



Master Techniques in Orthopaedic Surgery®

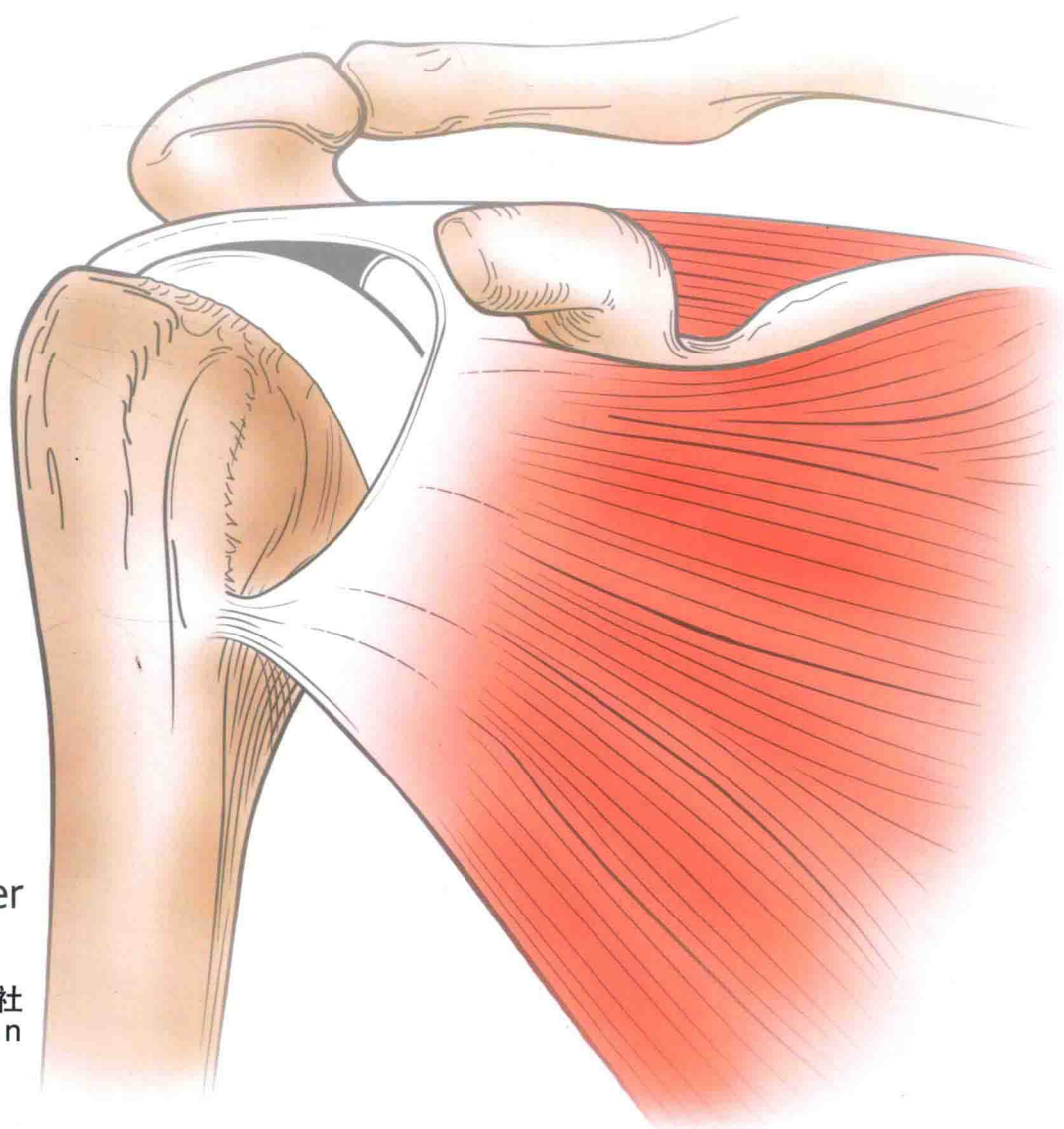
骨科手术技术丛书

肩 (第3版)

