

YEAR BOOK[®]

YEAR BOOK OF SURGERY[®] 1994

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1994

The Year Book of SURGERY®

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1994
YEAR BOOK OF
SURGERY®



Statement of Purpose

The YEAR BOOK Service

The YEAR BOOK series was devised in 1901 by practicing 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. In the final decade of the 20th century, this recognition is more acutely true than it was in 1901.

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 of proven value
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- to provide *commentary* about those articles to place them in perspective

These publications grow out of a unique process that calls 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 subscribes to nearly 1,000 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

The publisher's team of literature specialists, all of whom are trained and experienced health professionals, examines every original, peer-reviewed article in each journal issue. More than 250,000 articles per year are scanned systematically, including title, text, illustrations, tables, and references. Each scan is compared, article by article, to the search strategies that the publisher has developed in consultation with the 270 outside experts who form the pool of YEAR BOOK editors. A given article may be reviewed by any number of 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 or not the article should be included in the YEAR BOOK. This decision is based on the article's inherent quality, its probable usefulness to readers of that YEAR BOOK, and the editor's goal to represent a balanced 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 detailed analysis 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 physician-writer and includes individuals with training in the life sciences, medicine, and other areas, plus extensive experience in writing for the health professions and related industries. Each selected article is assigned to a specific writer on this abstracting staff. The abstracter, guided in many cases by notations supplied by the expert editor, writes a structured, condensed summary designed so that the reader can rapidly acquire the essential information contained in the article.

The Commentary

The YEAR BOOK editorial boards, sometimes assisted by guest commentators, write comments that place each article in perspective for the reader. This provides the reader with the equivalent of a personal consultation with a leading international authority—an opportunity to better understand the value of the article and to benefit from 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 will vary depending on developments within the field.

Every YEAR BOOK contains a list of the journals from which papers have been selected. This list represents a subset of the nearly 1,000 journals surveyed by the publisher and occasionally reflects a particularly pertinent article from a journal that is not surveyed on a routine basis.

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

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Journals Represented

Mosby subscribes to and surveys nearly 1,000 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.

Academic Medicine
American Heart Journal
American Industrial Hygiene Association Journal
American Journal of Infection Control
American Journal of Pathology
American Journal of Physiology
American Journal of Roentgenology
American Journal of Surgery
American Journal of Surgical Pathology
American Surgeon
Anesthesiology
Annals of Plastic Surgery
Annals of Surgery
Annals of Thoracic Surgery
Archives of Surgery
British Journal of Cancer
British Journal of Surgery
British Medical Journal
Burns
Canadian Journal of Surgery
Canadian Medical Association Journal
Cancer
Cancer Research
Cardiovascular and Interventional Radiology
Chest
Circulation
Circulatory Shock
Critical Care Medicine
Digestive Diseases and Sciences
Diseases of the Colon and Rectum
European Journal of Cancer
European Journal of Surgery
Gastroenterology
Head and Neck
Human Pathology
Inquiry: The Journal of Health Care Organization, Provision, and Financing
Intensive Care Medicine
International Journal of Cancer
International Journal of Radiation, Oncology, Biology, and Physics
Journal of Burn Care and Rehabilitation
Journal of Clinical Investigation
Journal of Clinical Oncology
Journal of Experimental Medicine
Journal of Heart and Lung Transplantation
Journal of Immunology
Journal of Infectious Diseases
Journal of Interventional Radiology
Journal of Laboratory and Clinical Medicine
Journal of Nuclear Medicine
Journal of Pediatric Orthopedics

Journal of Pediatric Surgery
Journal of Surgical Oncology
Journal of Surgical Research
Journal of Thoracic and Cardiovascular Surgery
Journal of Trauma
Journal of Vascular Surgery
Journal of the American Medical Association
Journal of the National Cancer Institute
Lancet
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Metabolism
Microsurgery
New England Journal of Medicine
Nutrition
Otolaryngology - Head and Neck Surgery
Pediatric Radiology
Plastic and Reconstructive Surgery
Radiology
S.A.M.J./S.A.M.T. - South African Medical Journal
Southern Medical Journal
Surgery
Surgery, Gynecology and Obstetrics
Thorax
Transplantation
Transplantation Proceedings
World Journal of Surgery
Wound Repair and Regeneration

STANDARD ABBREVIATIONS

The following terms are abbreviated in this edition: acquired immunodeficiency syndrome (AIDS), the central nervous system (CNS), cerebrospinal fluid (CSF), computed tomography (CT), electrocardiography (ECG), human immunodeficiency virus (HIV), and magnetic resonance (MR) imaging (MRI).

