam, Mrs. Linda Lynch, Ms. Sandra Horn, Ms. Victoria Johnston and Ms. Patsy Burnside, our secretaries, who have so efficiently checked the references, corralled the figures, typed the manuscripts and attended to the innumerable details associated with an author's effort.

This is also an opportunity to acknowledge the courtesies of the staff of the Williams & Wilkins Company who helped overcome the sadness surrounding the tenth edition by a cooperative spirit which in the end made this tenth edition a pleasure to produce.

PREFACE TO THE FIRST EDITION

Since the plan and scope of this book represent something of a departure from those followed in other textbooks of gynecology, the author feels impelled to state the ideas which furnished the incentive for the preparation of this work, and which dictated its character and scope.

First of all, no especial apology seems necessary for the combined title. While gynecology was formerly often spoken of as a branch of surgery, this is certainly not its present status. Only a small proportion of gynecological patients require surgical treatment. On the other hand, the biological aspects of gynecology have assumed vast importance, chiefly because of the amazing developments in the field of reproductive physiology and endocrinology. Many of these advances find daily application in the interpretation and management of functional disorders in women. In other words, female endocrinology is now an integral and important part of gynecology and it is so considered in this book.

Secondly, it has always seemed to me that the great majority of readers of textbooks on gynecology must be not at all interested in the details of operative technique, to the consideration of which most authors have devoted many pages. Certainly this applies to the general practitioner, while medical educators are now generally agreed that the medical student should not be burdened with such details in his undergraduate years. Since this book is designed for these two groups primarily, the indication seemed clear to omit the consideration of operative details. The plan followed is to carry the patient up to the point of operation, and to discuss the indications, scope and purpose of the latter, without going into descriptions of the technique itself.

Diagnosis and treatment have been accented throughout the book, as I believe most readers would wish. The traditional chapters on anatomy, history-taking, and methods of examination have been boiled down to the essentials. On the other hand, functional disorders, including especially the large group of gynecological endocrinopathies, have been treated rather elaborately, in keeping with the avowed plan of covering the combined fields of gynecology and female endocrinology. The list of references appended to each chapter makes no pretense of exhaustiveness, and preference has been given to publications most worthwhile, those most recent, and those written in English. The pathological aspects of gynecological disease, so fundamental to a proper understanding of the whole subject, have received adequate but not disproportionate consideration.

In the consideration of various endocrine disorders a disturbing problem presented itself. In the discussion of endocrine preparations which might be indicated in treatment, there is no doubt that the mention of various products by their commercial names would have had some advantages. On the other hand, these have appeared to be definitely outweighed by the disadvantages of such a plan, apart from its questionable delicacy. These proprietary preparations are constantly multiplying, and their commercial names are being changed from day to day. For example, there are now well over forty estrogenic preparations on the market. It would be almost impossible, in any enumeration of such therapeutic products, to avoid omission of some of them,

and this might be very unfair to products perhaps just as effective as those which might be included. A complete list published today is quite likely to be very incomplete within a few months.

The sensible plan seemed to be to rely on the intelligence and initiative of the reader, who should have no difficulty in ascertaining good commercial preparations of estrogen, progesterone, chorionic hormone or any other hormone principle to which reference is made in the treatment of various disorders.

It will be noted that the work is devoted to "straight" gynecology and male endocrinology, and that it does not include a consideration of disorders in allied fields which concededly obtrude themselves frequently into the practice of the gynecologist. For example, many gynecologists include female urology in their practices, while anorectal and abdominal surgical problems are often encountered, as may be problems in almost any field of medicine. For textbook purposes, however, the line must be drawn fairly sharply, and the reader will naturally expect to go to the proper sources for information in any of these allied fields.

In short, the purpose of this book is to present to the reader as much information as is possible in as practical a fashion as possible on the subjects of gynecology and female endocrinology. Whether right or wrong, the ideas behind the book represent the crystallization of many years of teaching and practice in gynecology. The author's goal has been to produce a book which would not only be suited to the needs of the medical students, but which could be carried with him into the practice of his profession.

