Papers presented at the III World Congress of Cardiac Rehabilitation held in Caracas, Venezuela in Oct. 1985, sponsored by the Scientific Council on the Rehabilitation of Cardiac Patients of the International Society and Federation of Cardiology, the Committee on Cardiac Rehabilitation of the Venezuelan Society of Cardiology and the Council on Clinical Cardiology of the American Heart Association.

Includes index.


W1 AD53C v.33
WG 200 R3445 1985
ISBN 3-8055-4339-5

Drug Dosage
The authors and the publisher have exerted every effort to ensure that drug selection and dosage set forth in this text are in accord with current recommendations and practice at the time of publication. However, in view of ongoing research, changes in government regulations, and the constant flow of information relating to drug therapy and drug reactions, the reader is urged to check the package insert for each drug for any change in indications and dosage and for added warnings and precautions. This is particularly important when the recommended agent is a new and/or infrequently employed drug.

All rights reserved.
No part of this publication may be translated into other languages, reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording, microcopying, or by any information storage and retrieval system, without permission in writing from the publisher.

© Copyright 1986 by S. Karger AG, P.O. Box, CH-4009 Basel (Switzerland)
Printed in Switzerland by Thür AG Offsetdruck, Pratteln
ISBN 3-8055-4339-5

Contents
List of Contributors .................................................................................................................. VII
Dedication ................................................................................................................................. XI
Preface ........................................................................................................................................ XIII

Downloaded by: 54.70.40.11 - 11/20/2017 6:41:11 AM
Secondary Prevention: The Patient after Myocardial Infarction and Coronary Bypass Surgery

Rapaport, E. (San Francisco, Calif.): Effective Drugs in Preventing Recurrent Coronary Events. I. Hospital Phase ........................................ 1
Rapaport, E. (San Francisco, Calif.): Effective Drugs in Preventing Recurrent Coronary Events. II. Late Management .......................... 9
Mulcahy, R. (Dublin): Effect of Modification of Conventional Risk Factors in Preventing Recurrent Coronary Events ......................... 17

Role of Diagnostic Procedures in Coronary Rehabilitation

Broustet, J. P.; Douard, H.; Mora, B.; Guern, P.; Pic, A. (Pessac): The Role of Exercise Testing in the Diagnosis of Coronary Heart Disease .......... 40
Velasco, J. A. de (Valencia): The Role of Exercise Testing in Risk Stratification ...... 54
Boskis, B. (Buenos Aires): Cardiovascular Rehabilitation: Echocardiography and Nuclear Probe in Sequential Evaluation Protocols ................. 74
Roskamm, H.; Betz, P.; Gohlke, H. (Bad Krozingen): The Role of Coronary Angiography in Coronary Rehabilitation ................................ 89

Contents VI

Psychosocial Aspects of Coronary Rehabilitation

Hackett, Th. (Boston, Mass.): Changing Behavior following Myocardial Infarction 100
Halhuber, M.J. (Bad Berleburg): Modification of Coronary-Prone Behavior and Clinical Application ......................................................... 109
Wenger, N. K. (Atlanta, Ga.): Quality of Life: Concept and Approach to Measurement ................................................................. 122
Selected. Aspects: Rehabilitation of Cardiac Patients
(Subgroups of Patients and Sites of Rehabilitation)

Varnauskas, E.; Fernandez, Y. L. de; Munoz, S.; Williams, W. H.; Hatcher, Ch. R., Jr.; James, F. W.: Rehabilitation of Pediatric and Adolescent Cardiac Patients 131
Guzman, S. V.; L6pez-Grillo, L.; Dorossiev, D.L.; Feh6r, J.; Rosenthal, J.: Cardiac Rehabilitation in Different Geographic Areas......................... 142
Borer, J. S.; Brandi-Pifano, S.; Puigb6, J. J.; Weiner, D. A.; Curiel, R.; Shephard, R. J.: Rehabilitation of Patients with Left Ventricular Dysfunction and Heart Failure............................................................... 160
Schlesinger, Z.; Rosenthal, J.; Donat, K.; Ilker, H.-G.; Krasemann, E. O.; Fernan-
dez, Y. L. de; Kallio, V.; Fletcher, G. F.; Goodwin, R.: Community Phase of Cardiac Rehabilitation ............................................................... 178