Introduction

The Editorial Board would like to thank Martin C. Robson, M.D., for his participation in the YEAR BOOK OF SURGERY and to welcome Edward A. Luce, M.D., from the University of Kentucky, to the Editorial Board. Also, James M. Seeger, M.D., from the University of Florida, joins the Editorial Board and expands the coverage of vascular surgery.

The disciplines of molecular biology and genetic engineering have rapidly moved to the forefront in virtually all aspects of surgical research, and clinical application is no longer "around the corner." It is here. Many of the recent advances in these disciplines are covered in this YEAR BOOK.

Health care reform and choice of medical career are topics that are becoming ever more frequent in the surgical literature. The number of individuals annually certified by the American Board of Surgery has changed very little during the past 10 years, and the number of chief resident slots in surgery has actually decreased. Primary care residency positions, as defined by positions in family practice, internal medicine and pediatrics, have increased dramatically. In fact, 49% of all certificates awarded between 1982 and 1992 were in these 3 primary care specialties. The Health Security Act, if passed, mandates that 55% of each graduating class of medical students enter a primary care discipline that includes obstetrics and gynecology. Had the physicians who were certified in a primary care discipline during the past 10 years actually practiced primary care, the 55% mandate would have already been met. The reality, of course, is that 75% of these individuals chose to subspecialize.

"Choice" of a medical career may be less of an option in the future, because federal funding may dictate the number of residency positions available. Any attempt by an institution to augment funding with additional monies may result in withdrawal of federal funding. The Surgical Residency Review Committee and the American Board of Surgery have applied stringent criteria to accreditation and certification, and they have attempted to keep the number of surgeons commensurate with the incidence of surgical illness. Nevertheless, the outcome of funding for surgical manpower remains unpredictable and will be a hotly debated topic.

Edward M. Copeland, III, M.D.

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1 General Considerations

What Does the American Board of Surgery In-Training/Surgical Basic Science Examination Tell Us About Graduate Surgical Education?

DaRosa DA, Shuck JM, Biester TW, Folse R (Southern Illinois Univ, Springfield; Case Western Reserve Univ, Cleveland, Ohio; American Board of Surgery, Philadelphia)

Surgery 113:8-13, 1993

140-94-1-1

Background.—Surgeons need a complete understanding of all disease processes in which surgical involvement and management are indicated. The strengths and weaknesses in residents' basic science knowledge were assessed, as was their ability to progressively improve in their abilities to recall basic science information and clinical management facts, to analyze cause-and-effect relationships, and to solve clinical problems.

Methods.—Residents' knowledge of basic science was assessed using the results of the January 1990 American Board of Surgery's In-Training/Surgical Basic Science Exam (IT/SBSE). This examination included 142 basic science items and 97 clinical management questions. The scores of residents in postgraduate year 1 were compared with those of residents in postgraduate year 5. Content was considered known if 67% or more of the residents in each group answered the question correctly.

Findings.—New and graduating residents did not know 44% of the content tested in the basic science questions. The new residents did not demonstrate a basic science knowledge better than that of graduating residents. Residents performed better on basic science questions related to the cardiovascular-respiratory system. Only 20% of the endocrine-related questions were known at the beginning and end of training. Residents in postgraduate year 1 knew 38% of the basic science questions. Only 29% of the 63% of the basic science questions that were unknown on entry were known at the end of training. Fifty-two percent of the 71% of clinical management items unknown at entry were known at the end. Residents in postgraduate year 5 correctly answered more recall, analysis, and inference level questions than did residents between years 1 and 4.

Conclusion.—The American Board of Surgery's in-service examinations are useful for objectively measuring residents' knowledge and provide critical feedback to faculty, program directors, and residents. The

findings should enable program directors to assess the strengths and weaknesses in residency training curricula.

