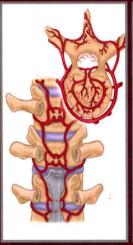


TWELFTH EDITION **VOLUME THREE**

CAMPBELL'S OPERATIVE ORTHOPAEDICS

八八八 三 TL 三 第 12 版









S. Terry Canale · James H. Beaty



天津出版传媒集团

天津科技翻译出版有限公司

CAMPBELL'S OPERATIVE ORTHOPAEDICS

TWELFTH EDITION VOLUME III

次贝尔 骨科手术学

第12版 第三卷

S. Terry Canale James H. Beaty

图书在版编目(CIP)数据

坎贝尔骨科手术学: 英文/(美)卡奈尔(Canale, S.T.),(美)贝蒂(Beaty, J.H.) 主编. 一影印本. 一天津: 天津科技翻译出版有限公司, 2013.6 ISBN 978-7-5433-3246-1

I. ①坎··· Ⅱ. ①卡··· ②贝··· Ⅲ. ①骨科学—外科手术—英文 IV. ①R687

中国版本图书馆CIP数据核字(2013)第128848号

This edition of Campbell's Operative Orthopaedics (12/E) by S. Terry Canale and James H. Beaty is published by arrangement with Elsevier.

ISBN-13:978-0-323-07243-4

ISBN-10:0-323-07243-7

Copyright © 2013 by Elsevier. All rights reserved.

Copyright © 2013 by Elsevier(Singapore) Pte Ltd. All rights reserved.

Elsevier(Singapore) Pte Ltd.

3 Killiney Road, #08-01 Winsland House I, Singapore 239519

Tel:(65)6349-0200 Fax:(65)6733-1817

First Published 2013, 2013年初版

Printed in China by Tianjin Science & Technology Translation & Publishing Co., Ltd under special arrangement with Elsevier (Singapore) Pte Ltd. This edition is authorized for sale in China only, excluding Hong Kong SAR, Macau SAR and Taiwan. Unauthorized export of this edition is a violation of the Copyright Act. Violation of this Law is subject to Civil and Criminal Penalties.

本书英文影印版由Elsevier (Singapore) Pte Ltd.授权天津科技翻译出版有限公司在中国境内(不包括香港及澳门特别行政区和台湾地区)独家发行。本版仅限在中国境内(不包括香港及澳门特别行政区和台湾地区)出版及标价销售。未经许可之出口,视为违反著作权法,将受法律之制裁。

授权单位: Elsevier (Singapore) Pte Ltd.

出版人: 刘庆

出 版:天津科技翻译出版有限公司

地 址: 天津市南开区白堤路244号

邮政编码: 300192

电 话: (022)87894896

传 真: (022)87895650

网 址: www.tsttpc.com

印 刷:山东鸿杰印务集团有限公司

发 行: 全国新华书店

版本记录: 889×1194 16开本 278.5印张 5500千字 2013年6月第1版 2013年6月第1次印刷

2013-70/1371/10 2013-70/1371/04

定价: 1380.00元(全四卷)

(如发现印装问题,可与出版社调换)

IN MEMORY



ALLEN EDMONSON, MD 1927–2011



T. DAVID SISK, MD 1937–2009

Since the last edition of this text, we have lost two of our friends and mentors. Dr. Allen Edmonson and Dr. David Sisk both made huge contributions to several editions of *Campbell's Operative Orthopaedics*. In addition to his classic work on scoliosis, Dr. Edmonson served as editor of the 6th edition, and Dr. Sisk contributed the first chapters on arthroscopy to appear in this text. We are grateful for their commitment to "The Book" and the inspiration they have provided.

DEDICATION

This edition of Campbell's Operative Orthopaedics is dedicated to the hundreds of residents, fellows, and international visitors who have trained at "Dr. Campbell's Clinic" during its first 100 years. Their enthusiasm for learning and their commitment to our specialty have inspired the authors of all twelve editions of Campbell's Operative Orthopaedics to strive to produce a trusted and useful tool for continued learning, a tradition we hope continues for the next 100 years.