Subject Index ............................................................... 190

List of Contributors

Almeida-Feo, Deyanira, MD
Professor of Medicine (Cardiology)
Escuela de Medicina Luis Razetti
Universidad Central de Venezuela
Chief, Cardiac Rehabilitation Unit
Hospital Universitario de Caracas
Caracas (Venezuela)

Betz, P., MD
Rehabilitationszentrum fur Herz- und Kreislaufkranke
Bad Krozingen (FRG)

Blumchen, Gotthard, MD
Professor of Medicine
Klinik Roderbirken
Leichlingen (FRG)
Borer, Jeffreys., MD
Gladys and Roland Harriman
Professor of Cardiovascular Medicine
Cornell University Medical College
The New York Hospital - Cornell Medical Center
New York, N.Y. (USA)

Boskis, Bernardo, MD
University Hospital
Buenos Aires (Argentina)

Brandi-Pifano, Sergio, MD
Assistant Professor of Cardiology
Universidad Central de Venezuela
Caracas (Venezuela)

Broustet, Jean-Paul, MD
Professor
L'Université de Bordeaux II
Hôpital Cardiologique du Haut Levêque
Pessac (France)

Curiel, Roberto, MD
Chief, Rehabilitation Unit
Centro Nacional de Rehabilitación
Cardiaca
Caracas (Venezuela)

Donat, Klaus, MD
Professor of Medicine
1st Medical Department
General Hospital Hamburg
Hamburg (FRG)

Dorossiev, Dimiter L., MD, CSc
Chief, Department of Cardiac Rehabilitation
Sanatorium of Cardiovascular Diseases
Bankja (Bulgaria)

Douard, H., MD
Department of Exercise Testing and Rehabilitation
Hopital Cardiologique du Haut Leveque
Pessac (France)

Eder, Anselm A., PhD
Institut für Soziologie der Universität Wien
Vienna (Austria)

List of Contributors VIII

Fehér, Jozef, MD
Head of Rehabilitation Department
Dante Pazzanese State Institute of Cardiology
- S. Paulo
President of Hospital Israelita Albert Einstein
São Paulo (Brazil)

Fernández, Yajaira L. de, MD
Cardiac Rehabilitation Unit
Hospital Universitario de Caracas
Caracas (Venezuela)

Fisman, E., MD
Research Associate
Herman Mayer Cardiac Rehabilitation Institute
Chaim Sheba Medical Center
Tel Hashomer (Israel)

Fletcher, Gerald F., MD
Medical Director, Emory Health Enhancement Program
Professor of Medicine (Cardiology)
Emory University School of Medicine
Atlanta, Ga. (USA)

Gohlke, H., MD
Rehabilitationszentrum für Herz- und Kreislaufkranke
Bad Krozingen (FRG)
Goodwin, Robert, MD
Medical Director
National Heart Foundation of Australia
Brisbane (Australia)

Guern, P., MD
Department of Exercise Testing and Rehabilitation
Hôpital Cardiologique du Haut Leveque
Pessac (France)

Guzman, Santiago V., MD
Chief, Research Division
Philippine Heart Center for Asia
Quezon City (Philippines)

Hackett, Thomas P., MD
Psychiatrist in Chief
Massachusetts General Hospital
Eben S. Draper Professor of Psychiatry
Harvard Medical School
Boston, Mass. (USA)

Halhuber, Max J., MD
Technische Universitat Miinchen
Bad Berleburg (FRG)

Hatcher, Charles, Jr., MD
Professor of Surgery
Chief, Cardiothoracic Surgery
Vice President, Health Affairs
Director, Robert W. Woodruff Health Sciences Center
Emory University School of Medicine
Atlanta, Ga. (USA)

