A LABORATORY MANUAL OF NEUROANATOMY

This page is intentionally left blank

A LABORATORY MANUAL OF NEUROANATOMY

D T W Yew

Senior Lecturer in Anatomy

M I Chuah

Lecturer in Anatomy

Faculty of Medicine

The Chinese University of Hong Kong

World Scientific

Published by

World Scientific Publishing Co Pte Ltd

P. O. Box 128, Farrer Road, Singapore 9128.

242 Cherry Street, Philadelphia PA 19106-1906, USA.

Library of Congress Cataloging-in-Publication Data

Yew, David T.

A laboratory manual of neuroanatomy

1. Neuroanatomy--Laboratory manuals. I. Chuah, M. I. II. Title. [DNLM: 1. Neuroanatomy--laboratory manuals. WL 25 Y48L]

QM455.Y48 1986 611'.81 86-11070

ISBN 9971-50-102-3

Copyright © 1986 by World Scientific Publishing Co Pte Ltd.

All rights reserved. This book, or parts thereof, may not be reproduced in any form or by any means, electronic or mechanical, including photocopying, recording or any information storage and retrieval system now known or to be invented, without written permission from the Publisher.

Printed in Singapore by Kyodo-Shing Loong Printing Industries Pte. Ltd.

*To my family and
to all those who strive for academic excellence.*

D.T.Y.

To my husband.

M.I.C.

This page is intentionally left blank

PREFACE

Over the years of neuroanatomy teaching, we have found that there were no suitable practical manuals in the subject sufficiently concise to fit into the medical and dental students' preclinical course. Simplified self-study books or atlases such as *Neuroanatomy* by K.E. Moyer and *Atlas of cross section anatomy of the brain* by E. Villiger, E. Ludwig and A.T. Rasmussen have solely used line drawings for all the illustrations, while *Radiologic anatomy of the brain* by G. Galaman and Y.P. Huang concentrates on the anatomico-radiological correlations, which may be too advanced for the preclinical students. To bridge this gap, we present here an attempt to introduce a practical manual in Neuroanatomy geared to fit into the short preclinical curriculum. This manual was written years ago and has been used by our own students in their course. We have made appropriate changes and have added in figures, line drawings and some questions scattered within the text. We hope that by including questions, students will use the manual as an active exercise. A series of CAT scan pictures are also included for the students to correlate their knowledge of the brain sections with the X-ray images. It is hoped that this manual would lessen the difficulties in the practical approach to the study of neuroanatomy and would convey to the students the necessary and essential practical information for their clinical years.

In the course of writing and preparing this manual, we are indebted to many of our colleagues, in particular, Dr. H.C. Liu and Dr. W.H. Kwong for their valuable assistance and comments. Thanks are due to our past and present students whose suggestions

have greatly helped in the revision of the manuscript. We are also deeply grateful to Prof. Y.L. Guan, Dr. Zhang Da Ren and the Department of Anatomy, Jinan University for permission to photograph some of the specimens used in the illustrations in this book. The rest of the figures are from the authors' private collections. Last but not least, we would like to express our appreciation to Prof. R.W. Fearnhead for his support and encouragement throughout this work.

CONTENTS

Preface	vii
Introduction	1
Microscopic Anatomy	3
Embryology and Teratology	6
Meninges and Vascular Supply	8
Spinal Cord	12
Medulla Oblongata	14
Pons	16
Midbrain	18
Diencephalon	20
The Telencephalon and Associated Structures I and II	22
Coronal, Horizontal and Parasagittal Sections of the Telencephalon and Diencephalon	27
Cerebellum	29
Exercise — CAT Scan Pictures	31
Abbreviations	85