

SIXTH EDITION

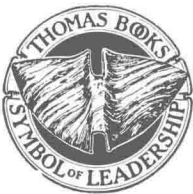
PRACTICAL NEUROLOGICAL DIAGNOSIS

*With Special Reference to
the Problems of Neurosurgery*

By

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Harvey Cushing
A Great Surgeon, Teacher, and Investigator

PREFACE TO THE SIXTH EDITION

THE first edition of this small book on neurological diagnosis as applied to the central nervous system was published in 1935, but I had begun to prepare it in 1932, for the reason that so many teachers in medical schools write books: I could not find an entirely satisfactory text for my third and fourth year students. Those which were available were either too long or too complicated for my purposes.

From the beginning of my endeavors I knew precisely what I wanted and how I intended to proceed. As a house officer and assistant resident on the service of the late Harvey Cushing at the Peter Bent Brigham Hospital, I had seen the precision with which surgical lesions of the central nervous system were localized in his patients. I was therefore determined to use his outline of the neurological examination as the basis for a book which, within a small compass, would supply my students with all the anatomical and physiological data necessary for clinical diagnosis, together with the essential techniques of the neurological examination by which these data are secured.

When *Practical Neurological Diagnosis* was finally published in 1935, electroencephalography and arteriography did not exist. The potentialities of even neuroradiology—particularly pneumoencephalography and ventriculography—were fully appreciated in only a few medical centers. Today, all postgraduate students of neurology and most fourth year medical students are thoroughly familiar with all but the finer points of these procedures. Also, I am sorry to say, they are often far more interested in these auxiliary diagnostic tools than they are in trying to arrive at a clinical diagnosis by analyzing and interpreting the well established neurological symptoms and signs which can be secured by simple history-taking and by physical and neurological examination.

Somewhere along the way, in the 24-year period during which

there were five editions and six printings of this text, many well-wishers advised me to add chapters on radiological diagnosis, pneumoencephalography, ventriculography, electroencephalography, and, finally, arteriography to the original book.

I accepted the advice. The result was to enlarge the book, to increase its price, and—most important of all—to obscure its original intent. Now, in the sixth edition, I am returning, I think wisely, to the kind of book I began to write in 1932, that is, a small, concise, completely practical discussion of neurological symptoms and signs, including their description, the tests by which they can be elicited, and the clues by which they can be interpreted.

I have included the chapter on Cerebrospinal Fluid because a working knowledge of its method of formation, its circulation, and its absorption is essential for an understanding of the intracranial physiology.

I have retained the basic neurological outline first used by Dr. Cushing and have, in fact, based the entire text upon it, because I have never found any other which so clearly orients the neophyte in the intricacies of neurological diagnosis. The reception accorded this volume has proved the value of this outline and the wisdom of my decision to use it as a basis for the text discussion. Many teachers of neuroanatomy have recommended the book as collateral reading for their first year medical students. Third and fourth year medical students have purchased it year after year since it was first published. Young psychiatrists tell me that they have found it of great value in preparing for their examinations by the American Board of Psychiatry and Neurology, and general practitioners tell me that they have found it equally useful for ready reference. It is chiefly because of the assurances I have had from those who have read and used this book that I have decided to prepare a sixth edition, in which, as I have said, I have reverted to my original purpose of writing an essentially clinical volume.

The policies I have followed in the text usually speak for themselves. I have discussed anatomy and physiology under a single heading because modern neuroanatomy is actually a combination of anatomy and physiology; an attempt to separate them would be entirely artificial. As a matter of convenience for readers whose knowledge of neurology is limited, I have deliberately re-

peated, from chapter to chapter, a considerable number of facts, thus making each chapter, as far as possible, a self-contained unit. The repetitions perhaps violate the canons of good writing but the error is intentional and, I believe, contributes to the usefulness of the book.

The glossary which was first printed in the fourth edition has been retained and enlarged, on the assurance by numerous medical students that it is practical and convenient to have this information immediately at hand. It now contains definitions for almost all of the neurological terms used in the text with the exception of exclusively anatomical terms.

