A. A. SHAHBAZIAN M.D.

Cancer

A MANUAL FOR PRACTITIONERS FIFTH EDITION

American Cancer Society
Massachusetts Division

CANCER

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FIFTH EDITION

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DEDICATION

This volume is dedicated to Ernest M. Daland, MD, a pioneer in cancer surgery in New England and the guiding spirit behind the previous *Cancer* manuals and who has devoted a lifetime of practice to improving the care of cancer patients.

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INTRODUCTION

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This edition of *Cancer — A Manual for Practitioners* is the fifth of a series published by the Massachusetts Chapter of the American Cancer Society beginning in 1940. These volumes have attempted to distill, for the nonspecialist, the essentials of care for the patient with cancer. This present volume, while acknowledging its heritage, strikes out on a new road and reflects the enormous changes that have occurred in the management of patients with cancer over the last decade. From a specialty area essentially dominated by surgeons, cancer therapy has broadened to reflect the major contributions toward curative treatments of a variety of specialists in a truly multidisciplined approach.

While it is true that an "ideal" cancer — small, localized, easily detectable, and highly curable — may be most effectively treated by a single skilled practitioner, it is equally true that for many cancers, which do not conform to this "ideal," sophisticated practitioners of a variety of talents working together will create the therapeutic climate most likely to generate cure or effective palliation with maximum conservation of both patient and community resources. This verity reflects the enormous scientific efforts brought to bear on the cancer problem in research laboratories and clinical projects and in the resultant outpouring of knowledge and literature that inundates the cancer field and prevents any single specialist from being conversant with the entire range of current developments or from placing them in perspective. One of the hazards of management of patients with cancer today lies in analyzing this literary Mississippi, where unproved diagnostic and therapeutic techniques, frequently announced with publicity more appropriate to the field of commerce, compete with more thoughtful assessments of current practices. A critical attitude based on the maturity and perspective of experienced specialists and practitioners, which has withstood the fluctuating enthusiasms and pressures of patients, advertisements, lay and professional publications, and medical colleagues and

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yet has responded to legitimate progress soundly based, forms an essential ingredient in the selection of authors for this volume.

Reflecting the deepening and broadening knowledge in cancer are the increased awareness of psychologic aspects of patients faced with a dread disease and the aspects of communication so important to humane management. The role of epidemiology and genetics with their bearing on the definition of high-risk groups essential to the development of logical screening programs of limited populations to detect presymptomatic disease has also become crucial. The function of the pathologist has been intensified, for with the development of adjuvant programs of radiation and chemotherapy, sophisticated aspects of the pathologic description of cancers, such as mitotic rate, grade, depth of involvement, number of lymph node metastases, and evidence of host factors, all assume more importance, as they frequently determine the use of potentially toxic and expensive long-term courses of treatment.

Almost every chapter has deliberately been co-authored to emphasize the multidisciplined approach in the modern management of cancer. Writing is complicated by such cooperative efforts that involve discussions, frequent compromise, and balance of presentations, but the results more than justify this extra effort just as the results of the extra effort required for multidisciplined management of patients are justified. Basic guidelines presented in this volume are distilled by a distinguished group of physicians from a wide range of institutions who represent a variety of disciplines presenting the state of the art for proper management of the vast majority of patients with cancer.

The public, the ultimate subject of this book, also has a major role in control of cancer through curbing such destructive habits as smoking and inappropriate diet, the development of informed concern that enables evaluation and reporting of early symptoms or aspects of risk, and the maturing of judgment to put in perspective the quality of life desired and the costs necessary to achieve this. These legitimate public concerns and responsibilities should be expressed through intelligent leadership appreciative of these sometimes painful choices. Accountability should be the key reality word of the next decade, and certainly this is true in the area of cancer management. The public must be accountable for its self-indulgence, education, and priority assessments, the medical profession for its humaneness and compassion as well as its technical qualifications, the media for avoidance of sensationalism and its role in responsible education of the public, and our public leadership for its mature judgment in balancing cost considerations and the public welfare.

