

Clinical Oncology

A Manual for Students and Doctors

Edited under the auspices of the
International Union Against Cancer

Second Edition
Fully revised and enlarged

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With 31 Figures



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UICC

3, rue du Conseil-Général
1205 Geneva
Switzerland

Telephone (022) 20 18 11
Telegraph Cancerunion, Geneva

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*First Edition edited by the
UICC Committee on Professional Education
(1966-1970 and 1970-1974)*

Umberto Veronesi, Chairman (Italy)	Kunio Oota (Japan)
Felipe Alva-Ortega (Mexico)	Boris E. Peterson (USSR)
† Marcel Dargent (France)	Bruno Salvadori (Italy)
Ismail El Sebai (Egypt)	† Moacyr Santos-Silva (Brazil)
Arthur Jones (UK)	Charles D. Sherman Jr. (USA)
Hanna Kolodziejska (Poland)	† Kenneth W. Starr (Australia)
A. Hamblin Letton (USA)	Richard J. Walton (Canada)

† *Deceased*

*Second Edition revised and enlarged by
Members of the UICC Manual Revision Committee*

Charles D. Sherman Jr., MD (Chairman, Manual Revision Committee)
Clinical Professor of Surgery, University of Rochester Medical
School, Rochester, N. Y., USA

Ismail Elsebai, MD
Professor of Surgical Oncology, Dean of the National Cancer
Institute, Cairo University, Cairo, Egypt

François Eschwege, MD
Associate Professor of Therapeutic Radiology, Institut Gustave-
Roussy, Villejuif, France

Ivo Padovan, MD, DSc
Professor of Otorhinolaryngology, University of Zagreb, Head of the
Department of Otolaryngology and Cervical Facial Surgery, Zagreb,
Yugoslavia

Bruno Salvadori, MD
Professor of Surgical Pathology, Director of Division of Clinical
Oncology, National Cancer Institute, Milan, Italy

Carl Gottfried Schmidt, MD
Professor of Medical Oncology, Chairman of the West German
Tumor Center, University of Essen, Essen, Fed. Rep. of Germany

Umberto Veronesi, MD (Chairman, UICC Cancer Education
Programme)
Professor of Surgical Pathology, Director General of the National
Cancer Institute, Milan, Italy

Preface to the Second Edition

The outstanding success of the First Edition and the expansion of our knowledge about cancer over the 5 years since its publication have led to the decision to publish a Second Edition which has been fully revised, rewritten and enlarged by the addition of several sections. The First Edition was translated into Italian, Japanese, Polish, and Serbo-Croat and it is expected that additional translations (French, German, Spanish, Portuguese, etc.) will make this Second Edition a truly international basic cancer Manual.

The Revision Committee is convinced that all students and general physicians should know: (a) the important basic aspects of cancer; (b) some details of the most common cancers; and (c) a few important points about the less common cancers. An attempt has been made to strengthen Part I, General Aspects, which is considered to be the most important part of the Manual for the world's physicians. However, the most common cancers in one part of the world are not necessarily the same in other parts and it is planned to work with local groups to produce adaptations and translations as seem appropriate. In particular, the UICC is anxious to work with local, national, and international committees to help improve the educational experience of students and general physicians in the geographic areas in question. Regional Conferences held by the UICC in Latin America, Asia and the Middle East have resulted in initial plans to accomplish this aim.

As one aspect of its Professional Education Programme, the International Union Against Cancer has laid particular stress on the need for *improved organization* of cancer education in the world's medical schools. One method suggested to attain this objective is the establishment of a separate department (chair) of oncology, which has, as one of its responsibilities the coordination and integration of cancer education both in the preclinical and clinical years; an alternative is an interdepartmental committee of basic and clinical faculty.