The Shoulder (Third Edition)

主编 [美]Edward V. Craig

主译 崔国庆



 Wolters Kluwer
Health

 山东科学技术出版社
www.lkj.com.cn



Master Techniques in Orthopaedic Surgery®

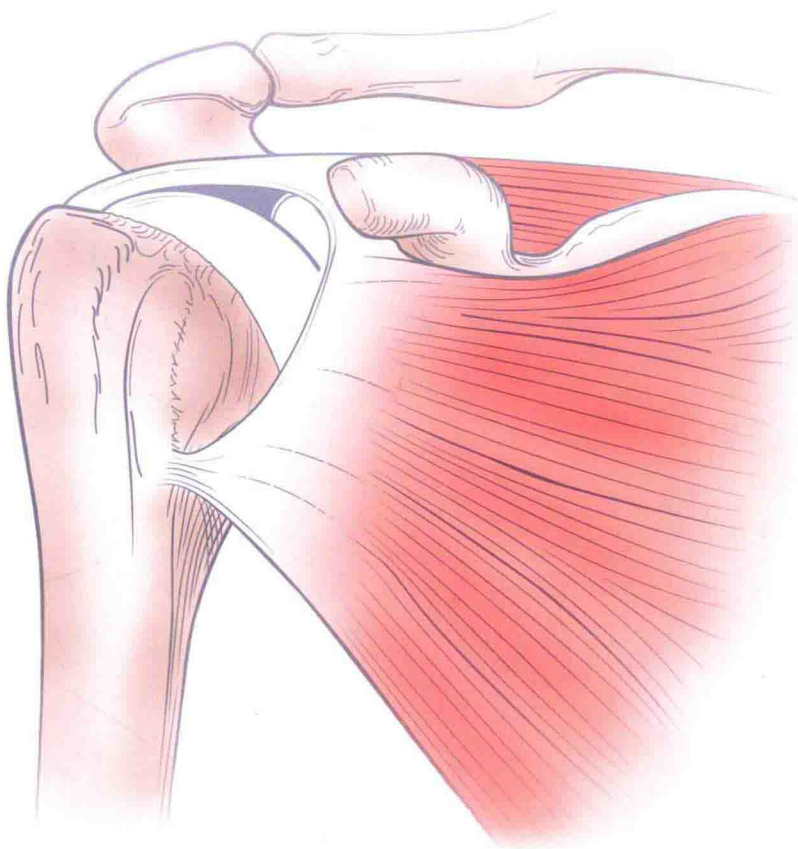
骨科手术技术丛书

肩 (第3版)

The Shoulder (Third Edition)

主编 [美] Edward V. Craig

主译 崔国庆



Wolters Kluwer

Health

Philadelphia • Baltimore • New York • London
Buenos Aires • Hong Kong • Sydney • Tokyo



山东科学技术出版社

图书在版编目 (CIP) 数据

肩: 第3版 / [美] 克雷格主编; 崔国庆主译.
— 济南: 山东科学技术出版社, 2015
ISBN 978-7-5331-7976-2

I. ①肩… II. ①克… ②崔… III. ①肩关节—关节
疾病—外科手术 IV. ①R687.4

中国版本图书馆 CIP 数据核字 (2015) 第 240013 号

骨科手术技术丛书

肩

主编 [美] Edward V. Craig
主译 崔国庆

主管单位: 山东出版传媒股份有限公司

出版者: 山东科学技术出版社

地址: 济南市玉函路 16 号

邮编: 250002 电话: (0531) 82098088

网址: www.lkj.com.cn

电子邮件: sdkj@sdpress.com.cn

发 行 者: 山东科学技术出版社

地址: 济南市玉函路 16 号

邮编: 250002 电话: (0531) 82098071

印 刷 者: 山东临沂新华印刷物流集团有限责任公司

地址: 山东省临沂市高新技术产业开发区新华路

邮编: 276017 电话: (0539) 2925659

开本: 889mm × 1194mm 1/16

印张: 42

版次: 2015 年 11 月第 1 版 2015 年 11 月第 1 次印刷

ISBN 978-7-5331-7976-2

定价: 380.00 元

献 词

本书每个版本的出版都要感谢我的妻子 Kathryn 和我的三个女儿——Mackenzie、Kelsey 和 Taylor，她们每一个人都用自己的方式支持我的工作、丰富我的生活。在出版第一版的时候，我清楚地记得女儿们成功时的笑容、失望时的眼泪和对“很远的将来”的憧憬。

