

A MANUAL OF X-RAY TECHNIC

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A Manual of X-Ray Technic by Arthur C. Christie

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ARTHUR C. CHRISTIE

**A MANUAL OF
X-RAY TECHNIC**

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OF
X-RAY TECHNIC

BY
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WITH 48 ILLUSTRATIONS

SECOND EDITION, REVISED AND ENLARGED



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PREFACE TO SECOND EDITION

THE technic of röntgenology has undergone considerable change in the past few years due to important improvements in apparatus and to increased knowledge gained from experience. It seems desirable for this reason to revise this manual at the present time.

In this revision a description of the Coolidge tube has been added to Chapter III, the chapter on the technic of gastro-intestinal examination has been rewritten and newly illustrated, the chapter on diseases and injuries of the bones has been made more complete by a section on bone tumors, a chapter has been added on the technic of röntgenotherapy, written by my colleague, Dr. Thos. A. Groover, and some minor changes and additions made throughout the manual.

The following terminology has been adopted by the American Röntgen Ray Society and is used throughout this book:

Röntgen—pronounced rent gen; Röntgen ray—a phenomenon in physics discovered by William Conrad Röntgen; Röntgenology—the study and practice of the Röntgen ray as it applies to medicine and surgery; Röntgenologist—one skilled in röntgenology; Röntgenogram—the shadow picture produced by the

Röntgen ray on a sensitized plate or film; Röntgenograph—(verb) to make a röntgenogram; Röntgenoscope—an apparatus for examination with the fluoroscopic screen excited by the Röntgen ray; Röntgenoscopy—examination by means of the röntgenoscope; Röntgenography—the art of making röntgenograms; Röntgenize—to apply the Röntgen ray; Röntgenization—the application of the Röntgen ray; Röntgenism—untoward effect of the Röntgen ray; Röntgen Diagnosis—diagnosis by aid of the Röntgen ray; Röntgenotherapy—treatment by the application of the Röntgen ray; Röntgen Dermatitis—skin reaction due to too strong or too oft-repeated application of the Röntgen ray.

THE AUTHOR.

OCTOBER, 1917.

PREFACE

THIS short manual on the technic of X-ray examination has been prepared with a view to the needs of the medical service of the United States Army. The small number of medical officers in the service necessitates frequent change of station, so that it often becomes necessary for one to familiarize himself in a comparatively short time with the essentials of radiologic technic. With this in mind it has been the author's aim to limit this work to the absolute essentials, a knowledge of which will enable the operator to do satisfactory work in X-ray diagnosis.

The book may also be found useful by that increasingly large number of physicians and surgeons in private practice who find it necessary or expedient to do their own X-ray work for diagnosis. Resort to a specialist in radiology is earnestly recommended whenever such services can be obtained, but in the smaller cities and towns this is often impossible. It is believed that mastery of the facts contained in this manual will enable those so situated to do satisfactory radiography.

In the preparation of this book many of the larger text-books and many monographs have been freely drawn upon. It has not been deemed necessary, how-

ever, to give an extensive bibliography, for the publications in the entire field of radiology, from the time of the discovery of the X-ray up to the present, are covered in that excellent work, "Die Röntgen-Literatur," by Prof. Dr. Hermann Gocht.

Only a few reproductions of radiograms are published as illustrations to the text because it is believed that ability to interpret radiograms can be gained only by experience with the originals.

Every X-ray operator is urged to make himself thoroughly familiar with the details of construction of the particular apparatus with which he is working. He is then in position to keep it constantly at its point of maximum efficiency. With his apparatus in good condition he can then gradually master the small details so essential to good X-ray work, and with practice in examining radiograms he will finally acquire ability to properly interpret them and so to arrive at correct diagnoses.

A. C. CHRISTIE.

WASHINGTON, D. C., October, 1913.

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