《坎贝尔骨科手术学》由世界级专家联袂编撰,自1939年问世以来,这部巨著伴随了一代又一代骨科医生的成长,成为全球骨科医生不可或缺的参考书,是骨科学领域最权威的著作,同样也被我国广大骨科医生奉为经典。

2013年初,Elsevier 出版公司出版了这部骨科学"圣经"的最新版本——第12版,作为一名旧版的老读者,再次切身感受到该书的严谨、科学。新版分4卷,19部分,89章。介绍了骨科手术的基本原理,详细讲述了髋、膝、踝、肩肘关节置换术,以及截肢与感染、骨肿瘤、先天性异常和发育异常、脊柱损伤、运动损伤、成人骨折与脱位、周围神经损伤、手和足踝部损伤的各种手术技术、儿童神经系统疾病及骨折与脱位。此外,还介绍了关节镜及显微外科的先进手术技术和经验。本书的特点是详细地叙述了各种手术的细节,包括手术指征、手术前后处理和并发症防治的原则、各种技巧和注意事项,还配备详细的手术图解,编排合理,非常符合临床骨科医生的学习需要。

新版《坎贝尔骨科手术学》达到了"去粗存精"、"去伪存真"之目的,删除了第11版中一些陈旧的观点和方法,吸取了近年来的最新成果,除保留作为"金标准"的经典技术之外,还介绍了大量新技术、新装备,并强调了微创骨科技术,对当前及今后一段时间的骨科临床和科研具有非常重要的指导作用。新版配图7000余幅,其中很多图片为重新绘制,直观展现骨科手术技术要点。

随着我国骨科界对外交流的日益增加,以及骨科医生英语水平的整体提高,越来越多的骨科医生希望能够尽快读到原汁原味的国外经典之作,恰逢此时,天津科技翻译出版有限公司在第12版《坎贝尔骨科手术学》刚刚推出之际,便立即引进了这部巨著的影印版本,几乎与原版同步出版,让国内读者在第一时间即能零距离地领略到这部经典原著的风采,更直接地分享这些国际骨科权威专家们对骨科手术学的真知灼见!考虑到读者的需求,出版社将影印版设计为两种形式出版。一种是如原版书,做成精装四卷的形式,另一种则按照骨科学的分支,将这套专著做成平装版,分为14个分册,可以让读者各取所需。此外,影印版均采用优质铜版纸印刷,保持了原版书的风貌,其性价比之高在近些年的影印版书中亦不多见。

最后,借此书出版之际,愿全体骨科同仁不断更新知识、锻炼技能,更好地为广大患者解除病痛,为我国的骨科事业的快速、健康发展做出更大的贡献!

中国工程院院士

约九元

试读结束: 需要全本请在线购买: www.ertongbook.com

CONTRIBUTORS

WILLIAM E. ALBERS, MD

Assistant Professor University of Tennessee–Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

FREDERICK M. AZAR, MD

Professor Director, Sports Medicine Fellowship University of Tennessee—Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Chief-of-Staff, Campbell Clinic Memphis, Tennessee

JAMES H. BEATY, MD

Professor University of Tennessee–Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

JAMES H. CALANDRUCCIO, MD

Associate Professor Director, Hand Fellowship University of Tennessee—Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

FRANCIS X. CAMILLO, MD

Associate Professor University of Tennessee–Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

S. TERRY CANALE, MD

Harold H. Boyd Professor and Chair University of Tennessee–Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

DAVID L. CANNON, MD

Associate Professor University of Tennessee–Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

KEVIN B. CLEVELAND, MD

Instructor
University of Tennessee–Campbell Clinic
Department of Orthopaedic Surgery and
Biomedical Engineering
Memphis, Tennessee

ANDREW H. CRENSHAW, JR., MD

Associate Professor
University of Tennessee–Campbell Clinic
Department of Orthopaedic Surgery and
Biomedical Engineering
Memphis, Tennessee

JOHN R. CROCKARELL, JR., MD

Associate Professor University of Tennessee—Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

GREGORY D. DABOV, MD

Assistant Professor University of Tennessee–Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

RAYMOND J. GARDOCKI, MD

Instructor
University of Tennessee—Campbell Clinic
Department of Orthopaedic Surgery and
Biomedical Engineering
Memphis, Tennessee

JAMES L. GUYTON, MD

Associate Professor University of Tennessee–Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

JAMES W. HARKESS, MD

Associate Professor University of Tennessee–Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

ROBERT K. HECK, JR., MD

Associate Professor
University of Tennessee—Campbell Clinic
Department of Orthopaedic Surgery and
Biomedical Engineering
Memphis, Tennessee

SUSAN N. ISHIKAWA, MD

Assistant Professor Co-Director, Foot and Ankle Fellowship University of Tennessee—Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

MARK T. JOBE, MD

Associate Professor University of Tennessee–Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

DEREK M. KELLY, MD

Assistant Professor University of Tennessee–Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

DAVID G. LAVELLE, MD

Associate Professor University of Tennessee—Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

SANTOS F. MARTINEZ, MD

Instructor
University of Tennessee–Campbell Clinic
Department of Orthopaedic Surgery and.
Biomedical Engineering
Memphis, Tennessee

