

**ORAL
AND
FACIAL CANCER**

**SECOND
EDITION**

Table of Contents

PART I.—THE CANCER PROBLEM

I.	Public Health Aspects of Cancer	15
II.	Present Status of Cancer Research	23
	Questions for Students	36

PART II.—DIAGNOSIS OF ORAL AND FACIAL CANCER

III.	Role of the Patient in a Cancer Program	39
------	---	----

ROLE OF THE FAMILY DENTIST AND PHYSICIAN IN CANCER CONTROL

IV.	Diagnosis	40
V.	History	42
VI.	Anatomic and Physiologic Considerations of the Oral Cavity and Face	47
VII.	Complete Oral and Facial Examination	59
VIII.	Clinical Signs of Oral and Facial Cancer	71
IX.	Laboratory Aids	82
X.	Immediate Referral of the Patient for Treatment	89
XI.	Differential Diagnosis of Oral and Facial Lesions: Cancerous and Precancerous	92
XII.	Differential Diagnosis of Swellings of the Neck	97
XIII.	General Clinical Considerations	103

CARCINOMA OF THE SOFT TISSUES (FACE AND MOUTH)

XIV.	Cancerous and Precancerous Lesions of the Skin	107
XV.	Carcinoma of the Lip	116

TABLE OF CONTENTS

XVI.	Carcinoma of the Buccal Mucosa	122
XVII.	Carcinoma of the Floor of the Mouth	126
XVIII.	Carcinoma of the Tongue	131
XIX.	Carcinoma of the Palate	138
XX.	Carcinoma of the Gingiva and Retromolar Area . . .	142
XXI.	Cancer of the Tonsil	146
XXII.	Carcinoma of the Salivary Glands	150
XXIII.	Secondary Spread of Oral and Facial Carcinoma . . .	157
XXIV.	Oral Manifestations of Leukemia	160
XXV.	Precancerous Oral Lesions	165

CANCER OF THE JAWS

(MANDIBLE AND MAXILLA)

XXVI.	Anatomic and Physiologic Considerations of the Jaws .	169
XXVII.	Primary Cancer of the Jaws: Sarcoma	179
XXVIII.	Secondary Cancer of the Jaws: Carcinoma and Sarcoma .	182
XXIX.	Cancer in Childhood	190
XXX.	Differential Diagnosis of Oral and Facial Lesions:	
	Noncancerous	197
	Questions for Students	221

PART III.—TREATMENT OF ORAL AND FACIAL CANCER

XXXI.	Primary and Secondary Treatment of Cancer	225
XXXII.	Surgical Treatment of Oral and Facial Cancer	227
XXXIII.	Radiation Treatment of Oral and Facial Cancer . . .	230
XXXIV.	Surgical Reconstruction of Acquired Deformities (Plastic Surgery)	234
XXXV.	Prosthetic Reconstruction	251
XXXVI.	Role of the Dentist in Care of the Cancer Patient . .	256
XXXVII.	Complications Related to Cancer and Surgical Treatment	260
XXXVIII.	Complications Related to Radiation Treatment	263
XXXIX.	Palliative Treatment	268
XL.	Occupational Hazards from Exposure to Radiation . .	273
	Questions for Students	277
	Appendix	279
	References	283
	Index	287

