

PERSPECTIVE

The Journey of Resistant Hypertension: From the Fifth Report of the Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure to American Heart Association/American College of Cardiology Guidelines

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The existence of hypertension was suspected since antiquity, but objective documentation of hypertension became possible only by the end of the 19th century with the invention of the sphygmomanometer. Over subsequent decades, the impact of hypertension burden on excess cardiovascular morbidity and mortality has been recognized, and major antihypertensive classes have emerged, including β -adrenergic blockers (in the 1960s), thiazide diuretics, calcium channel blockers (in the 1970s), angiotensin-converting enzyme inhibitors (in the 1980s), and angiotensin II receptor blockers (in the 1990s).

The concept of treatment-resistant hypertension (RHTN) as failure to achieve blood pressure (BP) target with ≥ 3 antihypertensive medications was first introduced in 1993 by the Fifth Report of the Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure. The combination of a diuretic plus 2 classes of drugs—a β -adrenergic blocker (or other antiadrenergic agent), direct vasodilator, calcium channel blockers, or angiotensin-converting enzyme inhibitors—was preferred. Since then, the definition of and therapy approach to RHTN has evolved. RHTN is now defined as uncontrolled BP despite treatment with a calcium channel blockers, angiotensin-converting enzyme

inhibitors, or angiotensin II receptor blockers and a diuretic at the maximal doses, or controlled BP requiring ≥ 4 medications.¹

The first step in the evaluation of RHTN requires exclusion of pseudoresistance, which is due to 2 common causes—white-coat hypertension or medication nonadherence.¹ Whereas exclusion of white-coat hypertension can be achieved through home or 24-hour ambulatory BP monitoring, assessment of medication adherence is often more challenging. Over the past decade, strategies for unraveling medication nonadherence have evolved from reliance on prescription refill data alone, which is limited by lack of ability to capture actual medication ingestion, to biochemical detection of antihypertensive agents in plasma or urine samples and direct observation therapy.² Antihypertensive drug levels are now commercially available in the United States, and tests are covered by health care insurance in the same manner as digoxin levels. Direct observation after witnessed ingestion of antihypertensive agents is another method that determines medication adherence indirectly by assessing BP response to appropriate drug exposure. However, the extended BP monitoring required after drug ingestion in outpatient setting, and the challenges associated with identifying nonadherence to individual

Key Words: blood pressure ■ hypertension ■ therapeutics

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Joint National Committee First Hypertension Report

George L. Bakris, Matthew Sorrentino



Joint National Committee First Hypertension Report:

HeartMemo, 1994 *Hypertension: A Companion to Braunwald's Heart Disease E-Book* George L. Bakris, Matthew Sorrentino, 2017-01-03 The third edition of *Hypertension A Companion to Braunwald's Heart Disease* by Drs George L Bakris and Matthew Sorrentino focuses on every aspect of managing and treating patients who suffer from hypertensive disorders Designed for cardiologists endocrinologists and nephrologists alike this expansive in depth review boasts expert guidance from contributors worldwide keeping you abreast of the latest developments from basic science to clinical trials and guidelines Features expert guidance from worldwide contributors in cardiology endocrinology neurology and nephrology Covers behavior management as an integral part of treatment plans for hypertensives and pre hypertensives Covers new developments in epidemiology pathophysiology immunology clinical findings laboratory testing invasive and non invasive testing risk stratification clinical decision making prognosis and management Includes chapters on hot topics such as hypertension as an immune disease sleep disorders including sleep apnea a major cause of hypertension a novel chapter on environmental pollution and its contribution to endothelial dysfunction and more Equips you with the most recent guidelines from the major societies Updates sourced from the main Braunwald's Heart Disease text Highlights new combination drug therapies and the management of chronic complications of hypertension *Hypertension - E-Book* George L. Bakris, Matthew Sorrentino, Luke J. Laffin, 2023-08-29 Selected for Doody's Core Titles 2024 in Cardiology Part of the renowned Braunwald family of references *Hypertension A Companion to Braunwald's Heart Disease* provides today's clinicians with clear authoritative guidance on every aspect of managing and treating patients who suffer from hypertensive disorders An invaluable resource for cardiologists endocrinologists and nephrologists this one stop reference covers all the latest developments from basic science to clinical trials and guidelines related to the treatment of common to complex hypertension Now fully updated from cover to cover the 4th Edition offers unparalleled coverage of hypertension in an accessible and user friendly manner Thoroughly covers new treatment guidelines related to recent research and the latest physiologic understanding for a wide range of patients with hypertension and related co morbidities Includes new chapters on Hypertension in Women Mineralocorticoid Receptor Antagonists Exercise and Hypertension and Telemedicine Digital Health Contains new or expanded content on epidemiology pathophysiology immunology clinical findings laboratory testing invasive and non invasive testing risk stratification clinical decision making prognosis and management Provides new chapter summaries and a new focus on clinical and actionable content using a streamlined narrative format Covers behavior management and prevention as an integral part of hypertensive and pre hypertensive treatment plans Highlights combination drug therapies and management of chronic complications of hypertension Offers expert guidance from worldwide experts in cardiology endocrinology and nephrology and integrates the most recent guidelines from leading organizations around the world *NIH Almanac* National Institutes of Health (U.S.). Division of Public Information, 1998