现在，她们长大了，“很远的将来”已经成为过去，肩关节外科事业也伴随着作为丈夫和父亲的我经历了很多。我非常幸运能够拥有成功的事业和幸福生活。尽管工作繁忙，但与女儿们一起度过的美好时光，从来没有牺牲、放弃过。

感谢你们四位所给予我的一切——为你们，我献上《肩》的第3版。

Edward V. Craig M.D., MPH

主 编

Edward V. Craig, M.D.

Professor of Clinical Orthopaedic Surgery
Department of Orthopaedics
Weill Cornell Medical College
Attending Surgeon
Hospital for Special Surgery
New York, New York

编 者

Jeffrey S. Abrams, M.D.

Clinical Professor
Department of Orthopedic Surgery
Seton Hall University
Orange, New Jersey
Attending Surgeon
Department of Surgery
University Medical Center of Princeton
Princeton, New Jersey

David W. Altchek, M.D.

Professor of Clinical Orthopaedic Surgery
Department of Orthopaedic Surgery
Weill Cornell Medical College
Co-Chief, Sports Medicine & Shoulder Service
Hospital for Special Surgery
New York, New York

James R. Andrews, M.D.

Clinical Professor
Department of Orthopaedic Surgery
University of Virginia Medical School
Charlottesville, Virginia
Clinical Professor
Department of Orthopaedic Surgery
University of South Carolina School of Medicine
Columbia, South Carolina
Clinical Assistant Professor and Adjunct Professor
Department of Orthopaedic Surgery
University of South Alabama
Mobile, Alabama
Medical Director
The Andrews Institute
Gulf Breeze, Florida
Medical Director
The American Sports Medicine Institute
Birmingham, Alabama

Robert A. Arciero, M.D.

Professor of Orthopaedics
Department of Orthopaedics
University of Connecticut
John Dempsey Hospital
Department of Orthopaedics
University of Connecticut Health Center
Farmington, Connecticut

Michael S. Bahk, M.D.

Associate Physician
Sports Medicine & Shoulder Surgery
Southern California Orthopedic Institute
Van Nuys, California

David S. Bailie, M.D.

Partner
The Orthopedic Clinic Association, P.C.
Scottsdale, Arizona

Eric D. Bava, M.D.

Fellow
Department of Orthopaedics
Baylor University Medical Center
Fellow
Shoulder Service
The Carrell Clinic
Dallas, Texas

Knut Beitzel, M.D.

Research Fellow
Department of Orthopaedic Surgery
University of Connecticut Health Center
Farmington, Connecticut

Robert H. Bell, M.D.

Associate Professor
Department of Orthopaedics
Northeastern University College of Medicine
Rootstown, Ohio
Chief of Shoulder Division
Department of Orthopaedic Surgery
Crystal Clinic Orthopaedic Center
Akron, Ohio

Louis U. Bigliani, M.D.

Professor of Orthopaedic Surgery
Department of Orthopaedics
Columbia University
College of Physicians and Surgeons
Frank E. Stinchfield Professor and Chairman
Department of Orthopaedics
Columbia University
New York Presbyterian Hospital
New York, New York

Pascal Boileau, M.D.

Professor
Department of Orthopaedics
Chair
Department of Orthopaedics and Sports Traumatology
University of Nice-Sophia-Antipolis
L'Archet 2 Hospital
Nice, France

Joseph Borrelli, Jr., M.D.

Professor and Chairman
Department of Orthopaedic Surgery
University of Texas Southwestern Medical Center
Dallas, Texas

Stephen S. Burkhart, M.D.