More than any other area of medicine, oncology *demand*s the integration of basic and clinical sciences, since the clinical oncologist of today must know and use a great deal of basic science—carcinogenesis, epidemiology, screening principles, cell biology and metabolism, cytogenetics, pharmacology of cancer chemotherapy, basic principles of surgery and radiation therapy, etc. In order to avoid gaps, fragmentation and unnecessary duplication and also to develop appropriate teaching

materials and experiences, it is essential to prepare a broad-based educational plan. With good planning and careful execution, an integrated cancer programme can *reduce* the curriculum time necessary to accomplish this objective and yet do a better job. Indeed, the integrated cancer committee can be a driving force in improving the medical school's educational programme and also serve as a stimulus and example to other departments. It is hoped that this Manual will be an important resource in every medical school.

1978

The Manual Revision Committee
of the UICC

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Preface to the First Edition

There can be no doubt that a knowledge of cancer is becoming of increasing importance to doctors throughout the world. The changing patterns of disease incidence, following changes in living standards and public health services and in medial diagnosis and treatment, reveal the importance of neoplastic disorders as causes of morbidity and mortality. If doctors are to recognize these conditions at the earliest opportunity and advise on the treatment, they must be familiar not only with clinical appearances but with the scientific principles on which the management is based. These are so important that they must be assimilated during undergraduate medical education and become an integral part of the doctor's professional equipment.

The clinical study of a neoplastic disorder has usually been related to its site of appearance in the body, and its treatment has been the concern of organ- or system-specialists. This has tended to obscure the fundamental principles of growth disorder which are common to many varieties of tumours. A unified approach of clinical oncology can recognize common features and highlight diversity as a stimulus to further investigation. It is at the same time becoming increasingly recognized that neoplasia is a multidisciplinary problem, requiring the collaboration of many specialists: physicians, surgeons, radiotherapists, chemotherapists, pathologists, immunologists, epidemiologists, and many varieties of research workers. But the fate of the individual patient with cancer is often determined by the first doctor he consults, and this further emphasizes the importance of sufficient education in oncology at all stages of medical training.

The Committee on Professional Education of the International Union Against Cancer has therefore prepared a Manual incorporating accounts of those aspects of neoplastic disorders which are likely to be important to a practising physician in any part of the world. The incidence of various tumours varies considerably with geography and other factors; but in this volume an account will be found firstly of the general principles which underlie the processes of growth disorder, and later the principles of treatment of the commoner tumours. This conspectus of neoplastic disorders is commended for the use of undergraduate medical students during their clinical period, and for doctors during their general professional training. It is hoped that it will also be of value to family physicians as an initial and rapid reference source.

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Part I. General aspects

Introduction and overview

In the past, most clinicians have focused their interest on the end stage of human cancer, i.e. diagnosis and treatment of the patient with an established cancer, usually (in over 50% of cases) progressing fairly rapidly to a terminal situation. With new knowledge, clinical oncologists of the next few years will need to have a much broader and more comprehensive view of cancer as an extremely long-term process usually lasting many years (see Fig. 1). In particular, clinicians will have to have a better understanding of "preventive oncology".

Fig. 1. Modern viewpoint of cancer as a long-term process

Induction phase	<i>In-situ</i> phase	Invasion phase	Dissemination phase
Up to 15–30 years	5–10 years	1–5 years	1–5 years
This long-range concept of cancer represents a synthesis of many concepts with important clinical implications (see text)			

Induction phase

Looking at all the causes of cancer in man that have so far been identified with certainty, the induction phase usually lasts 15–30 years (see Fig. 1). Currently, we still cannot identify with certainty the causes of most cancers, but epidemiologists today feel that environmental factors probably account for about 70–80% of human cancers. It usually takes many years of exposure to a carcinogen before the progressively severe dysplasia becomes a definite cancer. The exceptions to this are: (a) radiation-induced leukæmias (where the induction phase may be as short as 2 years); and (b) the genetically determined cancers of infancy (in which cancer is present at birth or shortly thereafter).

Obviously, not everyone who is exposed to a carcinogen gets cancer. Among the factors which help to determine who *does* get cancer are the following: the nature, amount and concentration of the carcinogen; the site or sites at which it acts; the duration of exposure; the presence of other carcinogens or co-carcinogens; and individual or tissue susceptibility.