MEDICAL X-RAY TECHNIQUE

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PREFACE

The days have gone for ever when hospital nurses and others trained themselves as X-ray assistants by process of trial and error. With the increasing use of various types of radiation, which present much greater hazards to the operating personnel, and the increasing demands for greater technical experience in radiological procedures, it has become necessary to hold courses for the training of radiographers.

It was with such courses in mind that, when approached to write a text-book on Medical X-ray Technique, I gladly accepted.

It was decided to base the book on not too low a level and to assume a certain knowledge of mathematics and physics, so that the treatment of basic elementary ideas could be omitted.

In view of the number of well written and copiously illustrated books on radiographic positioning and centering, these subjects were intentionally passed over. The few radiographs which are included in this book serve only as examples of the techniques indicated in the text; there is and can be no question of a complete range of representative radiographs.

Though it does not directly come under the title of this work, I considered it imperative to include a chapter on radioactive isotopes, in view of the close relationship which exists between this subject and the radiological problems treated in the therapy section.

Certain points have been treated with extra thoroughness in order to ensure that the radiographer is in full possession of the knowledge necessary to carry out all types of procedures, which call for highly specialized experience. Such detailed information appears throughout the book in small print. In some instances the large print deals with the same subject matter as the smaller print; in the latter the treatment is either more thorough or more elaborate.

In some places, where matters of importance are concerned, I have not hesitated to resort to repetition. For the sake of greater clarity, diagrams rather than photographs have been chosen as illustrations. Many of the diagrams have been taken in whole or in part from existing works by Eggert, Schinz, Raver, Lamarque, Kepp, Barth, Wachsmann and Lenihan, to whom due acknowledgement is made.

For certain sections, physicists and X-ray engineers have been called upon to give their assistance in those parts where the medical man is no longer on his own ground.

May this work fulfil the aim of providing a textbook for all radiographers and all those who are interested in medical radiology.

PREFACE TO THE SECOND EDITION

Medical radiology is an ever-expanding field of science and since the publication of the first edition, further developments and techniques have enabled me to add to the contents of this book. In the interest of greater clarity some things have been omitted, which in the light of new knowledge, might have proved a little confusing to the student.

In addition to this English edition, Spanish, French and German versions are in print.

I would like to express my thanks to those whose interest in this book has made these additional editions necessary.

The translation of a technical book is always a matter of some difficulty and I am grateful to those who have indicated points upon which misunderstanding could have been possible. I hope that these have been dealt with satisfactorily in this new edition.

Included in the appendix are references to some new advances, especially important being the introduction of television techniques into the field of medical radiology.

September 1960

THE AUTHOR

PREFACE TO THE THIRD EDITION

For more than nine years the second edition has been able to meet the requirements made of it, even though here and there the need for corrections and supplements was becoming more and more urgent. A thoroughgoing overhaul of the contents had to be performed. This was especially necessary for the diagnostic part. At one time I considered splitting the book up into two distinct parts: one diagnostic, the other therapeutic. But, as a broad common base already existed and as there are still many countries where the radiologist practices diagnostics as well as radiotherapy — albeit perhaps not with the most advanced modern refinements — I dropped the idea, and so the book is presented in its previous form. I have received valuable suggestions and have tried to incorporate them in the text and figures.

I wish here to express my gratitude to Mrs. B. King-Linton and Miss A. Monhemius, both qualified radiographers, for checking the technical terminology for accuracy on the one hand and for the execution of the corrections and the new drawings on the other.

I sincerely hope that this book will contribute to standardizing the level of the educational syllabus for radiographers and radiological technicians in many countries.

April 1969

THE AUTHOR

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