ANTHONY A. MASCIOLI, MD

Assistant Professor University of Tennessee—Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

MARC J. MIHALKO, MD

Instructor
University of Tennessee—Campbell Clinic
Department of Orthopaedic Surgery and
Biomedical Engineering
Memphis, Tennessee

WILLIAM W. MIHALKO, MD

Professor, H.R. Hyde Chair of Excellence in Rehabilitation Engineering Director, Biomedical Engineering University of Tennessee—Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

ROBERT H. MILLER III, MD

Associate Professor University of Tennessee–Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

G. ANDREW MURPHY, MD

Assistant Professor Co-Director, Foot and Ankle Fellowship University of Tennessee–Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

ASHLEY L. PARK, MD

Clinical Assistant Professor University of Tennessee–Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

EDWARD A. PEREZ, MD

Associate Professor Director, Trauma Fellowship University of Tennessee--Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

BARRY B. PHILLIPS, MD

Associate Professor University of Tennessee–Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

DAVID R. RICHARDSON, MD

Assistant Professor
Residency Program Director
University of Tennessee—Campbell Clinic
Department of Orthopaedic Surgery and
Biomedical Engineering
Memphis, Tennessee

E. GREER RICHARDSON, MD

Professor Emeritus University of Tennessee–Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

MATTHEW I. RUDLOFF, MD

Assistant Professor
University of Tennessee—Campbell Clinic
Department of Orthopaedic Surgery and
Biomedical Engineering
Memphis, Tennessee

JEFFREY R. SAWYER, MD

Associate Professor Director, Pediatric Orthopaedic Fellowship University of Tennessee—Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

THOMAS W. THROCKMORTON, MD

Associate Professor
Assistant Director, Residency Program
University of Tennessee—Campbell Clinic
Department of Orthopaedic Surgery and
Biomedical Engineering
Memphis, Tennessee

PATRICK C. TOY, MD

Instructor
University of Tennessee–Campbell Clinic
Department of Orthopaedic Surgery and
Biomedical Engineering
Memphis, Tennessee

WILLIAM C. WARNER, JR., MD

Professor University of Tennessee–Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

JOHN C. WEINLEIN, MD

Instructor
University of Tennessee—Campbell Clinic
Department of Orthopaedic Surgery and
Biomedical Engineering
Memphis, Tennessee

A. PAIGE WHITTLE, MD

Associate Professor
University of Tennessee—Campbell Clinic
Department of Orthopaedic Surgery and
Biomedical Engineering
Memphis, Tennessee

KEITH D. WILLIAMS, MD

Associate Professor Director, Spine Fellowship University of Tennessee—Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

DEXTER H. WITTE, MD

Clinical Assistant Professor of Radiology University of Tennessee–Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

GEORGE W. WOOD II, MD

Professor University of Tennessee–Campbell Clinic Department of Orthopaedic Surgery and Biomedical Engineering Memphis, Tennessee

PREFACE

As with every edition of this text, we have been amazed by the multitude of new techniques, new equipment, and new information generated by our orthopaedic colleagues worldwide. The emphasis on less-invasive surgical techniques for everything from hallux valgus correction to spine surgery to total joint arthroplasty has produced a variety of new approaches and new devices. The use of arthroscopy and endoscopy continues to expand its boundaries. We have attempted to include the latest orthopaedic procedures, while retaining many of the classic techniques that remain the "gold standards."

Some of the changes in this edition that we believe will make it easier to use include the complete redrawing of the thousands of illustrations, the combining of some chapters and rearrangement of others to achieve a more logical flow of information, the addition of several new chapters, and the placement of references published before 2000 on the website only. Full access to the text and to an increased number of surgical videos is available on Expert-Consult.com, which is included with the purchase of the text. This combination of traditional and electronic formats, we believe, will make this edition of Campbell's Operative Orthopaedics easily accessible and useable in any situation, making it easier for orthopaedists to ensure the highest quality of patient care.

The true "heroes" of this work are our dedicated authors, who are willing to endure time away from their families and their practices to make sure that their contributions are as up-to-date and informational as possible. The revision process is lengthy and arduous, and we are truly appreciative of the time and effort expended by all of our contributors. As always, the personnel of the Campbell Foundation—Kay Daugherty,

Barry Burns, Linda Jones, and Joan Crowson—were essential in getting the ideas and information from 40 authors into a workable form. The progress of the book was marked by the proliferation of paper-stuffed file folders spread across their offices. Managing to transform all of that raw material into readable text and illustrative images is always an amazing accomplishment. Our thanks, too, to the individuals at Elsevier publishing who provided much guidance, encouragement, and assistance: Taylor Ball, Content Development Editor; Dolores Meloni, Executive Content Strategist; Mary Gatsch, Publishing Director; and John Casey, Project Manager.

