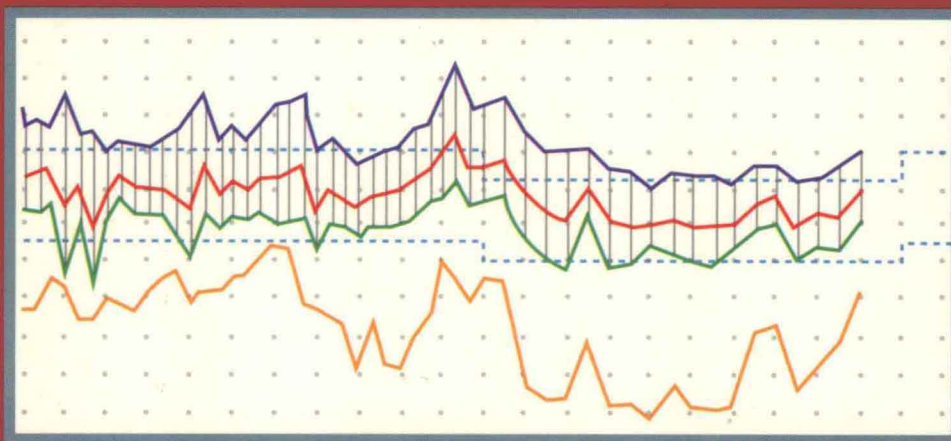


HYPERTENSION

Principles and Practice



Edited by

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HYPERTENSION

Principles and Practice

Preface

A wealth of information has accumulated on the subject of hypertension, and the number of publications dedicated to topics in this field of study continues to increase. It has become nearly impossible for medical professionals to absorb all of the diverse information and to gather the information into a coherent theoretical concept and practical approach to treating the disease, even for those of us who are actively involved in this research specialty on a daily basis. It becomes a still greater challenge for the many health care providers whose primary focus is clinical practice or for scientists who are doing research in basic science but whose work is relevant to the subject of hypertension.

Our goal for *Hypertension: Principles and Practice* has been to compile and present information about the most relevant underlying principles of hypertension and apply them to clinical practice. It takes facets of basic research and applies these concepts to bedside management. This concomitant emphasis on principles and practice confers a novel and distinctive quality to the book.

This reference is designed for use by primary care physicians, cardiologists, endocrinologists, nephrologists, vascular specialists, hypertension specialists, pharmacologists, scientists, nurses, students, and others, who want to obtain accurate, comprehensive, and up-to-date information on all aspects of hypertension in an attractive and easily readable format. The editors, contributors, and publisher envision this book as a new international platform for up-to-date information for the interested reader.

KEY FEATURES OF THE BOOK INCLUDE:

- A concomitant emphasis on principles and practice. Emphasis on the clinical aspects and patient management as well as on the molecular, biological, physiological, pathophysiological, and pharmacological aspects of hypertension.
- Authoritative, up-to-date, accurate, and evidence-based information.
- Organization to permit interconnection of various disciplines.
- Keypoints and summary sections at the beginning of each chapter to assist the reader in locating specific information of interest and in gaining an understanding of the scope of research in hypertension.
- Illustrations, algorithms, tables, and charts to clarify key data and relationships.
- Content provided by distinguished, well-established authors, drawn from all disciplines and from different areas of the world to ensure comprehensive and balanced international coverage.

The editors and publisher have worked intensively to give this book, written by many distinct authors, the tenor of one voice. Still, not all overlaps have been eliminated. Furthermore, we would like this book to evolve further and invite you, the reader, to provide us with feedback to prepare future editions.

Acknowledgments are due to Claudia Weiss, Basel (Switzerland), who skillfully and energetically organized the administrative processes required for the editing of the book. Without Claudia, the book would not have seen the light of the day. Many thanks are also due to our technical writer, Sigrid Strom and her colleagues, Seattle, Washington (USA), who expertly worked on so many distinct manuscripts to give them a common voice. The editors gratefully acknowledge the prompt and thoughtful support from Geoffrey Greenwood, the Acquisitions Editor at Taylor & Francis Group, who originally approached us to prepare this book.

Finally, we hope that *Hypertension: Principles and Practice* will serve our many hypertension patients by supporting their health care providers with a useful and comprehensive source of accurate information and education for daily use.

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Part A: History, Definitions, and Epidemiology

History of Hypertension

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KEYPOINTS

- Before 1967, hypertension became well defined, but without an effective treatment.
- Since 1967 effective and highly beneficial drug treatment has evolved.
- Recent advances have been made in characterizing both high risk hypertensive phenotypes and specific causative genetic mutations.
- Computer technology for characterization of daily average blood pressure and its variation has made a major clinical contribution to care of hypertensives.

SUMMARY

The history of hypertension can be divided into two eras: the pretreatment era (before 1967) when the pathology and pathophysiology of hypertension were defined and the

treatment era which established the benefit of drug therapy for hypertension. Clinical trials and meta-analyses have firmly established to extraordinary value of modern antihypertensive treatment. Advances in genetics have led to full characterization of several rare causes of hypertension. Progress in the technology of blood pressure measurement, specifically 24 h blood pressure monitoring has substantially improved the diagnosis of hypertension and the risk of average blood pressure for cardiovascular disease.

I. INTRODUCTION

Hypertension, as a specific concept, entered the language of medicine in the 19th and early 20th centuries. *Hypertension*, high arterial pressure, was associated initially with chronic renal disease and only later recognized as a more widespread trait in healthy individuals that was a predictor of cardiovascular disease and renal disease.