Orthopaedic Surgeon
The San Antonio Orthopaedic Group
San Antonio, Texas

Wayne Z. Burkhead, Jr., M.D.

Clinical Professor
Department of Orthopaedic Surgery
University of Texas Southwestern Medical School
Dallas, Texas

Travis C. Burns, M.D.

Fellow
Department of Orthopedic Surgery
Keller Army Hospital
West Point, New York

Jonathan E. Buzzell, M.D.

Orthopaedic Surgeon
OrthoWest and Nebraska Orthopaedic Hospital
Omaha, Nebraska

Daniel B. Chan, M.D.

Orthopaedic Trauma Surgeon
Department of Orthopaedic Surgery
Orthopaedic Associates of South Broward Memorial
Regional Hospital
Hollywood, Florida

Robert H. Cofield, M.D.

Professor of Orthopedics
Department of Orthopaedics
Mayo Clinic College of Medicine
Emeritus Staff
Department of Orthopedic Surgery
Mayo Clinic
Rochester, Minnesota

Charles N. Cornell, M.D.

Professor
Department of Clinical Orthopaedic Surgery
Weill Cornell Medical College
Clinical Director
Department of Orthopaedic Surgery
Hospital for Special Surgery
New York, New York

Edward V. Craig, M.D., MPH

Professor
Department of Clinical Orthopaedic Surgery
Weill Cornell Medical College
Attending Surgery
Hospital for Special Surgery
New York, New York

Thomas M. DeBerardino, M.D.

Associate Professor
Department of Orthopaedic Surgery
University of Connecticut Health Center
Farmington, Connecticut

Patrick J. Denard, M.D.

Orthopaedic Surgeon
Southern Oregon Orthopedics
Medford, Oregon

David M. Dines, M.D.

Clinical Professor of Orthopedic Surgery
Department of Orthopedic Surgery
Weill Cornell Medical College
Attending Orthopedic Surgeon
Shoulder and Sports Service
Hospital for Special Surgery
New York, New York

Joshua S. Dines, M.D.

Assistant Clinical Professor
Department of Orthopaedic Surgery
Weill Cornell Medical College
Assistant Attending Surgeon
Sports and Shoulder Service
Hospital for Special Surgery
New York, New York

Cory M. Edgar, M.D., Ph.D.

Sports Medicine Fellow
Department of Orthopaedic Surgery
University of Connecticut Health Center
Farmington, Connecticut

**Todd S. Ellenbecker, D.P.T., M.S., S.C.S., O.C.S.,
C.S.C.S.**

National Director of Clinical Research
Physiotherapy Associates
Exton, Pennsylvania

Evan L. Flatow, M.D.

Lasker Professor and Chair
Department of Orthopaedic Surgery
Mount Sinai School of Medicine
Chief of Shoulder Surgery
Department of Orthopaedic Surgery
Mount Sinai School of Medicine
New York, New York

Larry D. Field, M.D.

Director
Upper Extremity Service
Mississippi Sports Medicine and Orthopaedic
Center
Clinical Associate Professor
Department of Orthopaedic Surgery
University of Mississippi School of Medicine
Jackson, Mississippi

Mark A. Frankle, M.D.

Chief
Shoulder and Elbow Surgery
Florida Orthopaedic Institute
Tampa, Florida

Christian Gerber, M.D., F.R.C.S. Ed (Hon)

Professor
Department of Orthopaedics
University of Zurich
Medical Director
Department of Orthopaedics
Balgrist University Hospital
Zurich, Switzerland

Neil Ghodadra, M.D.

Attending Orthopaedic Surgeon
Southern California Orthopedic Institute
Van Nuys, California

Thomas P. Goss, M.D.

Professor
Department of Orthopaedic Surgery
University of Massachusetts Medical School
Attending Orthopaedic Surgeon
Department of Orthopaedic Surgery
University of Massachusetts Memorial Hospital
Worcester, Massachusetts

Lawrence V. Gulotta, M.D.