Hypertension and Cardiovascular Disease Emmanuel A. Andreadis, 2016-09-20 This book provides comprehensive analysis into individualized patient care and applying evidence based medicine while integrating basic medical knowledge with applied medicine The Editor and the contributors not only discuss important issues on hypertension management and its deleterious consequences if it is not well controlled but also highlight the important signaling pathways involved in the pathogenesis of hypertensive heart disease and cardiac hypertrophy *Info Memo*, 1990 *The High Blood Pressure Solution* Richard D. Moore, 2001-05-01 Proves that the majority of cases of stroke heart attack and hypertension can easily be prevented by maintaining the proper ratio of potassium to sodium in the diet Updated with scientific evidence from a recent Finnish study showing a 60 percent decline in deaths attributed to strokes and heart attacks Provides a comprehensive program for balancing body chemistry at the cellular level High blood pressure is entirely preventable without reliance on synthetic drugs Dr Moore s approach is simple by maintaining the proper ratio of potassium to sodium in the diet blood pressure can be regulated at the cellular level preventing the development of hypertension and the high incidence of strokes and heart attacks associated with it Dr Moore updates this edition with a new preface reporting on the latest scientific research in support of his program The most striking results come from Finland where for several decades sodium chloride has been replaced nationwide with a commercial sodium potassium mixture resulting in a 60 percent decline nationwide in deaths attributed to strokes and heart attacks Extrapolated to America the Finnish statistics would mean 360 000 strokes prevented and 96 000 lives saved every year Dr Moore makes it clear that high blood pressure is only one symptom of an entire systemic imbalance He outlines a safe effective program that focuses on nutrition weight loss and exercise to bring the entire body chemistry into balance For those currently taking blood pressure medications he includes a chapter on working with your physician to ensure that any reduction in hypertension drugs can be effected gradually and safely *Hypertension in the Elderly* L. Michael Prisant, 2007-11-05 A comprehensive review of all aspects of hypertension in the elderly using the most current clinical data Topics range from basic concepts epidemiology and trials and evaluation and management to pharmacologic treatment special populations and adherence all presented with an emphasis on the optimal management of patients The authors examine in detail the mechanisms of hypertension in the elderly the lifestyle trials and outcomes trials that were conducted in older persons as well as the problems of clinical evaluation secondary hypertension adherence and target organ damage Extensive discussions of pharmacologic therapy detail the role of all the major drug classes

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Advanced Therapy in Hypertension and Vascular Disease Emile R. Mohler (III.), 2006 Provides a resource for health care professionals who evaluate and manage patients with hypertension Topics include hypertension in adolescents treatment of hypertension in athletes hypertension and weight loss salt and dietary change to control blood pressure and more **Hypertension** Henry Richard Black, William J. Elliott (M.D.), 2007-01-01 Effectively manage the chronic problems of your hypertensive patients with the practical clinical tools inside Hypertension 2nd Edition A Companion to Braunwald's Heart Disease This respected cardiology reference covers everything you need to know from epidemiology and pathophysiology through diagnosis risk stratification treatment outcome studies concomitant diseases special populations and special situations and future treatments Confidently meet the needs of special populations with chronic hypertensive disease as well as hypertension and concomitant disease Learn new methods of aggressive patient management and disease prevention to help ensure minimal risk of further cardiovascular problems Benefit from the authors Clinical Pearls to reduce complications of hypertension Use new combination drug therapies and other forms of treatment to their greatest advantage in the management of chronic complications of hypertension Successfully employ behavior management as a vital part of the treatment plan for hypertensives and pre hypertensives Access the complete contents online and download images at www.expertconsult.com The clinical tools you need to manage hypertension in patients from the Braunwald family you trust

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Health Services Reports ,1996 Public Health Reports ,1981 Emergency Cardiac Care 2012: From the ED to the CCU, An Issue of Cardiology Clinics Amal Mattu,Mandeep R. Mehra,2012-11-28 Emergency physicians are usually the first to care for patients with emergency cardiac conditions They must initiate therapy in a timely manner and must plan care in conjunction with cardiologists who continue the patient s care This issue has both emergency physicians and cardiologists as authors reflecting the fact that both care for patients with cardiac emergencies Physicians in both disciplines should benefit from the articles in this issue resulting in better patient care

Geriatric Hypertension, An Issue of Clinics in Geriatric Medicine Eric Tuday,Mark A. Supiano,2024-10-04 In this issue of Clinics in Geriatric Medicine guest editors Drs Mark Supiano and Eric Tuday bring their considerable expertise to the topic of Geriatric Hypertension Top experts in the field discuss topics such as social determinants of health barriers to hypertension care for refugee and unhoused populations blood pressure regulation disorders including postural hypotension home out of office blood pressure monitoring polypharmacy in older adults and secondary hypertension Contains 12 relevant practice oriented topics including public health messaging to older adults regarding hypertension cognitive function and blood pressure in older adults de prescribing in older adults nonpharmacologic management of hypertension in older adults and more Provides in depth clinical reviews on geriatric hypertension offering actionable insights for clinical practice Presents the latest information on this timely focused topic under the leadership of experienced editors in the field Authors synthesize and distill the latest research and practice guidelines to create clinically significant topic based reviews

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