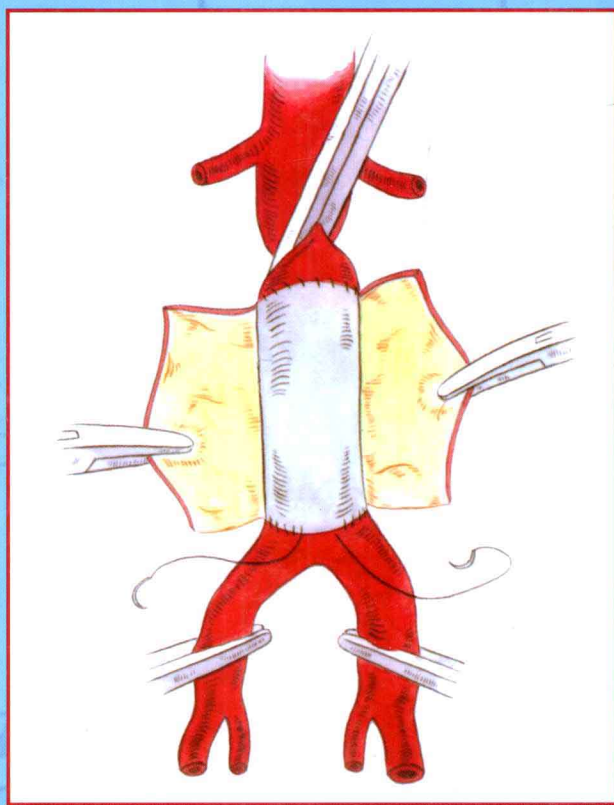


主动脉外科学

Surgery of the Aorta and Its Body Branches

原 著 Mark D. Morasch
William H. Pearce
James S. T. Yao

主 审 胡盛寿
主 译 孙图成 董念国



人民卫生出版社

主动脉外科学

Surgery of the Aorta and Its Body Branches

原 著 Mark D. Morasch
William H. Pearce
James S.T. Yao

主 审 胡盛寿

主 译 孙图成 董念国

副主译 庄 建 舒 畅 张尔永 蒋雄刚

人民卫生出版社

Translation of *Surgery of the Aorta and Its Body Branches* by Mark D. Morasch, et al.

The original English language work has been published by People's Medical Publishing House-USA, Ltd.
© 2010 People's Medical Publishing House-USA, Ltd.

2 Enterprise Drive, Suite 509

Shelton, CT 06484, USA

Tel: (203) 402-0646

E-mail: info@pmph-usa.com

Translated into Chinese by People's Medical Publishing House

© 2011 People's Medical Publishing House

Beijing, China

图书在版编目 (CIP) 数据

主动脉外科学 / (美) 姚詹姆著; 孙图成等主译.
—北京: 人民卫生出版社, 2011. 11
ISBN 978-7-117-14748-4

I. ①主… II. ①姚…②孙… III. ①主动脉疾病—
心脏外科手术 IV. ①R654. 2

中国版本图书馆 CIP 数据核字 (2011) 第 174158 号

门户网: www.pmph.com	出版物查询、网上书店
卫人网: www.ipmph.com	护士、医师、药师、中医师、卫生资格考试培训

版权所有, 侵权必究!

主动脉外科学

主 译: 孙图成 董念国

出版发行: 人民卫生出版社 (中继线 010-59780011)

地 址: 北京市朝阳区潘家园南里 19 号

邮 编: 100021

E - mail: pmph @ pmph.com

购书热线: 010-67605754 010-65264830

010-59787586 010-59787592

印 刷: 北京汇林印务有限公司

经 销: 新华书店

开 本: 889×1194 1/16 印张: 26

字 数: 805 千字

版 次: 2011 年 11 月第 1 版 2011 年 11 月第 1 版第 1 次印刷

标准书号: ISBN 978-7-117-14748-4/R · 14749

定 价: 88.00 元

打击盗版举报电话: 010-59787491 E-mail: WQ @ pmph.com

(凡属印装质量问题请与本社销售中心联系退换)



译者

(以姓氏汉语拼音为序)