Hayet, M., MD
Research Associate
Herman Mayer Cardiac Rehabilitation Institute
Chaim Sheba Medical Center
Tel Hashomer (Israel)
Hellerstein, Herman K., MD
Professor of Medicine
Case Western Reserve University
School of Medicine
University Hospitals of Cleveland
Cleveland, Ohio (USA)

Hochreiter, Clare, MD
Division of Cardiology
The New York Hospital-Cornell Medical Center
New York, N. Y. (USA)

Ilker, Hans-G., MD
German Association for Cardiac Rehabilitation
General Hospital Hamburg
Hamburg (FRG)

List of Contributors IX

Jacir, Alfonso, MD
Professor of Pharmacology
Faculty of Medicine
Universidad Central de Venezuela
Centro Medico
Caracas (Venezuela)

James, Frederick, W., MD
Professor of Pediatrics
University of Cincinnati Medical School
Director of Pediatric Exercise - Cardiovascular Physiology Laboratory
Division of Cardiology
Children's Hospital Medical Center
Cincinnati, Ohio (USA)

Jones, Ellis L., MD
Professor of Surgery
Division of Cardiothoracic Surgery
Emory University School of Medicine
Atlanta, Ga. (USA)

Kallio, Veikko, MD
Rehabilitation Research Centre of the
Social Insurance Institution
Turku (Finland)

Kellermann, Jan J., MD
Head, Cardiac Evaluation and Rehabilitation
Institute
Chaim Sheba Medical Center
Tel Hashomer (Israel)

Koenig, Kurt, MD
Herz-Kreislauf-Klinik Waldkirch/Freiburg
Waldkirch (FRG)

Krasemann, Ernst O., MD
German Association for Cardiac Rehabilitation
General Hospital Hamburg
Hamburg (FRG)

López-Grillo, Luis, MD
Professor of Medicine (Cardiology)
Cardiac Department
Hospital Universitario de Caracas
Caracas (Venezuela)

Mora, B., MD
Department of Exercise Testing and Rehabilitation
Hôpital Cardiologique du Haut Leveque
Pessac (France)

Moses, Jeffrey, W., MD
Division of Cardiology
The New York Hospital-Cornell Medical
Center
New York, N. Y. (USA)

Mulcahy, Risteard, MD
Director, Cardiac Department
Professor of Preventive Cardiology
St. Vincent's Hospital and University  
College  
Elm Park  
Dublin (Ireland)

Muñoz, Simón, MD  
Titular Professor, Chief of Cardiology  
University Hospital of Caracas  
Director of the Unit for Study and Prevention  
of Heart Disease in Children  
Caracas (Venezuela)

Niederberger, Manfred, MD  
Medizinische Universitäts-Klinik  
Allgemeines Krankenhaus der Stadt Wien  
Vienna (Austria)

Pérez-González, Juan F., MD, PhD  
Unidad de Rehabilitation Cardiopulmonar  
Centro Nacional de Rehabilitación  
Instituto Venezolano de los Seguros Sociales  
Facultad de Medicina, Universidad Central de Venezuela  
Caracas (Venezuela)

Pic, A., MD  
Department of Exercise Testing and Rehabilitation  
Hôpital Cardiologique du Haut Leveque  
Pessac (France)

List of Contributors

Puigbó, Juan José, MD  
Professor of Medicine (Clinical Cardiology)  
Department of Medicine  
Central University, Venezuela  
Senior Researcher ‘Cardiomyopathy Unit’  
University Hospital, Caracas  
Caracas (Venezuela)

Rapaport, Elliot, MD
Professor of Medicine
William Watt Kerr Professor of Clinical Medicine
University of California,
San Francisco, School of Medicine
Chief Cardiology Division
San Francisco General Hospital
San Francisco, Calif. (USA)

Rodríguez, Luis G., MD
Director, Cardiac Rehabilitation Unit
Centro Nacional de Rehabilitación
Instituto Venezolano de los Seguros Sociales
Caracas (Venezuela)

Rosenthal, Jacobo, MD
Cardiac Department
Cardiac Rehabilitation Unit
Hospital Universitario de Caracas
Caracas (Venezuela)

