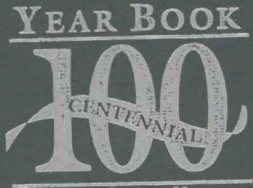
YEARBOOK®

YEAR BOOK OF SURGERY® 2001



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2001

The Year Book of SURGERY®

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2001 YEAR BOOK OF SURGERY®

Statement of Purpose

The YEAR BOOK Series

The YEAR BOOK series was devised in 1901 by health professionals who observed that the literature of medicine and related disciplines had become so voluminous that no one individual could read and place in perspective every potential advance in a major specialty. That has never been more true than it is today.

More than merely a series of books, YEAR BOOK volumes are the tangible results of a unique service designed to accomplish the following:

- to *survey* a wide range of journals
- to *select* from those journals papers representing significant advances and statements of important clinical principles
- to provide *abstracts* of those articles that are readable, convenient summaries of their key points
- to provide *informed commentary* about their relevance

These publications grow out of a unique process that draws on the talents of outstanding authorities in clinical and fundamental disciplines, trained literature specialists, and professional writers—all supported by the resources of Mosby, the world's preeminent publisher for the health professions.

The Literature Base

Mosby and its editors survey approximately 500 journals published worldwide, covering the full range of the health professions. On an annual basis, the publisher examines usage patterns and polls its expert authorities to add new journals to the literature base and to delete journals that are no longer useful as potential YEAR BOOK sources.

The Literature Survey

More than 250,000 peer-reviewed articles per year are scanned systematically—including title, text, illustrations, tables, and references—by the publisher's team of literature specialists. Each scan is compared, article by article, to the search strategies that the publisher has developed in consultation with the nearly 200 outside experts who form the pool of YEAR BOOK editors. A given article with broad scientific or clinical implications may be reviewed by any number of YEAR BOOK editors, from one to a dozen or more, regardless of the discipline for which the paper was originally published. In turn, each editor who receives the article reviews it to determine whether it should be included in his or her volume. This decision is based on the article's inherent quality, its relevance to readers of that YEAR BOOK, and the editor's goal to represent a comprehensive picture of a given field in each volume of the YEAR BOOK. In addition, the editor indicates when to include figures and tables from the article to help the YEAR BOOK reader better understand the information.

Of the quarter million articles scanned each year, only 5% are selected for publication within the YEAR BOOK series, thereby assuring readers of the high value of every selection.

The Abstract

The publisher's abstracting staff is headed by a seasoned medical editing professional and includes individuals with extensive experience in writing for the health professions. When an article is selected for inclusion in a YEAR BOOK, it is assigned to a member of the abstracting staff. The abstractor, guided in many cases by notations supplied by the physician editor, writes a structured, condensed summary designed to rapidly communicate to the reader the essential information contained in the article.

The Commentary

The YEAR BOOK editorial boards, sometimes assisted by guest contributors, write comments that place each article in perspective. This provides the reader with insights from authorities in each discipline that point out the value of the article and that often reflect the authority's thought processes in assessing the article.

Additional Editorial Features

The editorial boards of each YEAR BOOK organize the abstracts and comments to provide a logical and satisfying sequence of information. To enhance the organization, editors also provide introductions to sections or individual chapters, comments linking a number of abstracts, citations to additional literature, and other features.

The published YEAR BOOK contains enhanced bibliographic citations for each selected article, including extended listings of multiple authors and identification of author affiliations. Each YEAR BOOK contains a Table of Contents specific to that year's volume. From year to year, the Table of Contents for a given YEAR BOOK may vary, depending on developments within the field.

Every YEAR BOOK contains a list of the journals from which articles have been selected. This list represents a subset of approximately 500 journals surveyed by the publisher and occasionally reflects a particularly pertinent article from a journal that is not surveyed routinely.

Finally, each volume contains a comprehensive subject index and an index to authors of each selected article.