ESSENTIALS OF
ORAL *and*
FACIAL CANCER

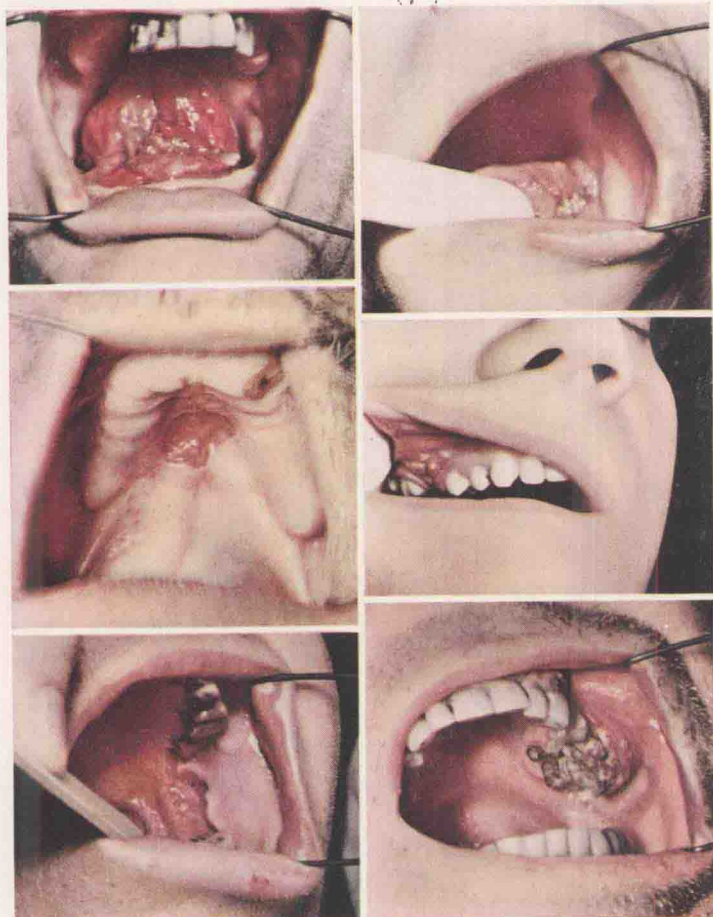


PLATE I.—Cancerous lesions of the oral cavity. *Top left*, carcinoma of the floor of the mouth which has invaded the undersurface of the tongue. It is sometimes misdiagnosed as Vincent's infection. *Top right*, carcinoma of lateral and inferior surfaces of the tongue. The entire tongue should be examined carefully for what may appear to be innocuous fissures and ulcerations. *Center left*, carcinoma of the palatal mucosa. It is sometimes discovered by the patient because the upper denture does not fit. The palatal bone is usually invaded early. *Center right*, osteogenic sarcoma of the maxilla, diagnosed early. The tooth felt "high" on chewing, and the dentist took a biopsy of surrounding tissue. Note swelling and irregularity of gingiva of upper bicuspid. *Bottom left*, carcinoma of the gingiva in retromolar area. Patients with gingival lesions usually consult the dentist first. *Bottom right*, carcinoma of the maxillary sinus with extension into oral cavity. It is sometimes misdiagnosed as cancer of the gingiva.

ESSENTIALS OF ORAL *and* FACIAL CANCER



By **BERNARD G. SARNAT**, M.D., F.A.C.S. Staff, Cedars of Lebanon, Mount Sinai and Temple Hospitals, Division of Plastic Surgery, Department of Surgery, Los Angeles, California; Diplomate of the American Board of Plastic Surgery; formerly Professor and Head of the Department of Oral and Maxillofacial Surgery, College of Dentistry, and Clinical Assistant Professor of Plastic Surgery, Department of Surgery, College of Medicine, University of Illinois, Chicago

and **ISAAC SCHOUR**, D.D.S., Ph.D., Sc.D. Dean, Professor and Head of the Department of Histology and Coordinator of Cancer Instruction, University of Illinois College of Dentistry, Chicago

SECOND EDITION

THE YEAR BOOK PUBLISHERS • • INC.
200 EAST ILLINOIS STREET • • CHICAGO

COPYRIGHT 1950 AND 1957 BY THE YEAR BOOK PUBLISHERS, INC.

Reprinted 1953

Translated into Portuguese and published in Rio de Janeiro, 1956

Second edition, 1957

PRINTED IN U.S.A.

To our wives, RHODA AND ESTHER

Preface to the Second Edition

THE CORDIAL reception given the First Edition of this book by the dental, medical and allied professions, both in practice and in the schools, has led to this Second Edition. The same general purpose was kept in mind in preparing this edition as in writing the First Edition, namely, to present the essentials of oral and facial cancer in an easily read style and to include representative, but selected, illustrations and diagrams. This work was not intended to be an exhaustive treatise but rather to serve only as an introduction to the subject. The text was reorganized to give further emphasis to the logical sequence of diagnosis and treatment. A number of new illustrations have been added and others redone. In order to meet repeated requests from teachers and lecturers, 35 mm. slides of the illustrations of this text have been made available; these can be secured through Clay-Adams, Inc., 141 East 25th Street, New York 10, New York.

The recent translation of this text into Portuguese is a welcome step in advancing professional cancer education.

We are grateful to many colleagues for their valuable suggestions and to Dr. C. I. Mohammed for his devoted assistance.

—B.G.S.

—I.S.

Preface to the First Edition

CANCER is the second greatest cause of death in the United States. This fact has led to the concerted efforts of public and private agencies, of the health professions and of the scientific world to conquer this most tragic illness. In the division of responsibility in waging war against cancer, the health professions have a particular and common challenge in the field of oral and facial cancer. This challenge is the early recognition of oral and facial cancer, which lies within the special field of competence of the dentist as well as of the physician. The dentist's responsibility rests not merely in the diagnosis and treatment of dental disorders. He shares with the physician the responsibility for the prevention and diagnosis of oral disease, of both local and systemic origin.