We are most grateful to our families, especially our wives, Sissie Canale and Terry Beaty, who patiently endured our total immersion in the publication process.

The individuals who often are overlooked, or at least not recognized often enough, are the community of orthopaedic surgeons to whom we are indebted for their expertise and innovation that make a textbook such as ours necessary. As Dr. Campbell noted in the preface to the first edition of this text, "In some of the chapters we have drawn heavily from authoritative articles on special subjects; the author gratefully acknowledges his indebtedness for this material." We are indeed grateful, and honored and humbled, to be the conduit of such remarkable skill and knowledge that help us to make the most current information available to our readers. We hope that this latest edition of *Campbell's Operative Orthopaedics* will prove to be a valuable tool in providing the best of care to orthopaedic patients.

S. Terry Canale, MD James H. Beaty, MD

Campbell's Operative Orthopaedics, 12th ed. List of Techniques

VOLUME III

Knee Injuries

- 45-1 Open Meniscal Repair, 2077
- 45-2 Arthroscopic Partial Meniscectomy and Decompression of Meniscal Cyst, 2080
- 45-3 Excision of Meniscal Cyst, 2080
- 45-4 Repair of Medial Compartment Disruptions, 2099
- 45-5 Reconstruction of Medial Compartment (Slocum), 2107
- 45-6 Repair of Posteromedial Corner, 2110
- 45-7 Reconstruction of Posteromedial Corner (Hughston), 2112
- 45-8 Repair of Lateral Compartment Disruptions, 2114
- 45-9 Reconstruction of the Posterolateral Structures for Mild-To-Moderate Posterolateral Instability (Hughston and Jacobson), 2119
- 45-10 Reconstruction of the Popliteal Tendon Using the Iliotibial Band for Posterolateral Instability (Müller), 2122
- 45-11 Rerouting of the Biceps Tendon to the Femoral Epicondyle for Posterolateral Instability (Clancy), 2125
- 45-12 Anatomical Posterolateral Knee Reconstruction for Grade III Posterolateral Injury (LaPade et al.), 2127
- 45-13 Valgus Tibial Osteotomy and Posterolateral Reconstruction, 2128
- 45-14 Allograft Reconstruction of the Lateral Collateral Ligament (Noyes), 2131
- 45-15 Reconstruction of Posterolateral Structures with Semitendinosus Tendon (Larson), 2132
- 45-16 Repair of Bony Tibial Avulsions of Anterior Cruciate Ligament, 2137
- 45-17 Extraarticular Procedures (Iliotibial Band Tenodesis), (MacIntosh), 2138
- 45-18 Extraarticular Procedures (Iliotibial Band Tenodesis), (MacIntosh, Modified by Losee), 2139
- 45-19 Extraarticular Procedures (Iliotibial Band Tenodesis), (Andrews), 2140
- 45-20 Anterior Cruciate Ligament Reconstruction with Bone–Patellar Tendon–Bone Graft (Clancy, Modified), 2146
- 45-21 Anterior Cruciate Ligament Reconstruction with Hamstrings (with Proximal Release of Hamstrings), 2151
- 45-22 Repair of Bony Avulsion, 2163
- 45-23 Reconstruction of Posterior Cruciate Ligament with Patellar Tendon Graft (Clancy), 2167
- 45-24 Reconstruction of Posterior Cruciate Ligament with Patellar Tendon Graft (Sallay and McCarroll), 2171
- 45-25 Reconstruction of Posterior Cruciate Ligament with Bone–Patellar Tendon–Bone or Achilles Tendon–Bone Grafts (Berg), 2174
- 45-26 Reconstruction of Posterior Cruciate Ligament with Bone–Patellar Tendon–Bone or Achilles Tendon–Bone Grafts (Burks and Schaffer), 2175
- 45-27 Subperiosteal Release of the Lateral Quadriceps Mechanism (Ogata), 2193
- 45-28 Advancement of the Tibial Tuberosity (Maquet), 2196
- 45-29 Patellectomy (Soto-Hall), 2197
- 45-30 Thompson Quadricepsplasty (Thompson), 2198
- 45-31 Mini-Invasive Quadricepsplasty (Wang, Zhao, He), 2198
- 45-32 Posterior Capsulotomy (Putti, Modified), 2201
- 45-33 Posterior Capsulotomy (Yount), 2201