The 2001 Year Book Series

Year Book of Allergy, Asthma, and Clinical Immunology™: Drs Rosenwasser, Boguniewicz, Milgrom, Routes, and Spahn

Year Book of Anesthesiology and Pain Management™: Drs Tinker, Abram, Chestnut, Roizen, Rothenberg, and Wood

Year Book of Cardiology®: Drs Schlant, Collins, Gersh, Graham, Kaplan, and Waldo

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Year Book of Family Practice®: Drs Bowman, Dexter, Gilchrist, Morrison, Neill, and Scherger

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Year Book of Hand Surgery®: Drs Berger and Ladd

Year Book of Medicine®: Drs Barkin, Frishman, Jett, Klahr, Loehrer, Malawista, Mandell, and Mazzaferri

Year Book of Neonatal and Perinatal Medicine®: Drs Fanaroff, Maisels, and Stevenson

Year Book of Neurology and Neurosurgery®: Drs Bradley, Gibbs, and Verma

Year Book of Nuclear Medicine®: Drs Gottschalk, Blaufox, Coleman, Strauss, and Zubal

Year Book of Obstetrics, Gynecology, and Women's Health®: Drs Mishell, Kirschbaum, and Miller

Year Book of Oncology®: Drs Loehrer, Eisenberg, Glatstein, Gordon, Johnson, Pratt, and Thigpen

Year Book of Ophthalmology®: Drs Wilson, Cohen, Eagle, Grossman, Laibson, Maguire, Nelson, Penne, Rapuano, Sergott, Shields, Spaeth, Steinmann, Tipperman, Ms Gosfield, and Ms Salmon

Year Book of Orthopedics®: Drs Morrey, Beauchamp, Currier, Peterson, Swiontkowski, and Trigg

Year Book of Otolaryngology–Head and Neck Surgery®: Drs Paparella, Holt, and Otto

Year Book of Pathology and Laboratory Medicine®: Drs Raab, Bissell, Dabbs, Silverman, and Stanley

Year Book of Pediatrics®: Dr Stockman

Year Book of Plastic, Reconstructive, and Aesthetic Surgery®: Drs Miller, Bartlett, Garner, McKinney, Ruberg, Salisbury, and Smith

Year Book of Psychiatry and Applied Mental Health®: Drs Talbott, Ballenger, Eells, Frances, Jensen, Meltzer, Simpson, and Tasman

Year Book of Pulmonary Disease®: Drs Jett, Castro, Maurer, Peters, Phillips, and Ryu

Year Book of Rheumatology, Arthritis, and Musculoskeletal Disease™: Drs Panush, Hadler, Hellmann, Lahita, Lane, and LeRoy

Year Book of Sports Medicine®: Drs Shephard, Alexander, Kohrt, Nieman, Torg, and Mr George

Year Book of Surgery®: Drs Copeland, Bland, Cerfolio, Deitch, Eberlein, Howard, Luce, Seeger, and Souba

Year Book of Urology®: Drs Andriole and Coplen

Year Book of Vascular Surgery®: Dr Porter

Editorial Board

Journals Represented

Mosby and its editors survey approximately 500 U.S. and foreign medical and allied health journals. From these journals, the editors select the articles to be abstracted. Journals represented in this YEAR BOOK are listed below.

Acta Radiologica
American Journal of Clinical Nutrition
American Journal of Emergency Medicine
American Journal of Gastroenterology
American Journal of Physiology
American Journal of Roentgenology
American Journal of Surgery
American Surgeon
Anesthesiology
Annals of Internal Medicine
Annals of Plastic Surgery
Annals of Surgery
Annals of Surgical Oncology
Annals of Thoracic Surgery
Archives of Otolaryngology-Head and Neck Surgery
Archives of Surgery
British Journal of Plastic Surgery
British Journal of Radiology
British Journal of Surgery
Canadian Journal of Surgery
Cancer
Chest
Circulation
Clinical Cancer Research
Clinical Radiology
Clinical Transplantation
Critical Care Medicine
Diseases of the Colon and Rectum
European Journal of Cancer
European Journal of Nuclear Medicine
European Journal of Plastic Surgery
European Journal of Surgery
European Journal of Vascular and Endovascular Surgery
Gastroenterology
Gastrointestinal Endoscopy
Infection Control and Hospital Epidemiology
International Journal of Radiation, Oncology, Biology, and Physics
Journal of Applied Physiology
Journal of Burn Care and Rehabilitation
Journal of Gastrointestinal Surgery
Journal of Investigative Dermatology
Journal of Pediatric Gastroenterology and Nutrition
Journal of Pediatric Surgery
Journal of Surgical Research
Journal of Thoracic and Cardiovascular Surgery
Journal of Trauma: Injury, Infection, and Critical Care
Journal of Vascular Surgery