In this sixth edition of *Practical Neurological Diagnosis* I have endeavored to bring the subject matter up to date and to avoid, as far as possible, all controversial details. I have not succeeded as completely as I might wish, for in a subject still as fluid as the anatomy and physiology of the nervous system, it is highly improbable that any textbook could keep a serious medical student completely abreast of the neurological times.

R. GLEN SPURLING, M.D.

Louisville, Kentucky

PREFACE TO THE FIRST EDITION

THIS volume aims to present a simple account of the principles of neurological diagnosis. It is designed for students and practitioners who desire to become more proficient in the recognition of neurological disorders. It is not a glossary of symptoms and signs. Many duplicating diagnostic tests have been omitted. Only those which I have found, over a period of years, to be most useful are described. An attempt has been made to gather together from scattered sources data which explain the anatomical and physiological bases and the clinical interpretation of neurological symptoms and signs. In order to render the diagnostic study complete, chapters dealing with the cerebrospinal fluid and x-ray interpretation are included.

The outline for the neurological examination described is, with minor variations, used in many neurosurgical clinics. It is probably no better than many other synopses, unless, perhaps, it points more directly to a neurosurgical goal. It is, I believe, an entirely adequate guide in all organic disorders of the nervous system.

The field of organic neurology generally has not received the attention which it merits. Surgical lesions of the nervous system still too frequently come to the neurosurgeon in their final stages. If this condition is to be corrected, physicians and students generally must become more "neurologically minded." Toward this end I trust that this book may contribute a small part.

R. GLEN SPURLING, M.D.

Louisville, Kentucky
February, 1935

ACKNOWLEDGMENTS IN THE SIXTH EDITION

MOST of the information contained in this book is the product of other minds—those of the past and present. My only claim to originality is in the arrangement and, in some instances, the interpretation of the material. The constant citation of authorities has been dispensed with because it encumbers a text primarily intended for students. However, where illustrations have been borrowed, they have been duly accredited. To these authors and publishers I express my sincere thanks.

Two women who have had a hand in the preparation of the sixth edition of this book deserve my special thanks. Each of them has sacrificed her personal convenience to expedite its completion.

The first, my secretary, Miss Nellie Burdette, has typed each of the four manuscript revisions, including the final copy, and through them all has been vigilant in keeping the orthography reasonably exact.

The second, Miss Elizabeth M. McFetridge, critically reviewed the final manuscript and also prepared the index. Her motto, "If I cannot understand your reasoning in that sentence, I don't see how you expect a medical student to understand what you are getting at," has helped immeasurably in clarifying obscurities and generally simplifying the text.

I am particularly indebted to the Director of the Department of Visual Education of the University of Louisville School of Medicine, Mr. Frank W. Shook, Jr., and Mrs. Catherine M. Bauscher, the artist in the Department, for preparing the nine new illustrations which appear in this edition.

To Charles C Thomas and his organization I am grateful, as always, for complete cooperation in this task. He is not only a most satisfactory publisher, he is also an old and valued friend to this book.

R. GLEN SPURLING, M.D.

CONTENTS

PREFACE TO THE SIXTH EDITION	Page vii
PREFACE TO THE FIRST EDITION	xi
ACKNOWLEDGMENTS IN THE SIXTH EDITION	xiii

PART I. THE NEUROLOGICAL EXAMINATION

Chapter

I. HISTORY-TAKING AND GENERAL PHYSICAL EXAMINATION	5
General Considerations	5
History-Taking	6
General Principles of Procedure	6
Chief Complaints and Present Illness	8
Past History	9
Family History	10
Special Symptoms	10
Physical Examination	15
General Observations	15
Special Regional Examinations	15
Neurological Examination in Childhood	18
II. THE CRANIAL NERVES	19
General Considerations	19
The First (Olfactory) Nerve	20
Anatomy and Physiology	20
Clinical Examination	21
Clinical Correlations	21
The Second (Optic) Nerve	21
Anatomy and Physiology	21
Clinical Examination	25
Clinical Correlations	32
The Third (Oculomotor), Fourth (Trochlear) and Sixth (Abducens) Nerves	39
Anatomy and Physiology	40