Shoulder and Elbow Injuries

- 46-1 Open Anterior Acromioplasty, 2223
- 46-2 Open Repair of Rotator Cuff Tears, 2226
- 46-3 Latissimus Dorsi Transfer (Gerber et al.), 2232
- 46-4 Decompression and Débridement of Massive Rotator Cuff Tears (Rockwood et al.), 2233
- 46-5 Closed Manipulation, 2236
- 46-6 Posterior Surgical Approach for Quadrilateral Space Syndrome (Cahill and Palmer), 2238

- 46-7 Posterior Surgical Approach for Subscapular Nerve Entrapment (Post and Mayer), 2239
- 46-8 Removal of a Ganglion from the Inferior Branch of the Suprascapular Nerve (Thompson, Schneider, and Kennedy), 2240
- 46-9 Correction of Tennis Elbow (Nirschl, Modified), 2243
- 46-10 Correction of Medial Epicondylitis (Nirschl), 2246
 46-11 Anterior and Posterior Release of Elbow Contracture
- 46-12 Excision of Heterotopic Ossification (Morrey and Harter), 2249

Recurrent Dislocations

- 47-1 Open Repair of the Medial Patellofemoral Ligament and Vastus Medialis Obliquus Muscle, 2261
- 47-2 Open Lateral Release, 2263
- 47-3 Mini Open Medial Reefing and Arthroscopic Lateral Release Nam and Karzel), 2263
- 47-4 Medial Patellofemoral Ligament Reconstruction (Phillips), 2264
- 47-5 Elmslie-Trillat Operation (Elmslie-Trillat, Modified by Shelbourne, Porter, and Rozzi), 2267
- 47-6 Fulkerson Osteotomy, 2268
- 47-7 Derotational High Tibial Osteotomy (Paulos et al.), 2268
- 47-8 Modified Bankart Repair (Montgomery and Jobe), 2281
- 47-9 Anterior Stabilization with Associated Glenoid Deficiency (Laterjet Procedure), (Walch and Boileau), 2283
- 47-10 Reconstruction of Anterior Glenoid Using Iliac Crest Bone Autograft (Warner et al.), 2286
- 47-11 Capsular Shift (Neer and Foster), 2287
- 47-12 Neer Inferior Capsular Shift Procedure Through a Posterior Approach (Neer and Foster), 2290
- 47-13 Tibone and Bradley Technique (Tibone and Bradley), 2292
- 47-14 Capsular Shift Reconstruction with Posterior Glenoid Osteotomy (Rockwood), 2292
- 47-15 McLaughlin Procedure (McLaughlin), 2295
- 47-16 Ulnar Collateral Ligament Reconstruction—Jobe Technique, 2300
- 47-17 Ulnar Collateral Ligament Reconstruction—Andrews et al. Technique, 2301
- 47-18 Ulnar Collateral Ligament Reconstruction—Altchek et al. Technique, 2302
- 47-19 Lateral Ulnar Collateral Ligament Reconstruction for Posterolateral Rotatory Instability (Nestor, O'Driscoll, and Morrey), 2304

Traumatic Disorders

- 48-1 Fasciotomy for Acute Compartment Syndrome of the Thigh (Tarlow et al.), 2314
- 48-2 Single-Incision Fasciotomy (Davey, Rorabeck, and Fowler), 2316
- 48-3 Double-Incision Fasciotomy (Mubarak and Hargens), 2316
- 48-4 Double Mini-Incision Fasciotomy for Chronic Anterior Compartment Syndrome (Mouhsine et al.), 2318
- 48-5 Single-Incision Fasciotomy for Chronic Anterior and Lateral Compartment Syndrome (Fronek et al.), 2319
- 48-6 Double-Incision Fasciotomy for Chronic Posterior Compartment Syndrome (Rorabeck), 2319
- 48-7 Open Repair of Achilles Tendon Rupture, 2323
- 48-8 Open Repair of Achilles Tendon Rupture-Krackow et al., 2325
- 48-9 Open Repair of Achilles Tendon Rupture-Lindholm, 2325
- 48-10 Open Repair of Achilles Tendon Rupture—Lynn, 2326
- 48-11 Open Repair of Achilles Tendon Rupture—Teuffer, 2326
- 48-12 Minimally Invasive and Percutaneous Repair of Acute Rupture of the Achilles Tendon (Ma and Griffith), 2327
- 48-13 Transfer of the Peroneus Brevis Tendon for Neglected Ruptures of the Achilles Tendon (Maffulli et al), 2329
- 48-14 Direct Repair of Neglected Ruptures
- 48-15 Direct Repair of Neglected Ruptures—White and Kraynick; Teuffer, Modified, 2331
- 48-16 Direct Repair of Neglected Ruptures—Bosworth, 2331