Assistant Professor of Orthopaedic Surgery
Department of Orthopaedic Surgery
Weill Cornell Medical College
Assistant Attending Orthopaedic Surgeon
Sports Medicine and Shoulder Service
Hospital for Special Surgery
New York, New York

Peter Habermeyer, M.D., Ph.D.

Chief Executive Officer
Shoulder and Elbow Surgery
ATOS-Klinik
Heidelberg, Germany

Kevin L. Harreld, M.D.

Fellow
Department of Orthopaedic Surgery
Shoulder and Elbow Division
Florida Orthopaedic Institute

Richard J. Hawkins, M.D.

Orthopaedic Surgeon
Steadman Hawkins Clinic of the Carolinas
Greenville, South Carolina

David L. Helfet, M.D.

Professor
Department of Orthopaedic Surgery
Weill Cornell Medical College
Director
Department of Orthopaedic Trauma
Hospital for Special Surgery
New York Presbyterian Hospital
New York, New York

Laurence D. Higgins, M.D.

Associate Professor
Department of Orthopedic Surgery
Brigham and Women's Hospital
Boston, Massachusetts

Nicholas D. Iagulli, M.D.

Orthopaedic Surgeon
Mississippi Sports Medicine and Orthopaedic
Center
Jackson, Mississippi

Joseph P. Iannotti, M.D.

Maynard Madden Professor
Department of Orthopaedic Surgery
Cleveland Clinic Lerner College of Medicine
Chairman
Orthopaedic and Rheumatologic Institute
Cleveland Clinic
Cleveland, Ohio

Andreas B. Imhoff, M.D.

Professor and Chief
Department of Orthopedic Sports Medicine
Technical University Munich
Munich, Germany

Chunyan Jiang, M.D., Ph.D.

Professor
Shoulder Service
School of Medicine
Peking University
Beijing, China

Peter Johnston, M.D.

Orthopaedic Surgeon
Southern Maryland Orthopaedic and Sports
Medicine Center
Leonardtown, Maryland

Michael Khazzam, M.D.

Sports Medicine and Shoulder Fellow
Department of Sports Medicine
Vanderbilt University Medical Center
Nashville, Tennessee

Steven J. Klepps, M.D.

Orthopaedic Surgeon
OrthoMontana Orthopaedics and Sports Medicine,
PC
Billings, Montana

Peter Kloen, M.D., Ph.D.

Director of Orthopaedic Trauma
Department of Orthopaedic Surgery
Academic Medical Center
Amsterdam, The Netherlands

Sumant G. Krishnan, M.D.

Director
Shoulder Fellowship
Baylor University Medical Center
Dallas, Texas

Aaron J. Krych, M.D.

Senior Clinical Associate
Department of Orthopedic Surgery
Weill Cornell Medical College
Sports and Shoulder Fellow
Department of Orthopedic Surgery
Hospital for Special Surgery
New York, New York

John E. Kuhn, M.D.

Associate Professor
Department of Orthopaedics and Rehabilitation
Vanderbilt University Medical School
Nashville, Tennessee
Chief of Shoulder Surgery
Department of Orthopaedics and Rehabilitation
Vanderbilt University Medical Center
Nashville, Tennessee

Laurent LaFosse, M.D.

Doctor
Orthopaedics Department
Clinique Generale
Alps Surgical Institute
Annely, France

Sven Lichtenberg, M.D.

Chief
Shoulders and Elbow Surgery
ATOS-Klinik
Heidelberg, Germany

Dean G. Lorch, M.D.

Associate Professor
Department of Orthopaedic Surgery
Weill Cornell Medical College
Orthopaedic Surgeon
Hospital for Special Surgery
New York, New York

Craig S. Mauro, M.D.

Fellow
Sports Medicine and Shoulder Service
Hospital for Special Surgery
New York, New York

Augustus D. Mazzocca, M.S., M.D.

Associate Professor of Orthopaedic Surgery
University of Connecticut
Orthopaedic Team Physician
University of Connecticut Athletics
Director of the Human Soft Tissue Research
Laboratory
Director of Orthopaedic Resident Education
Farmington, Connecticut

Jesse A. McCarron, M.D.