Journal of the American College of Surgeons
Journal of the American Medical Association
Journal of the National Cancer Institute
Lancet
New England Journal of Medicine
Otolaryngology - Head and Neck Surgery
Plastic and Reconstructive Surgery
Radiology
SHOCK
Stroke
Surgery
The Laryngoscope Journal
Transplantation
World Journal of Surgery

Standard Abbreviations

The following terms are abbreviated in this edition: acquired immunodeficiency syndrome (AIDS), cardiopulmonary resuscitation (CPR), central nervous system (CNS), cerebrospinal fluid (CSF), computed tomography (CT), deoxyribonucleic acid (DNA), electrocardiography (ECG), health maintenance organization (HMO), human immunodeficiency virus (HIV), intensive care unit (ICU), intramuscular (IM), intravenous (IV), magnetic resonance (MR) imaging (MRI), ribonucleic acid (RNA), and ultrasound (US).

Note

The Year Book of Surgery is a literature survey service providing abstracts of articles published in the professional literature. Every effort is made to assure the accuracy of the information presented in these pages. Neither the editor nor the publisher of the Year Book of Surgery can be responsible for errors in the original materials. The editors' comments are their own opinions. Mention of specific products within this publication does not constitute endorsement.

To facilitate the use of the Year Book of Surgery as a reference tool, all illustrations and tables included in this publication are now identified as they appear in the original article. This change is meant to help the reader recognize that any illustration or table appearing in the Year Book of Surgery may be only one of many in the original article. For this reason, figure and table numbers appear to be out of sequence within the Year Book of Surgery.

Publisher's Preface

The publication of the 2001 YEAR BOOK series marks the 100th anniversary of the original Practical Medicine Series of Year Books. To commemorate this milestone, each 2001 Year Book includes an anniversary seal on the cover. The content and format of the Year Books remain unchanged from the beginning of the last century—each volume consists of abstracts of the best scholarly articles of the year, accompanied by expert critical commentaries.

The first Year Book appeared in 1900 when Gustavus P. Head, MD, produced the first *Year Book of the Nose, Throat and Ear*, a volume consisting of highlights from the previous year's best literature, enhanced by expert observations. Dr Head assembled a small group of distinguished physicians to serve as editors, and the first series of Year Books was published in 1901. The first volumes of the Year Book series—*General Medicine, General Surgery, The Eye, Gynecology, Obstetrics, Materia Medica and Therapeutics, Pediatrics, Physiology,* and *Skin and Venereal Diseases*—appeared at monthly intervals, with 10 volumes published in 1 year. The entire series was met with critical enthusiasm.

In 1904, Dr Head's brother, Cloyd, assumed responsibility for the management of the Year Books. In 1905, the volumes began to appear at regular intervals during the calendar year instead of on a monthly basis. By World War I, the Year Books had been established as an authority on medical and surgical progress.

The postwar period brought about a significant change in the practice of medicine: specialization. To accommodate the rise of specialization in medicine, the Year Books were now sold as individual volumes rather than only as a complete set. This change brought about a tremendous response and sales of the books increased. In 1922, the Year Books became even more specialized, as the books now had different editors for the different medical specialties covered in each volume. Later, in 1933, the title of the series changed from the Practical Medicine Series of Year Books to the Practical Medicine Year Books to reflect these new designs.

The Year Books have grown significantly from the first 10-volume series in 1901 to a diversified series of 32 volumes in 2001. That the Year Book series is the only series of their kind to have survived is a testament to the vision and commitment of its founders. Some minor changes in format and design have occurred throughout the years, but the mission of the Year Book series—to provide a record of exceptional medical achievements distinguished by the reflections of many of the great names in medicine today—has remained constant.