It is a pleasant obligation to express my indebtedness to those who have been helpful to me in the preparation of this book. To a number of my friends, especially Dr. R. B. Greenblatt, of Augusta, Georgia, I am grateful for the loan of illustrations; to Dr. E. L. Krieg, for the excellent colored illustrations as well as for other photographic work; to Mr. Chester Reather, for most of the photomicrographs; to Miss Eva Hildebrandt, technician in the Laboratory of Gynecological Pathology at The Johns Hopkins Hospital and to Sister Mary Lucy, technician at Bon Secours Hospital, for help in the preparation of sections for microscopic illustration; to my artist, Miss Frances Schultz, for many of the illustrations; and to my faithful secretary, Miss Helen L. Clayton, for much help throughout the project. For permission to use illustrations which have appeared in previously published articles of my own I am indebted to the publishers of the *Journal of the American Medical Association*; the *American Journal of Obstetrics and Gynecology*; *Surgery, Gynecology and Obstetrics*; and the *Bulletin of The Johns Hopkins Hospital*.

Certain illustrations which appeared in one of my previous books, *Gynecological and Obstetrical Pathology*, do not have a credit line in the caption. For permission to use these I wish to thank W. B. Saunders Company, the publishers.

Finally, it is a genuine pleasure to acknowledge the efficient and wholehearted cooperation of the publishers, Little, Brown and Co., throughout the preparation of this work.

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SECTION

1

BASIC
FOUNDATIONS
OF
GYNECOLOGY

Chapter 1

Gynecologic History, Examination and Operations

LONNIE S. BURNETT

GENERAL ASPECTS OF THE HISTORY AND PHYSICAL EXAMINATION

The initial encounter between the gynecologist and the patient should be carried out in a highly professional, organized and structured manner; it should be the first step in developing an optimum doctor-patient relationship aimed at achieving high-quality but cost-conscious health care. Ideal results require that the patient become an active participant, and this can occur only when she has sufficient knowledge and understanding of her body and its functions. Patient education, therefore, becomes a highly important part of virtually every doctor-patient encounter. When the patient is being seen for "routine" or health maintenance reasons, the educational effort will be directed toward the prevention or early detection of disease. For example, the importance and the technique of self-examination of the breast should be understood by all women, and those approaching the menopause will require an understanding of the normal and abnormal events that may occur and the issues related to osteoporosis and its prevention. When the patient encounter is brought about by a specific health-related problem such as infertility, abnormal bleeding, or pelvic pain, the educational process will then be directed at the specific disease or condition. Almost invariably, optimum health maintenance and the successful management of health-related problems require decisions on the part of the patient that can be made only when she has a reasonable understanding of the issues involved, available alternatives, costs, risks and benefits.

The detailed conduct of the initial patient encounter will generally be individualized to reflect the preference of the gynecologist as well as the specific circumstances that brought about the patient's visit. Nevertheless, most of these encounters should be conducted within common guidelines that recognize that patient perceptions and

expectations must be addressed if a mutually acceptable patient-physician relationship is to be achieved. Especially for the medical student and resident, the following "dos and don'ts" may be useful reminders as the remainder of this chapter is read.

- Do provide the patient with adequate time to tell in her own words the reason for her visit; an initial visit should be scheduled with ample time to achieve this goal. "Failure to listen" is probably the single most common complaint that patients register regarding their physicians. On occasion, the time required by the patient is simply too great for the time scheduled; under such circumstances it seems imperative that the physician acknowledge the importance of the patient's history and complaints by scheduling a second visit in order to complete the encounter.
- Don't convey to the patient an inappropriate manner of familiarity or an attitude that is patronizing, condescending or judgmental. Women today rightfully insist that a patient-doctor relationship be characterized by mutual respect and understanding. For instance, in most situations, using the patient's first name or using terms of familiarity are highly inappropriate and should be avoided. The use of a patient's first name will be offensive to many and invites the patient to do likewise with her physician.
- Don't carry on unrelated business during the patient encounter. Except during emergencies, phone calls and the conduct of other professional or nonprofessional business not related to the patient's visit should be deferred to a later time. The patient should and will expect the physician's undivided attention, and such will reinforce the concept that the patient's time is valuable and her medical problem is important.
- Do begin the visit at or close to the scheduled appointment time. Among the most common