- 陈 澍 华中科技大学同济医学院附属协和医院心血管外科
陈 思 华中科技大学同济医学院附属协和医院心血管外科
董念国 华中科技大学同济医学院附属协和医院心血管外科
葛 进 同济大学附属东方医院血管外科
胡盛寿 中国医学科学院阜外心血管病医院
胡晓磊 中南大学湘雅二医院血管外科
黄焕雷 广东省人民医院心外科(广东省心血管病研究所)
江广斌 华中科技大学同济医学院附属协和医院介入科
蒋雄刚 华中科技大学同济医学院附属协和医院心血管外科
李林林 中国医学科学院阜外心血管病医院
梁惠民 华中科技大学同济医学院附属协和医院介入科
舒 畅 中南大学湘雅二医院血管外科
孙图成 华中科技大学同济医学院附属协和医院心血管外科
谈梦伟 第二军医大学第一附属医院(上海长海医院)胸心外科
王 翔 同济大学附属东方医院血管外科
吴永波 中国医学科学院阜外心血管病医院
徐志云 第二军医大学第一附属医院(上海长海医院)胸心外科
杨晨紫 中南大学湘雅二医院血管外科
杨 建 四川大学华西医院胸心血管外科
叶晓峰 上海交通大学医学院附属瑞金医院心脏外科
袁 峰 华中科技大学同济医学院附属协和医院介入科
张尔永 四川大学华西医院胸心血管外科
赵 强 上海交通大学医学院附属瑞金医院心脏外科
周 诚 华中科技大学同济医学院附属协和医院心血管外科
庄 建 广东省人民医院心外科(广东省心血管病研究所)

序 言

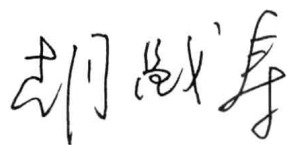
在过去的二十年中,主动脉疾病的诊断和治疗水平取得了显著的进步,应归因于影像技术、围术期脏器保护、腔内治疗和外科手术技术的提高。

血管腔内技术的进展和广泛使用使得主动脉疾病的治疗方式发生了巨大变革。与开放手术相比,腔内治疗的并发症和死亡率大大减少。毫无疑问,腔内修复作为主动脉瘤的治疗手段之一将会日益盛行,但其中期实验结果并未达到预期的临床疗效,装置的长期耐久性仍有待于大规模的、随机对照的、前瞻性研究来确定。腔内技术的进一步改良,包括分支和开窗技术的应用,在未来有广阔的发展前景。更稳定而精确的输送系统、更强健的结构以适应更高的胸主动脉压力、更好的材料以提供最佳强度和柔顺性,是未来腔内支架设计的研究方向。

虽然开放手术在某种程度上有所减少,例如B型主动脉夹层以及肾下型腹主动脉瘤几乎绝大多数采用腔内治疗,但是对于复杂类型的主动脉瘤或夹层,开放手术仍具有不可替代的地位。尽管随着选择性脑灌注、脑脊液引流、序贯主动脉阻断、中度低温等综合措施的应用,神经系统损害、截瘫、肾脏并发症等已明显减少,但胸腹主动脉瘤开放手术的总体死亡率和病残率仍较高,重要脏器的围术期保护仍是提高手术效果的关键之一。

采用外科开放手术与血管腔内途径相结合的方法,即“杂交手术”,将是未来的一种发展方向。通过预先建立重要分支血管旁路,可以将腔内技术的应用范围扩大,降低手术死亡率和并发症发生率,体现了“‘以病变为导向’综合各种技术优势为患者选择个体化治疗方案”这一现代医学模式的要求。

显然,未来的心脏外科医生和血管外科医生必须对三维图像的解读和处理十分熟悉,同时,必须具备娴熟的介入技术和精湛的手术技巧,才能为患者提供最恰当的个体化治疗方案。《主动脉及其主干分支外科学》系统介绍了主动脉疾病的开放手术、腔内治疗和杂交技术,体现了主动脉疾病诊断和治疗领域的最新进展,相信对从事主动脉疾病治疗的医务工作者有所裨益。