- 48-17 Direct Repair of Neglected Ruptures—Abraham and Pankovich, 2332
- 48-18 Direct Repair of Neglected Ruptures-Wapner et al., 2332
- 48-19 Repair of Chronic Patellar Tendinosis, 2336
- 48-20 Stress Fracture Through the Patella, 2336
- 48-21 Repair with Suture Through Patellar Drill Holes, 2338
- 48-22 Repair with Suture Anchors (DeBerardino and Owens), 2339
- 48-23 Achilles Tendon Allograft, 2340
- 48-24 Hamstring (Semitendinosus and Gracilis), Autograft Augmentation (Ecker, Lotke, and Glazer), 2342
- 48-25 Hamstring Autograft Augmentation—Mandelbaum, Bartolozzi, and Carney, 2343
- 48-26 Repair of Acute Rupture of the Tendon of the Quadriceps Femoris Muscle, 2344
- 48-27 Repair of Proximal Biceps Tendon Rupture, 2346
- 48-28 Subpectoral Biceps Tenodesis (Mazzoca et al.), 2347
- 48-29 Two-Incision Technique for Repair of the Distal Biceps Tendon (Boyd and Anderson), 2350
- 48-30 Single-Incision Technique for Repair of the Distal Biceps Tendon, 2350
- 48-31 Repair of the Superior Peroneal Retinaculum, 2354
- 48-32 Fibular Groove Deepening with Tissue Transfer (Periosteal Flap), (Zoellner and Clancy), 2354
- 48-33 Indirect (Impaction Fibular Groove Deepening (Shawen and Anderson), 2355
- Achilles Tendon Augmentation of Superior Peroneal Retinaculum Repair (Jones), 2355
- 48-35 Treatment of Biceps Brachii Tendon Displacement, 2357

Arthroscopy of the Foot and Ankle

- 50-1 Arthroscopic Examination and Debridement of the Ankle Joint, 2379
- 50-2 Posterior Débridement for Ankle Impingement, 2382
- 50-3 Subtalar Arthroscopy, 2386
- 50-4 First Metatarsophalangeal Joint Arthroscopy, 2389

Arthroscopy of the Lower Extremity

- 51-1 Resection of Bucket-Handle Tear, 2403
- 51-2 Removal of Posterior Horn Tear, 2403
- 51-3 Treatment of Partial Depth Meniscal Tears, 2405
- 51-4 Partial Excision of the Discoid Meniscus, 2406
- 51-5 Inside-To-Outside Technique, 2409
- 51-6 Outside-To-Inside Technique (Johnson), 2411
- 51-7 Lateral Meniscal Suturing, 2412
- 51-8 Repair of Radial or Meniscal Root Tear, 2413
- 51-9 Preparation of Fibrin Clot (Port et al.), 2413
- 51-10 Meniscal Replacement, 2414
- 51-11 Removal of Loose Bodies, 2417
- 51-12 Resection of Plica, 2419
- 51-13 Arthroscopic Drilling of an Intact Lesion of the Femoral Condyle, 2420
- 51-14 Arthroscopic Screw Fixation for Osteochondritis Dissecans Lesions in the Medial Femoral Condyle, 2421
- 51-15 Osteochondral Autograft Transfer, 2422
- 51-16 Anatomical Single-Bundle Endoscopic Anterior Cruciate Ligament Reconstruction Using Bone-Patellar Tendon-Bone Graft, 2427
- 51-17 Two-Incision Technique for Anterior Cruciate Ligament Reconstruction Using Bone-Patellar Tendon-Bone Graft, 2432
- 51-18 Endoscopic Quadruple Hamstring Graft, 2432
- 51-19 Anatomic Double-Bundle Anterior Cruciate Ligament Reconstruction (Karlsson et al.), 2434
- 51-20 Transepiphyseal Replacement of Anterior Cruciate Ligament Using Quadruple Hamstring Grafts (Anderson), 2435
- Physeal-Sparing Reconstruction of the Anterior Cruciate Ligament (Kocher, Garg, and Micheli), 2438
- 51-22 Single-Tunnel Posterior Cruciate Ligament Reconstruction, 2441
- 51-23 Double-Tunnel Posterior Cruciate Ligament Reconstruction (Clancy and Bisson), 2442
- 51-24 Lateral Retinacular Release, 2445
- 51-25 Synovectomy, 2447
- 51-26 Drainage and Débridement in Pyarthrosis, 2448
- 51-27 Arthroscopically-Assisted Fracture Reduction and Percutaneous Fixation (Caspari et al.), 2448
- 51-28 Arthroscopic Lysis and Excision of Adhesions (Sprague), 2449
- 51-29 Supine Position Arthroscopy (Byrd), 2452
- 51-30 Lateral Position Arthroscopy (Glick et al.), 2454