► The assumption has often been made that new, incoming residents have a better basic science knowledge than graduating chief residents, because the new residents have more recently studied the basic sciences in medical school. This study disproves this assumption. The basic science portion of the IT/SBSE was instituted by The American Board of Surgery to improve the basic science knowledge of surgical residents during their training. The failure of graduating residents to answer correctly basic science questions that were unknown to new residents indicates that this goal has not been achieved and provides support for the insistence of the General Surgical Residency Review Committee that a strong basic science curriculum be put in place in all accredited general surgery programs.—E.M. Copeland, III, M.D.

Evaluations of Surgery Resident Performance Correlate With Success in Board Examinations

Wade TP, Andrus CH, Kaminski DL (St Louis Univ, Mo)

Surgery 113:644–648, 1993

140-94-1-2

Objective.—In most surgical residency programs, the assessment system includes objective measures of surgical knowledge, usually based on the In-Service Training Examination of the American Board of Surgery (ABSITE) and faculty members' subjective evaluations in both narrative and standardized formats. Although ABSITE scores have been shown to predict success on the qualifying (written) examination, for certification, the subjective evaluations have shown an inconsistent relationship to objective measures of competence. The relationship between both ABSITE scores and faculty evaluations of resident skills and future performance, was examined at St. Louis University.

Methods.—Objective and subjective evaluations made during the previous 15 years in a columnar university program in general surgery were reviewed. Both types of evaluations were assessed for their ability to predict success on the written (qualifying) and oral (certifying) American Board of Surgery (ABS) examinations.

Findings.—Of 40 residents taking the qualifying examination, 36 passed on the first attempt, 2 passed on the second or third attempt, and 2 failed on all 3 attempts. Of the 38 residents who passed, 28 passed the certifying examination on the first attempt, 8 on the second attempt, and 2 on the third attempt. A significant correlation was noted between ABSITE scores and success on the qualifying examination. The subjective assessments were not correlated with either ABSITE or qualifying scores. However, above-average subjective assessments did predict success on the certifying examination. Success on the certifying examination was also predicted by chief-year ABSITE total percentile score and the score on the first qualifying examination. The attrition rate in the St. Louis

University program was 23%, with more than half of the departures being voluntary.

Conclusions.—Subjective evaluations of surgical residents do predict later success on the Board's examination for certification. These findings suggest that the Board's certifying examination is an effective test of a candidate's knowledge of surgical facts and his or her ability to communicate them.

► At its best, the certifying examination of the American Board of Surgery would differentiate between qualified and nonqualified surgeons. If this were so, the examination could be uniformly used as a credentialing mechanism for surgical privileges in hospitals. The argument is often made that a series of oral examinations given on a single day cannot determine quality among candidates for hospital credentialing. This study refutes this argument. Observation of the clinical expertise of surgical residents by multiple faculty members over extended periods had a strong positive correlation with passing scores on the American Board of Surgery certifying examination. At least for the residents at this one institution, quality of clinical behavior was appropriately tested by the certifying examination.—E.M. Copeland, III, M.D.

Comparison of Housestaff's Estimates of Their Workday Activities With Results of a Random Work-Sampling Study

Oddone E, Guarisco S, Simel D (Veterans Affairs Med Ctr, Durham, NC; Duke Univ, Durham, NC)

Acad Med 68:859–861, 1993

140-94-1-3

Objective.—A formal time-analysis study based on random work sampling was performed to quantify a housestaff's workday activities. Previous studies in this area have been of limited validity because they depended on traditional techniques based on observers' records or the housestaff's recall.

Methods.—The 2 methods of quantifying workday activities were compared in a 3-month study of 18 interns and 18 residents rotating on the general medicine service at Duke University Medical Center. Twenty-six members of the housestaff first provided estimates of how they spent their workdays, using a list of 20 specific work activities and 13 work contacts. All 36 study participants then wore random reminder beepers and recorded what they were doing (activity) and with whom (contact) at each beep. Beepers were worn during on-call and off-call days, weekdays, and weekends.

Results.—The housestaff estimated that they spent 27% of their day performing histories and physical examinations; the actual proportion of time was 17%. They also overestimated the proportion of time spent teaching others (3.6% vs. 1.1%) and the time spent reading textbooks or journals (8.4% vs. 2.3%). There were considerable overestimates of the