Roskamm, Helmut, Professor Dr. med.
Medical Director
Rehabilitationszentrum für Herz- und Kreislaufkrankheiten
Bad Krozingen (FRG)

Schlesinger, Zwi, MD
Director, Heart Institute
Asaf Harofe Medical Center
Associate Professor of Cardiology and Chairman of the Department of Cardiology
Sackler School of Medicine
Tel Aviv University
Tel Aviv (Israel)

Shephard, Roy J., MD (Lond.), PhD
Director, School of Physical and Health Education
Director, Graduate Program in Exercise Sciences
Faculty of Medicine
University of Toronto
Consultant, Toronto Rehabilitation Centre
Toronto (Canada)

Varnauskas, Ed, MD
Professor, Head of the Division of Cardiology
Sahlgrenska Hospital
Goteborg (Sweden)

Velasco, José A. de, MD
Center of Functioned Evaluation and Rehabilitation of Cardiac Patients, Hospital General
Valencia (Spain)

Wallis, James, MD
Division of Cardiology
The New York Hospital-Cornell Medical Center
New York, N.Y. (USA)

Weiner, Donald A., MD
Associate Professor of Medicine
Boston University School of Medicine
Boston, Mass. (USA)

Wenger, Nanette K., MD
Professor of Medicine (Cardiology)
Emory University School of Medicine
Director, Cardiac Clinics, Grady Memorial Hospital
Atlanta, Ga. (USA)

Williams, Willis H., MD
Associate Professor of Surgery (Cardiothoracic)
Emory University School of Medicine
Atlanta, Ga. (USA)

Zukowsky, Michael, MD
Division of Cardiology
The New York Hospital-Cornell Medical Center
New York, N.Y. (USA)

Dedication

The Editors dedicate this volume, with admiration and appreciation, to the members of the Organizing Committees of the III World Congress of Cardiac Rehabilitation.

International Organizing Committee
Bernardo Boskis
Jean-Paul Broustet
Henri Denolin
Jozef Feher
W. Geissler
Robert M. Goodwin
Santiago V. Guzman
Thomas P. Hackett
Jan J. Kellermann
Kurt Koenig
Jere F. Mitchell
Risteard Mulcahy
Manfred Niederberger
Lilia Nikolaeva
Harald Sanne
Zwi Schlesinger
Roy J. Shephard
Hironori Toshima
Jose Velasco

National Organizing Committee
Julio Acosta
Gustavo Baptista
Oswaldo Barrios
Petty de Colmenares
Roberto Curiel
Yajaira de Fernandez
Alberto Guinand
Otto Hemández-Pieretti
Rubén Jaén
Simbn Muñóz
Preface

The chapters of this volume represent the invited presentations made during the Plenary Sessions and Symposia of the III World Congress of Cardiac Rehabilitation held in Caracas, Venezuela, in October 1985. This formal structured component of the Congress was designed to provide the attendees with a core curriculum in cardiac rehabilitation.

Because coronary heart disease remains the predominant etiology of cardiac morbidity and mortality in industrialized countries the world over, components of rehabilitation for coronary patients were emphasized in all three Plenary Sessions. Included were the recommended approaches for secondary prevention and their outcomes, both for patients after myocardial infarction and after coronary bypass surgery; other areas addressed were the roles of noninvasive and invasive diagnostic procedures in coronary rehabilitation and the psychosocial aspects of rehabilitation of coronary patients. These important topics are serially presented in the first three sections of the volume.

The final section consists of the summary papers of the six Symposia, each of which was concerned with the rehabilitation of selected subsets of cardiac patients - pediatric and adolescent patients, elderly coronary patients, patients with left ventricular dysfunction and heart failure; or with the rehabilitation of cardiac patients in selected settings - in different geographic areas; in the workplace, emphasizing return to work after myocardial infarction and coronary bypass surgery; and in the community.
Gratitude is acknowledged to the internationally recognized experts who prepared concise and appropriately annotated summaries of our current knowledge in these diverse areas of cardiac rehabilitation. The more than 600 registrants of the Congress, who came from 37 countries, contributed importantly to the assessment and sharing of information by their participation in the lively discussions that followed the formal presentations.