译者前言

随着经济社会进步、饮食结构改变、人口老龄化趋势,主动脉疾病发病率逐渐增加。与此同时,影像技术的进步使这类疾病的临床诊断率得以提高。主动脉疾病的病变部位、病理类型、累及范围的个体差异,决定了其治疗手段的多样化。自 1991 年 Parodi 首次应用支架型人工血管治疗腹主动脉瘤以来,腔内修复术发展迅猛,与开放手术相比,其创伤小、手术死亡率和并发症发生率明显降低。然而,对于复杂类型的主动脉瘤和主动脉夹层,涉及重要的主动脉分支重建,虽然腔内治疗的器械和技术已取得较大进步,但目前开放手术仍具有无可替代的地位。更为重要的是,在当前腔内血管外科时代,杂交手术提供了另一个颇具应用前景的选择。它结合了腔内技术和开放手术两者的优点,避免了深低温停循环、在腹腔干以上部位进行胸主动脉阻断等所致的相关并发症,手术死亡率得以明显降低。

我国的主动脉外科近年来发展迅速,但与西方发达国家相比仍存在较大差距。《主动脉及其主干分支外科学》系统介绍了胸主动脉瘤、胸腹主动脉瘤和腹主动脉瘤的现代开放手术、腔内治疗的适应证和相关并发症的处理,特别是杂交技术在主动脉疾病的应用,体现了主动脉疾病诊断和治疗领域的最新进展,对临床医生和医学生均有很好的指导意义。我们特邀请了国内心脏外科、血管外科、介入科的相关专家将其译出以飨读者,希望对大家有所帮助。

由于译者外语水平和临床经验有限,疏漏和不足之处在所难免,敬请读者批评指正。另外,在译稿校对过程中,胡行健博士做了大量协助工作,在此致谢。

孙图成 董念国

前言

美国西北大学血管疾病研讨会是一项始于 1976 年并延续至今的教育项目。每年大约有 40 位来自全美以及海外的顶尖血管外科医师受邀作为专家主持会议,就血管外科医师、心外科医师和血管疾病相关的医学工作者特别关注的一些问题进行阐述或讨论。多年来,这些专家们的讲稿都会被汇编成研讨会纲要,以记录他们在此领域所做出的贡献。该做法大受与会者欢迎,成为每次会议关注的焦点之一。然而,直到最近,此纲要才得以公开发行,并总是被抢购一空。

《主动脉外科学》是近几届研讨会最新讲稿的合集。过去 5 年中,研讨会纲要并未公开出版,而是一直作为内部读物分发给与会代表。这让许多因故未能出席芝加哥年度会议的人错过了该书。同时,我们也意识到这些专家所撰写的文稿都是具有重要意义的医学文献,如果不能在世界范围内得以传播,对其作者是十分不公平的。因而,Dr. James Yao 和 Dr. William Pearce 合作编撰了《主动脉外科学》一书,以期反映主动脉疾病诊断和治疗领域的最新进展。

本书开篇几章首先讨论了一个目前争议较多的话题——腔内血管外科时代开放手术的数量及其培训的相关问题,接下来,本书分几个部分阐述了胸主动脉瘤、胸腹主动脉瘤和腹主动脉瘤的现代开放手术技术以及再次主动脉手术的相关问题。继而讨论重点转到腔内介入治疗领域,本书不仅介绍了腔内支架在治疗单纯动脉瘤中的应用,而且对腔内技术在急性主动脉夹层、主动脉创伤的应用以及腔内治疗常见并发症等热点问题进行了深入探讨。此外,编者专门用一章的篇幅回顾了最新的临床数据,以帮助临床医生合理地做出主动脉腔内修复术的决策。最后,本书介绍了主动脉分支病变的腔内和开放治疗技术。

血管疾病的治疗手段日新月异,外科医师必须与时俱进。美国西北大学血管疾病研讨会致力于为血管疾病领域的医学工作者介绍最先进、最前沿的技术手段和技巧方法。我们衷心希望本书能起到抛砖引玉的作用,带动更多读者参与专业讨论。

Mark D. Morasch, MD

William H. Pearce, MD

James S. T. Yao, MD, PhD

作者

Paul A. Armstrong, M.D.

Division of Vascular and Endovascular
Surgery
University of South Florida College of
Medicine
Chief, Vascular Surgery
James A. Haley Veterans Hospitals
Tampa, Florida

Ali Azizzadeh, M.D.

Assistant Professor
Department of Cardiothoracic and Vascular
Surgery
The University of Texas Medical School at
Houston
Director, Endovascular Surgery
Memorial Hermann Heart & Vascular
Institute, Texas Medical Center
Houston, Texas

Dennis F. Bandyk, M.D.