<i>Chapter</i>	<i>Page</i>
Clinical Examination	42
Clinical Correlations	45
The Fifth (Trigeminal) Nerve	46
Anatomy and Physiology	46
Clinical Examination	49
Clinical Correlations	51
The Seventh (Facial) Nerve	52
Anatomy and Physiology	52
Clinical Examination	54
Clinical Correlations	55
The Eighth (Acoustic) Nerve	57
Anatomy and Physiology	58
Clinical Examination	60
Clinical Correlations	63
The Ninth (Glossopharyngeal) Nerve	65
Anatomy and Physiology	65
Clinical Examination	65
Clinical Correlations	66
The Tenth (Vagus) Nerve	66
Anatomy and Physiology	66
Clinical Examination	68
Clinical Correlations	69
The Eleventh (Spinal Accessory) Nerve	70
Anatomy and Physiology	70
Clinical Examination	71
Clinical Correlations	71
The Twelfth (Hypoglossal) Nerve	71
Anatomy and Physiology	71
Clinical Examination	72
Clinical Correlations	72
III. THE CEREBRUM	74
Anatomy and Physiology	74
The Lobes of the Cerebrum	78
The Frontal Lobes	79
The Prefrontal Areas	80
The Motor Areas	83
The Parietal Lobes	94

<i>Chapter</i>	<i>Page</i>
The Occipital Lobes	97
The Temporal Lobes	100
The Function of Speech	102
Clinical Examination	103
The Corpus Striatum	106
Anatomy and Physiology	107
Clinical Correlations	110
The Hypothalamus	113
Anatomy and Physiology	113
Clinical Correlations	115
IV. THE CEREBELLUM	118
Anatomy and Physiology	118
Clinical Examination	123
Clinical Correlations	128
V. THE SPINAL CORD	132
Anatomy and Physiology	132
Ascending (Afferent, Sensory) Pathways	138
Descending (Efferent, Motor) Pathways	140
Segmental Arrangement of Spinal Nerves	142
Clinical Examination	147
The Sensory System	148
The Motor System	152
Clinical Correlations	154
General Considerations	154
Transverse Lesions of Cord	158
Special Diseases	160
Urinary Bladder Disturbances in Cord Lesions	161
VI. THE REFLEXES	164
Anatomy and Physiology	164
The Reflex Arc	164
Inhibition of Reflexes	168
Clinical Examination	168
Tendon Reflexes	168
Superficial (Cutaneous) Reflexes	175
Clinical Correlations	178
Tendon Reflexes	178
Superficial Reflexes	180

<i>Chapter</i>	<i>Page</i>
VII. SUMMARY AND CLINICAL IMPRESSIONS	181
Summary	181
Clinical Impressions	181
Specimen Case History	182
Case History (No. 9668)	182
Summary of Positive Findings	182
Clinical Impression	183
Recommendations	183

PART II. THE CEREBROSPINAL FLUID

VIII. THE CEREBROSPINAL FLUID	187
Anatomy and Physiology	187
Formation of the Cerebrospinal Fluid	191
Functions of the Cerebrospinal Fluid	194
Clinical Correlations	195
Lumbar Puncture	195
Dynamics of the Cerebrospinal Fluid	203
Laboratory Tests of the Cerebrospinal Fluid	207
APPENDIX I	
Specimen Case History Concluded	221
APPENDIX II	
Outline of Neurological Examination	225
APPENDIX III	
Glossary of Terms Commonly Used in Neurology	228
APPENDIX IV	
References	237
INDEX	241

PRACTICAL
NEUROLOGICAL
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Part I

THE NEUROLOGICAL EXAMINATION