Associate Professor
Department of Orthopaedic Surgery
Oregon Health and Science University
Chief
Orthopaedic Surgery Section
Portland Veteran Affairs Medical Center
Portland, Oregon

Moiria M. McCarthy, M.D.

Resident
Department of Orthopaedic Surgery
Hospital for Special Surgery
New York, New York

Todd C. Moen, M.D.

Fellow
Shoulder, Elbow, and Sports Medicine
Department of Orthopaedic Surgery
Columbia University
New York, New York

Andrew S. Neviaser, M.D.

Assistant Professor
Department of Orthopaedic Surgery
George Washington University School of Medicine
and Health Sciences
Washington, District of Columbia

Ashley M. Newman, B.S.

Research Coordinator
Hospital for Special Surgery
New York, New York

Curtis R. Noel, M.D.

Co-Chairman
Cleveland and Akron Shoulder and Elbow
Fellowship
Department of Orthopaedics,
Crystal Clinic Orthopaedic Center
Akron, Ohio

Robert J. Nowinski, D.O., F.A.O.A.O.

Clinical Assistant Professor
Department of Orthopaedic Surgery
Ohio State University College of Medicine
Columbus, Ohio
Clinical Assistant Professor
Ohio University College of Osteopathic Medicine
Athens, Ohio
Director-Shoulder Service
Orthoneuro
New Albany Surgical Hospital
New Albany, Ohio

Stephen J. O'Brien, M.D., M.B.A.

Associate Professor
Department of Clinical Orthopaedic Surgery
Weill Cornell Medical College
Associate Attending Orthopaedic Surgeon
Hospital for Special Surgery and New York-
Presbyterian Hospital
New York, New York

Jason Old, M.D.

Assistant Professor
Section of Orthopaedic Surgery
University of Manitoba
Consultant, Shoulder and Elbow Surgery
Pan Am Clinic
Winnipeg, Manitoba, Canada

Robert M. Orfaly, M.D., F.R.C.S.(C)

Associate Professor
Department of Orthopaedics and Rehabilitation
Oregon Health and Science University
Portland, Oregon

Daryl C. Osbahr, M.D.

Orthopaedic Sports Medicine Fellow
Department of Orthopaedic Surgery
American Sports Medicine Institute
Birmingham, Alabama

Brett D. Owens, M.D., L.T.C., M.C.

Associate Professor
Department of Surgery
Uniformed Services University of the Health
Sciences
Bethesda, Maryland
Chief
Orthopaedics Surgery Service
Keller Army Hospital
West Point, New York

William H. Paterson, M.D.

Fellow
Shoulder Service
Carrell Clinic
Dallas, Texas

**Kalman J. Piper, M.B.B.S.(QLD), F.R.A.C.S.
(Orth)**

Alps Surgery Institute
Clinique Generale
Annecy, France

Matthew T. Provencher, M.D., M.C., U.S.N.

Director of Orthopaedic Sports Surgery
Department of Orthopaedic Surgery
Naval Medical Center San Diego
San Diego, California
Associate Professor of Surgery
Uniformed Services University of the Health
Sciences
Bethesda, Maryland

Brian L. Puskas, M.D.

Shoulder and Elbow Fellow
Department of Orthopaedic Surgery
Florida Orthopaedic Institute-Tampa General
Hospital
Tampa, Florida

Robin R. Richards, M.D., F.R.C.S.C.

Professor
Department of Surgery
University of Toronto
Head
Department of Surgery
Sunnybrook Health Science Centre
Toronto, Ontario, Canada

Charles A. Rockwood, Jr., M.D.

Professor and Chairman Emeritus
Department of Orthopaedics
University of Texas Health Science Center at San
Antonio
Staff Surgeon
Department of Orthopaedics
University Hospital
San Antonio, Texas

Anthony A. Romeo, M.D.

