



# CLINICAL PHYSIOLOGY

## *The Functional Pathology of Disease*

*Edited by*

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## Preface

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Modern clinical medicine owes its emergence from an empirical art to a scientific discipline to the developments of the physiologic, physical, and biochemical sciences. Physiology, which is basically dependent on the physical sciences, is in turn the experimental basis for medicine, and advances in the two fields proceed *pari passu*. The physician of today can not apply the knowledge available in clinical medicine without a thorough understanding of the physiologic principles upon which this knowledge is based. His interpretation of the signs and symptoms which the patient presents as well as his ability to diagnose and treat a given disorder will be proportional to his understanding of the scientific principles which are the basis of modern clinical practice.

The purpose of this book is to present to the senior medical student, the intern, and the practitioner the basic physiologic principles of clinical medicine. The term *physiologic* is used here in its broad sense and includes much that is usually considered a part of the biochemical, pathologic, pharmacologic, and bacteriologic sciences. It is used in the spirit in which Claude Bernard defined it as "the experimental basis of medicine." Obviously no attempt is made to cover the general subjects of physiology and clinical medicine which are available in current textbooks. Instead, emphasis has been placed on those aspects of medical science which in our present stage of development have a practical application to the daily practice of medicine. Since the greatest advances have been made in the metabolic, cardiovascular, and endocrine fields, these subjects have received the preponderance of attention, with less complete coverage of subjects covered adequately in the available textbooks. An attempt has been made to correlate the results of clinical research and laboratory experimentation and to present a composite picture of these as applied to medical practice.

In medical education today much emphasis is being placed on the need for correlation of the basic disciplines—physiology, chemistry, pathology, and pharmacology—with clinical medicine. The present volume may be considered as offering such a correlation, and it is anticipated that it may serve as a text in the third- and fourth-year curriculums and aid to integrate the basic fundamentals with clinical teachings.



The field of medicine is so broad as to necessitate multiple authorship, and the authors of the separate chapters have been chosen from leaders in the field who not only have contributed experimentally to its development but are also experienced in the practical application of these findings to the art and science of medicine.

In a book of multiple authorship, considerable editorial revisions are essential for attaining a unified text of reasonable size. To attain this goal, I have not hesitated to edit drastically the manuscripts as submitted by the authors. To those authors who have accepted graciously the oftentimes radical alteration of their work, I wish to express my deep appreciation; to the others, I can only offer my apology for such violence as I may have done to their work.

ARTHUR GROLLMAN

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**Part I**

**GENERAL METABOLIC CONSIDERATIONS**

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