Professor of Surgery
University of South Florida
Director, Division of Vascular and
Endovascular Surgery
Tampa General Hospital
Tampa, Florida

Marshall E. Benjamin, M.D.

Associate Professor of Surgery
University of Maryland Medical Center
Director, Maryland Vascular Center
Baltimore Washington Medical Center
Baltimore, Maryland

Ramon Berguer, M.D.

Frankel Professor of Vascular Surgery
Professor of Engineering
University of Michigan Medical School
University of Michigan Health System
Ann Arbor, Michigan

Kristen L. Biggs, M.D.

Assistant Professor of Surgery
Division of Vascular Surgery, Department
of Surgery
University of New Mexico School of
Medicine
Albuquerque, New Mexico

Susan A. Blackburn, R.N., M.B.A.

Divisions of Vascular and Cardiac
Surgery
University of Michigan Medical School
University of Michigan Health System
Ann Arbor, Michigan

Jan D. Blankensteijn, M.D.

Associate Professor of Surgery
VU Medical Center
Amsterdam, The Netherlands

Thomas C. Bower, M.D.

Professor of Surgery
Vascular Surgery
Gonda Vascular Center
Mayo Clinic
Rochester, Minnesota

Katharine E. Brown, D.O.

Associate Professor in Surgery
University of California at San Diego
San Diego, California

Erik Buskens, M.D.

Julius Center for Health Sciences & Primary
Care
University Medical Center Utrecht
Utrecht, The Netherlands

Rabih A. Chaer, M.D.

Division of Vascular Surgery
University of Pittsburgh Physicians
University of Pittsburgh Medical Center
Pittsburgh, Pennsylvania

Elliot L. Chaikof, M.D.

Professor and John E. Skandalakis Chair of
Surgery, Division of Vascular Surgery,
Department of Surgery,
Emory University School of Medicine
Chief, Division of Vascular Surgery and
Endovascular Therapy
Emory University
Atlanta, Georgia

Christopher M. Chambers, M.D.

Vascular Surgeon
Metropolitan Hospital
Grand Rapids, Michigan

Kenneth J. Cherry, M.D.

Professor of Surgery
Department of Surgery, Division of
Thoracic and Cardiovascular Surgery
University of Virginia Medical Center
Charlottesville, Virginia

Andy C. Chiou, M.D.

Assistant Professor of Clinical Surgery
Department of Surgery
Peoria, Illinois

Tuan-Hung B. Chu, M.D., R.V.T.

Endovascular, Interventional Vascular and
Peripheral Vascular Surgery.
Surgical Associates of Dallas
Dallas, Texas

Daniel Clair, M.D.

Professor of Surgery
Cleveland Clinic Lerner College of
Medicine at Case Western University
Chairman, Department of Vascular
Surgery
Cleveland Clinic
Cleveland, Ohio

Sheila M. Coogan, M.D.

Assistant Professor, Department of
Cardiothoracic and Vascular
Surgery
The University of Texas Medical School at
Houston
Director, Vascular Laboratory
Memorial Hermann Heart & Vascular
Institute, Texas Medical Center
Houston, Texas

John A. Cowan, Jr., M.D.

Department of Surgery, Division of
Vascular Surgery
University of Michigan Medical School
Ann Arbor, Michigan

Enrique Criado, M.D., FACS

Professor of Vascular Surgery
University of Michigan Medical School
University of Michigan Health System
Ann Arbor, Michigan

Michael D. Dake, M.D.

Professor of Cardiothoracic Surgery,
Department of Cardiothoracic
Surgery
Stanford University School of Medicine
Medical Director, Cath/Angio
Laboratories
Stanford University Medical Center
Stanford, California

R. Clement Darling, M.D.

Professor of Surgery
Albany Medical College
Chief, Division of Vascular Surgery
The Vascular Group, PLLC
Albany, New York

G. Michael Deeb, M.D.

Professor, Department of Surgery
Herbert Sloan Collegiate Professor
University of Michigan Medical School
Director, Multidisciplinary Aortic Clinic
University of Michigan Health System
Ann Arbor, Michigan

Justin B. Dimick, M.D., M.P.H.