Table of Contents

1 General Considerations

Introduction

The debate over morbidity and mortality in low-volume hospitals compared with high-volume hospitals continues; one criticism of many publications on this subject is selection bias by the authors who frequently work in high-volume hospitals. In California, the observation has been made from outcomes data that more than 50% of patients with high-risk illnesses admitted to low-volume hospitals could just as easily have gone to high-volume hospitals or been safely transferred there before surgery. New York State also has outcome data, and managed care contracting agencies tend to use higher mortality hospitals more frequently.

The Veterans Administration National Surgical Quality Improvement Program provides reliable risk-adjusted mortality and morbidity data for major surgery performed in the Veterans Administration system. Hospitals that are high outliers for morbidity can be identified, the reasons investigated, and prevention protocols established. Internal peer review has been documented to alter practice patterns, decrease costs, and lower morbidity and mortality rates when surgeons who do the same procedures are compared with each other within a single institution.

Physicians can only affect the variable costs of hospitalization, primarily through reduction of the use of hospital services. Administrators allocate overhead costs, often with minimal input from physicians. These operational costs can be distributed arbitrarily and can account for as much as two thirds of the total cost of a clinical unit. Therefore, the amount by which physician practice patterns can affect cost containment is limited. For example, a critical look at length of stay demonstrated that a full 1-day reduction in length of stay would reduce total hospital cost of an admission of at least 4 days or longer by only 3% or less. Likewise, capitated contracts that produce patients with low acuity and, therefore, lower-cost diseases when compared with the hospital population at large are revenue-enhancing since these low-acuity patients often fill beds that would otherwise be empty yet carry the same fixed costs as if the beds were occupied.

Patients with complex surgical diseases are often routed to academic medical centers. Treatment of these patients is profitable to the hospital but results in marginal losses to the physicians. A question to pose to

health care economists is what will happen when these procedures are no longer profitable to the hospital? The ability to generate profitability data by diagnosis-related groups exists. Pity the unfortunate patient who contracts a nonprofitable disease. Interestingly, mortality and length of stay for patients undergoing major pancreatic resections were lowest in institutions with general surgery residency programs. At least for this procedure, the fear that resident training adversely affects patient outcome and hospital costs was dispelled.

There are states where nurse practitioners and primary care physicians have equivalent responsibilities, can prescribe drugs, accept direct payment from most payors, and obtain admitting hospital privileges. Outcomes for patients randomly assigned to MDs versus nurse practitioners were the same, as were resource utilization and patient satisfaction in an outpatient setting of primarily indigent patients. Nevertheless, the study does indicate that nurse practitioners can assume some patient care responsibilities historically provided by primary care physicians and with potentially equivalent outcomes.

The restructuring of general surgery residency programs continues to receive special attention. Some surgical specialties do not require 5 years of general surgery training. Plastic surgery has already come to this conclusion. A philosophy is evolving that complex general surgical procedures should be done only by residents who will do such cases in practice. There is a 12% attrition rate of residents who enter surgical programs. This attrition rate should be a factor in the number of residents who enter the program at the intern level so that a full compliment of residents can finish the program as chief residents. Community hospitals affiliated with a university teaching hospital provide cognitive training equal to that of the academic center, especially if residents and students rotate through multiple different disciplines at the community hospital.

One of the best articles on the risk and incidence of hepatitis for the surgeon is contained herein. Once again, emphasis is placed on vaccination for hepatitis B. Those surgeons who carry the e-antigen should not do invasive procedures since their viral load is potentially infectious to patients. Hepatitis C remains a severe occupational hazard for which there is no vaccination.

Recertification in general surgery requires the candidate to report an operative log, and theses logs allow the development of practice patterns for general surgeons in the United States. This pattern is heterogeneous, but the practice in rural areas directly reflects the pattern of training during surgical residencies. Although the more difficult operative procedures do tend to concentrate in the hands of a few surgeons, the ability to do these procedures should be in the repertoire of all general surgeons when they finish a residency program.

About 15 million people take herbal remedies, and fewer than 40% of these patients disclose herbal use. Adverse drug reactions, especially with anesthetics, represents a potential health hazard that is now being realized.

Edward M. Copeland III, MD