This book is dedicated to the early recognition and treatment of cancer of the oral cavity and face. It is designed to meet a growing demand for a guidebook and survey of the field of oral and facial cancer and related conditions. The text is organized for ready reference in the general practitioner's office and for use in teaching. It may be read in its entire sequence or may be used for information on special aspects by referring to individual chapters. Selected case histories are presented to illustrate the characteristics of various types of tumors.

In order to deal with the problem of oral and facial cancer comprehensively and in its proper relation to the health and to the diseases of the oral cavity and face, consideration is given to such correlative aspects as public health, research, anatomy and physiology and differential diagnosis. A selected bibliography is appended for those seeking a more detailed discussion.

The material has been obtained from so many sources that individual acknowledgment has not been possible in every instance. Grateful

acknowledgment is due to authors who have given permission to reprint certain selections and illustrations from their works. In addition, material has been taken freely from the literature prepared by the American Cancer Society and the Tumor Committee of the Connecticut State Dental Society and from textbooks on cancer by Ackerman and Regato, Cutler and Buschke, and Blair, Moore and Byars. The photographs are those of patients seen primarily in private practice, the University of Illinois Clinics and at Cook County Hospital. Preference was given to illustrations of early lesions.

We wish to acknowledge our gratitude to Dr. Harry Sicher, whose aid was invaluable in the preparation of this text. We also wish to thank, for their assistance in the preparation of most of the illustrations, Mrs. Helen Kutuzov for the line drawings and Mr. William M. Winn for the photographs. A grant from the Gertrude Everett Memorial Fund made some of the illustrations possible.

—B.G.S.

—I.S.

Table of Contents

PART I.—THE CANCER PROBLEM

I.	Public Health Aspects of Cancer	15
II.	Present Status of Cancer Research	23
	Questions for Students	36

PART II.—DIAGNOSIS OF ORAL AND FACIAL CANCER

III.	Role of the Patient in a Cancer Program	39
------	---	----

ROLE OF THE FAMILY DENTIST AND PHYSICIAN IN CANCER CONTROL

IV.	Diagnosis	40
V.	History	42
VI.	Anatomic and Physiologic Considerations of the Oral Cavity and Face	47
VII.	Complete Oral and Facial Examination	59
VIII.	Clinical Signs of Oral and Facial Cancer	71
IX.	Laboratory Aids	82
X.	Immediate Referral of the Patient for Treatment	89
XI.	Differential Diagnosis of Oral and Facial Lesions: Cancerous and Precancerous	92
XII.	Differential Diagnosis of Swellings of the Neck	97
XIII.	General Clinical Considerations	103

CARCINOMA OF THE SOFT TISSUES (FACE AND MOUTH)

XIV.	Cancerous and Precancerous Lesions of the Skin	107
XV.	Carcinoma of the Lip	116

TABLE OF CONTENTS

XVI.	Carcinoma of the Buccal Mucosa	122
XVII.	Carcinoma of the Floor of the Mouth	126
XVIII.	Carcinoma of the Tongue	131
XIX.	Carcinoma of the Palate	138
XX.	Carcinoma of the Gingiva and Retromolar Area . . .	142
XXI.	Cancer of the Tonsil	146
XXII.	Carcinoma of the Salivary Glands	150
XXIII.	Secondary Spread of Oral and Facial Carcinoma . . .	157
XXIV.	Oral Manifestations of Leukemia	160
XXV.	Precancerous Oral Lesions	165

CANCER OF THE JAWS

(MANDIBLE AND MAXILLA)

XXVI.	Anatomic and Physiologic Considerations of the Jaws .	169
XXVII.	Primary Cancer of the Jaws: Sarcoma	179
XXVIII.	Secondary Cancer of the Jaws: Carcinoma and Sarcoma .	182
XXIX.	Cancer in Childhood	190
XXX.	Differential Diagnosis of Oral and Facial Lesions:	
	Noncancerous	197
	Questions for Students	221

PART III.—TREATMENT OF ORAL AND FACIAL CANCER

XXXI.	Primary and Secondary Treatment of Cancer	225
XXXII.	Surgical Treatment of Oral and Facial Cancer	227
XXXIII.	Radiation Treatment of Oral and Facial Cancer . . .	230
XXXIV.	Surgical Reconstruction of Acquired Deformities (Plastic Surgery)	234
XXXV.	Prosthetic Reconstruction	251
XXXVI.	Role of the Dentist in Care of the Cancer Patient . .	256
XXXVII.	Complications Related to Cancer and Surgical Treatment	260
XXXVIII.	Complications Related to Radiation Treatment	263
XXXIX.	Palliative Treatment	268
XL.	Occupational Hazards from Exposure to Radiation . .	273
	Questions for Students	277
	Appendix	279
	References	283
	Index	287

PART I

The Cancer Problem