Assistant Professor of Surgery
University of Michigan Medical School
University of Michigan Health System
Ann Arbor, Michigan

Yves-Marie Dion, M.D.

Professor of Surgery in the Division of
Vascular Surgery
Laval University
Québec City University Hospital Center
(CHUQ)
St-François d'Assise Hospital
Redearcher, Québec Biomaterials Institute.
Quebec City, Quebec, Canada

Gary Dobson, M.D., FRCPC

Department of Anesthesiology
University of Calgary
Calgary, Alberta, Canada

Matthew J. Eagleton, M.D.

Assistant Professor of Surgery
Cleveland Clinic Lerner College of
Medicine at Case Western Reserve
University
Attending Surgeon
Cleveland Clinic
Cleveland, Ohio

Matthew S. Edwards, M.D.

Associate Professor, Surgery Vascular
Wake Forest University School of Medicine
Vascular Surgeon
North Carolina Baptist Hospital
Winston Salem, North Carolina

Jonathan L. Eliason, M.D.

Assistant Professor of Vascular Surgery
University of Michigan Health System
Ann Arbor, Michigan

Mark K. Eskandari, M.D.

Associate Professor in Surgery-
Vascular
Northwestern University's Feinberg
School of Medicine
Chicago, IL

Anthony L. Estrera, M.D.

Associate Professor, Department of
Cardiothoracic and Vascular
Surgery
The University of Texas Medical School at
Houston
Chief of Cardiac Surgery
Cardiovascular Intensive Care Unit
Memorial Hermann Hospital - Texas
Medical Center
Houston, Texas

Mark A. Farber, M.D.

Associate Professor of Vascular Surgery and
Interventional Radiology
University of North Carolina
Director, UNC Endovascular Institute
UNC Hospitals
Chapel Hill, North Carolina

John D. Frusha, M.D.

Vascular Surgery Associates
Medical Director of Vascular Associates
Laboratory
Baton Rouge, Louisiana

Nicholas J. Gargiulo, III, M.D.

Associate Professor of Surgery
Albert Einstein College of Medicine
Attending Vascular Surgeon
Montefiore Medical Center
New York, New York

Patrick J. Geraghty, M.D.

Associate Professor, Surgery and
Radiology
Division of General Surgery, Vascular
Surgery Section
Washington University
Barnes-Jewish St. Peters Hospital
St. Louis, Missouri

Kristina A. Giles, M.D.

Division of Vascular and Endovascular
Surgery,
Beth Israel Deaconess Medical Center,
Boston, Massachusetts

Richard M. Green, M.D.

Vascular Surgeon
Lenox Hill Hospital
New York, NY

Roy K. Greenberg, M.D.

Associate Professor of Surgery
Cleveland Clinic Lerner College of
Medicine at Case Western Reserve
University
Director, Endovascular Research and
Peripheral Vascular Core Laboratory
The Cleveland Clinic Foundation
Cleveland, Ohio

John P. Harris, M.D.

Department of Surgery
University of Sydney
Division of Surgery
Royal Prince Alfred Hospital
Sydney and Camperdown, New South
Wales, Australia

Stephen M. Hass, M.D.

Division of Vascular Surgery,
University of Maryland
Baltimore, Maryland

Heitham T. Hassoun, M.D.

Assistant Professor of Vascular
Surgery
The Johns Hopkins Hospital
Vascular and Endovascular Therapies
Methodist Cardiovascular Surgery
Associates
Methodist Hospital System
Baltimore, Maryland and Houston,
Texas

Stephen A. Hebert, R.N.

Vascular Surgery Associates
Baton Rouge, Louisiana

Peter K. Henke, M.D.

Associate Professor of Vascular Surgery
University of Michigan Medical School
University of Michigan Health System
Ann Arbor, Michigan

Tam T.T. Huynh, M.D., B.S.

Associate Professor of Surgery
Vascular Surgery Division
University of Texas Medical School
Texas Medical Center
Houston, Texas

Loay Kabbani, M.D.

Vascular Fellow
University of Michigan Medical School
Ann Arbor, Michigan

Blair Keagy, M.D.