Preface XIV

The III World Congress of Cardiac Rehabilitation was dedicated to the memory of Dr. Eduardo Hirschhaut, an outstanding clinician and leader in world cardiology, an active member of the Scientific Council on the Rehabilitation of Coronary Patients of the International Society and Federation of Cardiology for many years, as well as President of the Venezuelan Society of Cardiology and President and Vice President of the Interamerican Society of Cardiology. His contributions to improving the education and training of physicians and thereby improving the care of cardiac patients will long be remembered. The international cardiology community is indebted to him for his vision, his leadership, and guidance.

Nanette K. Wenger, MD
Deyanira Almeida-Feo, MD
Jacobo Rosenthal, MD
Editors

Introduction

The III World Congress of Cardiac Rehabilitation was dedicated to the memory of Dr. Eduardo Hirschhaut, an outstanding clinician and leader in world cardiology, an active member of the Scientific Council on the Rehabilitation of Coronary Patients of the International Society and Federation of Cardiology for many years, as well as President of the Venezuelan Society of Cardiology and President and Vice President of the Interamerican Society of Cardiology. His contributions to improving the education and training of physicians and thereby improving the care of cardiac patients will long be remembered. The international cardiology community is indebted to him for his vision, his leadership, and guidance.
We read in Ecclesiastes:

To every thing there is a season, and a time to 
every purpose under the heaven: 
A time to be born, and a time to die; 
A time to plant, and a time to pluck up that which is planted; 
A time to mourn, and a time to dance; 
A time to keep, and a time to cast away.

So that as there was mourning the loss of an esteemed friend, Eduardo Hirschhaut, there was rejoicing in the accomplishments of his colleagues and former students and trainees in his country and in the Western hemisphere. Dr. Eduardo Hirschhaut planted the seeds of learning, of teaching, and of caring, and the III World Congress of Cardiac Rehabilitation was part of the harvest. It provided the opportunity to share new information and to critically assess studies related to advances in diagnosis and treatment of patients with cardiovascular disease - with a view to further exploring promising concepts in the laboratory, to exchanging improved technologies and therapies for outmoded ones at the bedside and in the clinic, and to reviewing with colleagues on return home what was learned at the meeting.

Introduction XVI

The rehabilitative approach to the care of the cardiac patient is a complex one. It requires a comprehensive involvement with prevention, with early recognition of disease, and with the institution of appropriate diagnostic, therapeutic and educational components of care. These interrelated efforts are designed to return the patient to an optimal level of function-physiologic, psychologic, vocational, and often socioeconomic. This has been a decade characterized by an explosion of information, and a burgeoning of technology and pharmacology, providing an opportunity for intervention in illnesses undreamed of a few years earlier. Our challenge as a medical community is to use these resources wisely, to evaluate how best to provide optimal care, and care that is cost effective, for our patients with cardiovascular disease.

The clinicians and health care specialists today have unprecedented opportunities and responsibilities to alleviate pain and suffering and to improve or restore the functional capabilities of cardiac patients. Our service may be by discoveries made in the research setting; it may be by teaching, in the training of students in our respective disciplines; or by the delivery of direct care in the clinic and at the bedside. Most of us are
engaged in a combination of these tasks. Thus the presentations in the Plenary Sessions and Symposia at the Congress were designed to address these multifaceted aspects of cardiac rehabilitation, to provide the opportunity to acquire new information, to discuss its applications, and to evaluate the results of alternate therapies. Increasingly, research scientists and clinicians alike have become aware of the comprehensive approach needed for patient care, and have realized that both biomedical and psychosocial outcomes of illness must be addressed by the clinical investigator and the practicing physician as well; these interrelationships were also addressed at this meeting.

The unceasing efforts and outstanding accomplishments of the Officers and of the Organizing Committees of the Congress both enabled the exciting and enjoyable learning experience of the professional meeting and provided the background for the publication of this monograph. I congratulate them and formally acknowledge the appreciation of the Scientific Council and of the health professionals who care for patients with cardiac disease.

Nanette K. Wenger, MD