- 51-31 Arthroscopic Repair of Labral Tears (Kelly et al.), 2456
- 51-32 Arthroscopic Treatment of Pincer Impingement (Larson), 2459
- 51-33 Arthroscopic Treatment of Cam Impingement (Mauro et al.), 2460

Arthroscopy of the Upper Extremity

- 52-1 Establishing a Posterior Portal, 2471
- 52-2 Antegrade Method, 2473
- 52-3 Retrograde Method, 2474
- 52-4 Establishing the Superior Portal (Neviaser), 2474
- 52-5 Arthroscopic Removal of Loose Body, 2478
- 52-6 Arthroscopic Fixation of Type II Slap Lesions (Revised from Burkhart, Morgan, and Kibler), 2480
- 52-7 Biceps Tendon Release, 2487
- 52-8 Arthroscopic Biceps Tenodesis with a Percutaneous Intraarticular Tendon (Sekiya et al.), 2487
- Biceps Tenodesis: Arthroscopic or Mini-Open Technique (Romeo et al.), 2487
- 52-10 Subpectoral Biceps Tenodesis with an Interference Screw (Mazzocca et al.), 2490
- Arthroscopic Bankart Repair Technique, 2493
- 52-12 Posterior Shoulder Stabilization (Kim et al.), 2498
- 52-13 Capsular Shift, 2503
- Arthroscopic Repair of Posterior Humeral Avulsion of the Glenohumeral Ligament, 2503
- 52-15 Remplissage (Purchase et al. [Wolf] Technique), 2504
- 52-16 Arthroscopic Acromioplasty, 2507
- 52-17 Chockblock Method for Acromioplasty, 2509
- 52-18 Débridement of Partial-Thickness Rotator Cuff Tears, 2510
- 52-19 Repair of Delamination and Localized, Articular-Side Partial-Thickness Cuff Tears, 2510
- 52-20 Transtendinous Repair of a Partial Articular-Side Supraspinatus Tendon Avulsion Lesion, 2514
- 52-21 Rotator Cuff Repair, 2518
- 52-22 Repair of Large or Massive Contracted Tears Using the Interval Slide Technique (Tauro et al.), 2523
- 52-23 Subscapularis Tendon Repair (Burkhart and Tehrany), 2523
- 52-24 Arthroscopic Resection of the Distal End of the Clavicle (Mumford Procedure) (Tolin and Snyder), 2526
- 52-25 Superior Approach (Flatow et al.), 2528
- 52-26 Release of Calcific Tendinitis, 2528
- 52-27 Capsular Release (Scarlat and Harryman), 2530
- 52-28 Suprascapular Nerve Release (Lafosse, Tomasi, and Corbett), 2531
- 52-29 Arthroscopic Elbow Examination, 2538
- 52-30 Arthroscopic Treatment of Osteochondritis Dissecans, 2543
- 52-31 Osteochondral Autograft Transfer (Yamamoto et al.), 2544
- 52-32 Removal of Olecranon Tip and Osteophytes, 2545
- 52-33 Resection of Thickened Pathological Synovial Plica, 2546
- 52-34 Arthroscopy for Arthrofibrosis (Phillips and Strasburger), 2547
- 52-35 Arthroscopic Tennis Elbow Release (Baker and Cummings), 2548
- 52-36 Arthroscopic Bursectomy (Baker and Cummings), 2549

General Principles of Fracture Treatment

- 53-1 Percutaneous Drainage of a Morel-Lavallée Lesion (Tseng and Tornetta), 2475
- 53-2 Irrigation and Débridement of Open Wounds, 2577
- 53-3 Harvest of Femoral or Tibial Bone Graft with the Ria Instrumentation, 2582
- 53-4 Screw Fixation, 2593
- 53-5 ASIF Cancellous Screw Technique, 2594
- 53-6 Pin Insertion, 2607

Fractures of the Lower Extremity

- 54-1 Fixation of the Lateral Malleolus, 2623
- 54-2 Fixation of the Medial Malleolus, 2624
- 54-3 Repair of the Deltoid Ligament and Internal Fixation of the Lateral Malleolus, 2626
- 54-4 Reduction and Fixation of Posterior Lip Fracture, 2629
- 54-5 Reduction and Fixation of Anterior Tibial Margin Fractures, 2629
- 54-6 Stabilization of Unstable Ankle Fracture-Dislocation, 2631
- 54-7 Minimally Invasive Plating of Tibial Pilon Fracture, 2636 54-8 Posterolateral Approach to Pilon Fractures, 2638
- Spanning External Fixation of Tibial Pilon Fracture (Bonar and Marsh), 2640
- 54-10 Hybrid External Fixation of Tibial Pilon Fractures (Watson), 2642