George Johnson Distinguished Professor of
Surgery
University of North Carolina
Chief, Division of Vascular Surgery
UNC Hospitals
Chapel Hill, North Carolina

K. Craig Kent, M.D.

A.R. Curreri Professor of Surgery
Chairman, Department of Surgery, Section
of Vascular Surgery
University of Wisconsin School of Medicine
and Public Health
University of Wisconsin Hospital
Madison, Wisconsin

Brian S. Knipp, M.D.

Resident, General Surgery
University of Michigan Medical School
Ann Arbor, Michigan

Michel Lacombe, M.D.

Department of Surgery
Hôpital Beaujon
Clichy, France

Frank A. Lederle, M.D.

Professor of Medicine
VA Medical Center
Minneapolis, Minnesota

Evan C. Lipsitz, M.D.

Associate Professor of Surgery
 Albert Einstein College of Medicine
 Interim Chief, Division of Vascular Surgery
 Medical Director
 Vascular Diagnostic Laboratory
 Montefiore Medical Center
 New York, NY

Peter S. Liu, M.D.

Clinical Lecture, Department of
 Radiology
 University of Michigan Medical School
 University of Michigan Health System
 Ann Arbor, Michigan

Graham W. Long, M.D.

Vascular Surgeon
 Peripheral Vascular of NVA
 Bloomfield Hills, MI

Alan B. Lumsden, M.D.

Professor & Chairman
 Methodist DeBakey Heart & Vascular
 Center
 Medical Director
 Methodist Hospital
 Houston, Texas

Lindsay Machan, M.D.

Associate Professor
 University of British Columbia
 Interventional Radiologist
 Vancouver Hospital and Health Sciences
 Center
 Vancouver, British Columbia, Canada

Douglas P. MacMillan, M.D.

Asheville Radiology
 Carolina Vascular
 Asheville, North Carolina

Michel S. Makaroun, M.D.

Professor of Surgery
 University of Pittsburgh
 Chief, Division of Vascular Surgery
 University of Pittsburgh Medical Center
 Pittsburgh, Pennsylvania

Jon S. Matsumura, M.D.

Professor of Surgery, Chief, Vascular
 Surgery
 University of Wisconsin School of Medicine
 and Public Health
 University of Wisconsin Hospital
 Madison, Wisconsin

James May, M.D., M.S., FRACS, FACS

Bosch Professor of Surgery & Associate
 Dean Surgical Sciences
 University of Sydney
 Vascular Surgeon
 Royal Prince Alfred Hospital
 Sydney and Camperdown, New South
 Wales, Australia

K. McCune, M.D., FRCS (Ed.)

University of Calgary
 Calgary, Alberta, Canada

James W. McNeil, M.D.

Assistant Clinical Professor of Surgery
 Louisiana State University, New Orleans
 CVT Surgical Center
 New Orleans and Baton Rouge, Louisiana

Robert R. Mendes, M.D.

Assistant Professor of Surgery
 Division of Vascular Surgery
 UNC Hospitals
 Chapel Hill, North Carolina

Charles C. Miller, III, Ph.D.

Professor, Department of Cardiothoracic
 and Vascular Surgery
 Center for Clinical Research & Evidence-
 Based Medicine
 Center for Biotechnology
 The University of Texas Medical School at
 Houston
 Houston, Texas

Randy D. Moore, M.D., M.Sc., FRCSC

Assistant Professor
 University of Calgary
 Calgary Health Region
 Calgary, Alberta, Canada

Mark D. Morasch, M.D.

Associate Professor in Surgery-Vascular
Practice Director
Northwestern University's Feinberg School
of Medicine
Northwestern Memorial Hospital
Chicago, Illinois

Mona Motamedi, B.A. (Honours)

Research Coordinator/Database Manager
University of Calgary
Calgary Health Region
Calgary, Alberta, Canada

Andrew J. Olinde, M.D.

Clinical Instructor
Ochsner Clinic
Vascular Surgery Associates
Baton Rouge, Louisiana

Babak J. Orandi, M.D.

Department of Surgery, Division of
Vascular Surgery
University of Michigan Medical School
Ann Arbor, Michigan

Himanshu J. Patel, M.D.

Assistant Professor of Surgery, Section of
Cardiac Surgery
University of Michigan Medical School
University of Michigan Health System
Ann Arbor, Michigan

Philip S.K. Paty, M.D.