The public must realize also that a number of experts are increasingly convinced that the medical profession may have only a limited role in disease control. "In developed countries, the individual's health is now largely in his own hands. If he is fortunate enough to be free of congenital disease or

disability, and the majority are, to have an income that meets the costs of essentials, and to be reasonably protected from environmental hazards, he can do more to preserve his health and extend his life by controlling his behavior (smoking, drinking, diet, exercise, and using seat belts in automobiles) than he can by making full use of all the specific preventive or therapeutic medical services available to him." [1] Thus, the medical profession and progressive political leaders are beginning to appreciate the necessity to conduct educational campaigns and design legislation to make the public aware of their responsibility in good health and the need for their personal commitment and participation as the most important element in a society's health scheme. Such programs apply, in a more sophisticated way, to the entire field of cancer. For instance, the death rate from cancer in Utah, largely populated by abstentious Mormons, is but 103 deaths per 100,000 population per year, whereas in Massachusetts it is 201 per 100,000 per year. While some of this difference in cancer death rates is due to age variations in the two states, much of it is based on variations in personal habits. Such an enormous reduction in death rates, also seen in Seventh Day Adventists who are largely abstentious and diet conscious, will far outweigh the effects of all our current medical care and is far cheaper than our massive "halfway technology."

We must all recognize and encourage the development of "high technology," in the words of Lewis Thomas.[2] Contrasting the enormously expensive "halfway technology" or false technology of our current management of cancer, involving surgical operations, elaborate equipment for radiation therapy, and toxic biologic agents, with the extraordinary cost-effective technology derived from the understanding of disease mechanisms will illustrate the inestimable value of basic research. Salk vaccine costs but pennies contrasted with the enormous expense of the iron lung and other techniques needed to treat victims of poliomyelitis. "It is a characteristic of [halfway technology] . . . that it costs an enormous amount of money and requires a continuing expansion of hospital facilities. There is no end to the need for new, highly trained people to run the enterprise. And there is really no way out of this, at the present state of knowledge." [2] At our current level of understanding of disease processes in cancer, we have to offer the reality of the "halfway technologies" to which this book is dedicated. Funds devoted to research for comprehension of basic disease mechanisms and disease prevention are highly cost effective: undue restrictions of funding such basic research and educational efforts represent false economy.

The importance of "managerial preventive medicine," as described by Wynder,[3] should be recognized. Tobacco must be reduced as a cancer threat by legislation designed to reduce carcinogenic components. Environmental carcinogens, such as asbestos, and polyvinylchloride in certain phases of its manufacturing must be controlled or withdrawn from use when demon-

strated to create significant risk. Even more fundamental, however, may be aspects of general diet and living standards that may pose risks to the population as a whole, such as our culturally determined high-fat, high-carbohydrate, low-roughage diet. Alterations in such cultural patterns may require sophisticated taxation or legislation that discourages dietary patterns that should be avoided and rewards dietary patterns that need encouragement. This emphasizes the commitment needed by all levels of society and its leadership to deal with the problem of cancer. Cancer will not yield to simplistic solutions but requires careful analysis of many features of the disease and its environment and application of complicated and sophisticated, technical, managerial, and educational techniques.

Progress in clinical cancer will certainly not be achieved by some specific breakthrough from the research laboratory that applies to all cancers. Cancer is a generic term that encompasses an enormous variety of diseases that have only a few common traits, the ability to kill the host, and defined cell characteristics in terms of morphology and growth features. Each human cancer is unique enough to resist broad advances in therapy from a single scientific achievement – no matter how basic.

Burkitt's lymphoma of children, uniquely and highly curable by a single injection of a chemotherapeutic agent, differs markedly from childhood leukemia where massive prolonged chemotherapeutic programs are essential. Breast cancer, in which basic disease mechanisms are only at the descriptive stage, differs greatly from lung cancer where mechanisms are known and prevention is possible. In lung cancer, the real problem is public education, self-control, and changes in attitudes rather than comprehension of cellular mechanisms. Indeed, all major advances in the management of cancer so far have involved point-by-point gains – each achieved by a separate combination of clinical studies and analysis, research activity, and serendipity. Cancers are akin to infections in this regard, and no one cellular mechanism or antibiotic activity applies to all infections, a staggering array of bacterial, parasitic, and viral illnesses.

This history of advances through step-by-step increments in control of cancer involves more technology, combinations of therapeutic modalities, and greater commitments in both time and money by the public and by the profession. While the media and the unsophisticated dream of the miraculous sudden quantum jump in cancer control, thoughtful experts recognize this as akin to science fiction. Following the infectious disease model it also should be recognized that new medical and social problems are generated by the very successes strived for – problems only dimly perceived at the time of intense control efforts. Geometric population growth, antibiotic-resistant bacterial strains, and whole new categories of infectious diseases will have parallels in the management of cancer.

This volume is directed to practitioners, students, and the general public and will depend on criticisms, comments, and suggestions for evaluation.

Please do not hesitate to let us, the Cancer Society, the Editor, the Editorial Board, and the authors, know of your reactions and assessments.

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