Professor
Department of Orthopaedic Surgery
Rush University Medical Center
Chicago, Illinois
Head-Shoulder and Elbow Section
Division of Sports Medicine
Rush University Medical Center
Chicago, Illinois

**Deenesh T. Sahajpal, B.S.C., M.D., F.R.C.S.C.,
F.A.A.D.S.**

Assistant Professor
Department of Orthopaedic Surgery
Louisiana State University Health Sciences Center
Orthopaedic Surgeon
Department of Orthopaedic Sports Medicine
Willis Knighton Health System
Shreveport, Louisiana

Felix H. Savoie III, M.D.

Lee C. Schlesinger Professor
Department of Orthopaedic Surgery
Tulane University School of medicine
Chief
Division of Sports Medicine
Department of Orthopaedic Surgery
Tulane Medical Center
New Orleans, Louisiana

Anup A. Shah, M.D.

Clinical Fellow
Harvard Shoulder Service
Harvard Medical School
Clinical Fellow
Harvard Shoulder Service
Massachusetts General Hospital
Boston, Massachusetts

Seth L. Sherman, M.D.

Assistant Professor
Department of Orthopaedic Surgery
University of Missouri
Attending Surgeon
Department of Orthopaedic Surgery
University Hospitals and Clinics
Columbia, Missouri

Stephen J. Snyder, M.D.

Orthopaedic Surgeon
Sports Medicine/Shoulder
Southern California Orthopaedic Institute
Van Nuys, California

John W. Sperling, M.D.

Consultant
Department of Orthopaedic Surgery
Mayo Clinic
Rochester, Minnesota

Samuel A. Taylor, M.D.

Orthopaedic Surgery Resident
Hospital for Special Surgery
New York, New York

James E. Tibone, M.D.

Clinical Professor
Department of Orthopaedics
University of Southern California
Orthopaedic Surgeon
Kerlan-Jobe Orthopedic Clinic
Los Angeles, California

Gilles Walch, M.D.

Shoulder Unit
Centre Orthopedique Santy
Lyon, France

Jon J.P. Warner, M.D.

Professor
Department of Orthopaedic Surgery
Harvard Medical School
Co-Chief
The Harvard Shoulder Service
The Massachusetts General Hospital
Boston, Massachusetts

Russell F. Warren, M.D.

Professor
Department of Orthopaedics
Weill Cornell Medical College
Surgeon-in-Chief Emeritus
Department of Orthopaedics
Hospital for Special Surgery
New York, New York

Raymond R. White, M.D.

Orthopaedic Surgeon
Maine Medical Center
Portland, Maine

Gerald R. Williams, Jr., M.D.

Professor
Department of Orthopaedic Surgery
Jefferson Medical College
Chief
Shoulder and Elbow Service
The Rothman Institute at Jefferson
Philadelphia, Pennsylvania

Michael A. Wirth, M.D.

Professor
Department of Orthopaedics
University of Texas Health Science Center at San
Antonio
Staff
Department of Orthopaedics
University Hospital
San Antonio, Texas

Bertram Zarins, M.D.

Augustus Thorndike Clinical Professor of
Orthopaedic Surgery
Harvard Medical School
Emeritus Chief of Sports Medicine Service
Department of Orthopaedic Surgery
Massachusetts General Hospital
Boston, Massachusetts

John A. Zavala, M.D.

Orthopaedic Surgeon
Orthopaedic Specialists of Dallas, PA
Rockwell, Texas

Joseph D. Zuckerman, M.D.

Walter A.L. Thompson Professor
Department of Orthopaedic Surgery
New York University Hospital for Joint Diseases
New York, New York

主 译 崔国庆 北京大学第三医院

译 者 罗 浩 北京大学第三医院

闫 辉 北京大学第三医院

肖 健 北京大学第三医院

何震明 北京大学第三医院

刘 平 北京大学第三医院

王 成 北京大学第三医院

杨渝平 北京大学第三医院

程 序 北京大学第三医院

林 霖 北京大学第三医院

刘玉雷 北京大学第三医院

丛书序言

从 1994 年的初版开始,《骨科手术技术丛书》已经成为培训骨科医师的金标准。这套丛书巨大的成功可归功于初版的总主编 Roby Thompson,他在丛书序言中写道:“在相关领域被称为‘大师’的专家们所推荐的详细手术技术。”很多骨科医生通过阅读本丛书在临床实践中受益,对此我们十分高兴。