Associate Professor of Surgery
Albany Medical Center
The Institute for Vascular Health and
Disease
The Vascular Group, PLLC
Albany, New York

William H. Pearce, M.D.

Violet R. and Charles A. Baldwin Professor
in Vascular Surgery
Northwestern University's Feinberg School
of Medicine
Chief, Division of Vascular Surgery
Northwestern Memorial Hospital
Chicago, Illinois

Eric K. Peden, M.D.

Assistant Professor of Surgery in the
Department of Cardiovascular
Surgery,
Chief of Vascular Surgery
Methodist DeBakey Heart and Vascular
Center
Houston, Texas

Brian G. Peterson, M.D.

Vascular Surgeon
St. Louis University Hospital
St. Louis, Missouri

Kenneth T. Piercy, M.D.

Vascular Surgeon
Mid-South Surgeons
Columbia, Tennessee

Eyal E. Porat, M.D.

Adjunct Professor, Department of
Cardiothoracic and Vascular
Surgery
The University of Texas Medical
School at Houston
Director, Cardiothoracic Surgery
Rabin Medical Center
Houston, Texas and Petah-Tikva,
Israel

Monique Prinssen, M.D.

Division of Vascular Surgery
Department of Surgery
University Medical Center Utrecht
Utrecht, The Netherlands

Michael J. Reardon, M.D.

Thoracic Surgery
Methodist DeBakey Heart and
Vascular Center
Houston, Texas

John E. Rectenwald, M.D.

Associate Professor of Vascular
Surgery
University of Michigan Medical
School
University of Michigan Health System
Ann Arbor, Michigan

Jean-Baptiste Ricco, M.D., Ph.D.

Professeur des Universités
Université de Poitiers
Praticien Hospitalier, Chef de
Service
Centre Hospital
Poitiers, France

Heron E. Rodriguez, M.D.

Assistant Professor in Vascular
Surgery
Northwestern University's Feinberg
School of Medicine
Division of Vascular Surgery
Northwestern Memorial Hospital
Chicago, IL

Hazim J. Safi, M.D.

Professor and Chairman
University of Texas Medical School
Chief, Memorial Hermann Heart &
Vascular Institute
Texas Medical Center
Houston, Texas

Stephanie Saltzberg, M.D.

Assistant Professor of Surgery
Albany Medical Center
Vascular Surgeon
The Vascular Group, PLLC, Kingston
Albany and Kingston, New York

Albert D. Sam II, M.D.

Clinical Assistant Professor
Louisiana State University School of
Medicine
Vascular Surgery Associates
Baton Rouge, Louisiana

Elliot B. Sambol, M.D.

Vascular Surgeon
Princeton Surgical Associates
Princeton, New Jersey

Layne Sandridge, M.D.

Vascular Surgeon
Arizona Heart Institute
Phoenix, Arizona

Marc L. Schermerhorn, M.D.

Assistant Professor
Harvard Medical School
Beth Israel Deaconess Medical Center,
Chief, Vascular surgery
Boston, Massachusetts

Charles J. Shanley, M.D.

Marion and David Handleman Research
Professor of Vascular Surgery
University of Michigan Medical School,
Department of Surgery
William Beaumont Hospital,
Royal Oak, Michigan

Palma M. Shaw, M.D.

Assistant Professor of Surgery
Boston University School of Medicine
Co-Director, Endovascular Surgery
Boston Medical Center
Boston, Massachusetts

Gregorio A. Sicard, M.D.

Eugene M. Bricker Professor, Surgery
Division Head of General Surgery, Section
Head of Vascular Surgery,
Vice Chairman, Department of Surgery
Washington University
Barnes-Jewish West County Hospital
St. Louis, Missouri

James C. Stanley, M.D.

Marion and David Handleman Research
Professor of Vascular Surgery
University of Michigan Medical School
University of Michigan Health System
Ann Arbor, Michigan

Gale L. Tang, M.D.

Associate Professor of Washington
University
University of Washington
VA Puget Sound Health Care System
Seattle, Washington

Joep A.W. Teijink, M.D.

Department of Surgery
Atrium Medical Center
Heerlen, The Netherlands

William D. Turnipseed, M.D.

Professor, Division of General Surgery
Chief, Section of Vascular Surgery
University of Wisconsin Madison
Director, Vascular Noninvasive Diagnostic
Lab
Madison, WI

Rudolf P. Tutein Nolthenius, M.D.