本丛书一个重要的成功之处便是它独特有效的编排体系,还甚至曾被别的书籍所模仿。一个重要的特点便是在表述标准知识的同时,增加了许多高年资医师的个人体会和经验技巧。大量的照片和彩图为读者提供了详细的操作步骤。

本丛书另外一个成功之处是我们拥有蜚声国际、富有经验的编者。他们将自身丰富的经验通过本书与大家分享,这种无私的态度使他们无愧于“大师”的称号。我们对他们满怀感激之情,是他们保持、提高了本丛书多年来的声誉。我们对于本书第 3 版的出版所取得的进步而感到骄傲,对于其内容的补充修订感到尤其高兴。在新版本的从书中新增了 6 卷(册)精彩的、与我们专业相关的交叉学科的内容。我们不仅增加了本丛书的内容,增加了编者的人数,我们还采用了经典的编排体系。

新增加的分卷(册)中的第一卷(册)介绍了“手术入路及相关问题”,有幸由本人编写,第二卷(册)为“小儿骨科手术精要”。此外,新增加的内容还涉及“软组织重建”“外周神经功能障碍的处理”“关节高级重建技术”“运动医学”“骨肿瘤和复杂重建技术”,这些内容用 16 个实用的相关章节详细介绍。

我欣然同意担任本丛书的总主编,本丛书有着提高骨科医师手术技术的重要价值,并且其实际价值将在实践中得到验证。我十分敬佩 Thompson 医师最初的远见和领导能力,并感谢丛书编者和其他对本书有贡献的人们。正如我在本丛书的第 2 版《髌》分卷(册)的序言中提到,William Mayo 的话正好揭示了编写本丛书的终极目的:“使患者获得最好的治疗才是我们唯一应该关注的问题。”我们相信,本丛书可以使骨科医生理解如何以患者为中心进行外科手术。

Bernard F. Morrey, MD

序

首版的《肩》出版至今已经 17 年了，我们的专业有了很大进展（更应该说是一种转型），用这种方式，骨科技术正通过它们传播着。对患者而言，他们很期待这些已经成功转型的技术，在很大程度上，这是因为我们的专业技术所设置的难以置信的专业门槛所造成的。Ty Cobb 依靠 33% 的成功率就跻身进入了棒球名人堂。我们也必须努力成功，而且期望每次都要成功。一名成功的骨科从业者的标准过程集合了个人的努力、机遇的把握、研究成果的转化、工业的发展，通过这一切，可将一名年轻的外科医师培养成具有安全操作技能、技术熟练、有令人钦佩表现的专业技术人员。我们目前年轻外科医师的培养方式已经改变了传统的老师 / 学生对话方式，已经从“不要害怕关节镜手术——它就是做了我们切开手术一样的事情”发展到了“不要害怕切开手术——就把它看成跟通过关节镜做是一样的”。

这套丛书对每一位外科医师的成长与发展均具有积极的影响，通过“大师级”的讲解，为最终的成功提供了可以预期的路标。这些“大师们”是教育家、临床专家、头脑清晰的思想家。

本书内容已经根据现今的专业变化进行了调整。关节镜的章节由 12 章增加为 18 章，包括如何尽可能不切开而进行肩关节手术的操作技术。关节置换的部分补充了小切口技术和置换翻修手术技术。新的技术反映了在骨折处理、肩关节不稳手术、肩袖重建等方面的进展，使本书的第 3 版更加完善。其余章节与上版保持一致，因为这仍旧是当前和近期较好的处理方案，而在这些章节中也都有更新的内容。

不管学生和老师如何变化，本书的出版目的是不变的。它将作为值得信任的良师益友陪伴你一起进入手术室。我认识本书的每一位作者，我也熟知他们的技术。我的愿望是通过他们的传授，读者们将对所有的“大师”和本专业有更深一步的了解。

Edward V. Craig M.D., MPH