Department of Surgery
Albert Schweitzer Hospital
Dordrecht, The Netherlands

Gilbert R. Upchurch, Jr., M.D.

Leland Ira Doan Research Professor of
Vascular Surgery
Professor of Vascular Surgery
University of Michigan Medical School
University of Michigan Health System
Ann Arbor, Michigan

R. James Valentine, M.D.

Professor, Surgery and Vascular Surgery
University of Texas Southwest Medical
Center
Dallas, Texas

Steven M.M. van Sterkenburg,

Department of Surgery
Rijnstate Hospital
Arnhem, The Netherlands

Frank J. Veith, M.D.

Professor of Surgery
The William J. von Liebig Chair in Vascular
Surgery
The Cleveland Clinic and New York
University
The Cleveland Clinic and New York
University Medical Center
Cleveland, Ohio and New York, New York

Martin A. Villa, M.D.

Department of Surgery, Division of
Vascular Surgery
University of Texas Medical School
Houston, Texas

J.C. Walkes, M.D.

Clinical Associate Professor, Department
of Cardiothoracic and Vascular
Surgery
The University of Texas Medical
School at Houston
Director, Valve Program
Memorial Hermann Heart & Vascular
Institute, Texas Medical Center
Houston, Texas

Margaret H. Walkup, M.D.

Resident
Vascular Surgery
University of North Carolina
Chapel Hill, North Carolina

David S. Wang, D.O.

Instructor of Radiology
Department of Radiology, Division of
Musculoskeletal Radiology
University of Virginia Medical
Center
Charlottesville, Virginia

Geoffrey H. White, M.D.

Associate Professor of Surgery
University of Sydney
Head, Department of Vascular
Surgery
Royal Prince Alfred Hospital
Sydney and Camperdown, New South
Wales, Australia

David M. Williams, M.D.

Professor, Department of Radiology
University of Michigan Medical
School
University of Michigan Health System
Ann Arbor, Michigan

David B. Wilson, M.D.

Vascular Surgeon
Michigan Vascular Center
Flint, Michigan

Mark C. Wyers, M.D., FACS

Cardiovascular Institute's Division of
Vascular Surgery
Beth Israel Deaconess Medical Center,
Boston, Massachusetts

Robert M. Zwolak, M.D., Ph.D.

Professor of Surgery, Vascular
Dartmouth Medical School
Dartmouth-Hitchcock Medical Center
Lebanon, NH

目 录

第Ⅰ部分 腔内血管外科时代开放手术当前的争论焦点·····	1
第1章 腔内血管外科时代开放手术的现状·····	3
第2章 腔内血管外科时代如何对外科医师进行针对开放手术的训练·····	10
第3章 腔内血管外科时代的腹主动脉瘤修补术:医院手术规模和手术死亡率·····	16
第Ⅱ部分 腹主动脉瘤的现代开放手术技术·····	23
第4章 腹主动脉手术的腹膜后入路·····	25
第5章 主动脉瘤修复术的改良腹膜后入路:针对解剖情况不理想病例的改进方法·····	31
第6章 腔内修复时代复杂主动脉瘤的开放手术·····	38
第7章 小切口主动脉手术·····	47
第Ⅲ部分 胸腹主动脉瘤的开放手术治疗·····	53
第8章 胸腹主动脉瘤的开放手术治疗·····	55
第9章 胸腹主动脉瘤的开放修复术:手术时机和方法·····	65
第Ⅳ部分 再次主动脉手术·····	73
第10章 处理主动脉病变的再次手术技术·····	75
第11章 原位移植术处理主动脉移植物感染·····	82
第12章 主动脉移植物的血管原位修复术·····	91
第13章 感染情况下用低温保存的人同种异体血管进行主动脉重建·····	100
第Ⅴ部分 腹主动脉瘤开放手术与腔内治疗对比的临床试验·····	105
第14章 美国退伍军人管理局腹主动脉瘤开放手术与腔内治疗比较的试验·····	107
第15章 开放手术与腔内治疗基于人群的比较·····	113
第16章 腹主动脉瘤传统手术与腔内修复术后性功能障碍:DREAM 随机试验结果·····	123