Continued on back endsheets

- 54-11 Locking Compression Plate with Bicortical Screw Fixation (Synthes, Paoli, PA), 2648
- 54-12 Intramedullary Nailing of Tibial Shaft Fractures, 2654
- 54-13 External Fixation for Tibial Shaft Fractures, 2660
- 54-14 Ilizarov External Fixation for Tibial Shaft Fractures, 2665
- 54-15 Open Reduction and Fixation of a Tibial Plateau Fracture, 2676
- 54-16 Medial Exposure, 2679
- 54-17 Open Reduction and Internal Fixation of Bicondylar Injuries, 2679
- 54-18 Circular External Fixation (Watson), 2680
- 54-19 Common Approach and Technique for Patellar Fractures, 2683
- 54-20 Circumferential Wire Loop Fixation (Martin), 2684
- 54-21 Tension Band Wiring Fixation, 2684
- 54-22 Partial Patellectomy, 2686
- 54-23 Partial Patellectomy Using Figure-of-Eight Load-Sharing Wire or Cable (Perry et al.), 2687
- 54-24 Total Patellectomy, 2688
- 54-25 Fracture Fixation of the Medial Condyle, 2694
- 54-26 Fracture Fixation of the Posterior Part of the Medial Condyle, 2695
- 54-27 Swashbuckler Approach to the Distal Femur (Starr et al.), 2697
- 54-28 Submuscular Minimally Invasive Locking Condylar Plate Application, 2698
- 54-29 Double Plate Fixation (Chapman and Henley), 2699
- 54-30 Plate and Screw Fixation of Femoral Shaft Fractures, 2704
- 54-31 Antegrade Femoral Nailing, 2709
- 54-32 Retrograde Femoral Nailing, 2714
- 54-33 Extraction of an Unbroken Antegrade Femoral Nail, 2717
- 54-34 Extraction of a Broken Femoral Antegrade Nail, 2717

Fractures and Dislocations of the Hip

- 55-1 Fixation of Femoral Neck Fracture with Cannulated Screws, 2728
- 55-2 Open Reduction and Internal Fixation (Modified Smith-Peterson), 2730
- 55-3 Fluoroscopically Guided Capsulotomy of the Hip, 2735
- 55-4 Compression Hip Screw Fixation of Intertrochanteric Femoral Fractures, 2738
- 55-5 Intramedullary Nailing of Intertrochanteric Femoral Fractures, 2743
- 55-6 Intramedullary Nailing of Intertrochanteric Femoral Fractures with Integrated Proximal Interlocking Screws (Intertan), 2748
- 55-7 Intramedullary Nailing in Reconstruction Mode, 2752
- 55-8 Fixation of Subtrochanteric Femoral Fracture with a Proximal Femoral Locking Plate, 2756
- 55-9 Fixation of Subtrochanteric Femoral Fracture with a Blade Plate, 2759
- 55-10 Open Reduction of Posterior Hip Dislocation Through a Posterior Approach, 2766

Fractures of Acetabulum and Pelvis

- 56-1 External Fixation, 2810
- 56-2 Supraacetabular External Fixation, 2811
- 56-3 Pelvic Clamps, 2814
- 56-4 Open Reduction and Internal Fixation of the Pubic Symphysis, 2816
- 56-5 Internal Fixation: Posterior Screw Fixation of Sacral Fractures and Sacroiliac Dislocations (Prone) (Matta and Saucedo), 2819
- 56-6 Percutaneous Iliosacral Screw Fixation of Sacroiliac Disruptions and Sacral Fractures (Supine), 2823
- 56-7 Anterior Approach and Stabilization of the Sacroiliac Joint (Simpson et al.), 2826

Fractures of the Shoulder, Arm, and Forearm

- 57-1 Open Reduction and Internal Fixation of Clavicular Fractures (Collinge et al., Modified), 2832
- 57-2 Intramedullary Fixation with a Headed, Distally Threaded Pin (Rockwood Clavicle Pin), 2833
- 57-3 Intramedullary Nailing of a Proximal Humeral Fracture, 2846
- 57-4 Open Reduction and Internal Fixation of Proximal Humeral Fractures, 2848
- 57-5 Anterolateral Acromial Approach for Internal Fixation-of Proximal Humeral Fracture (Gardner et al.), 2849
- 57-6 Open Reduction and Internal Fixation of the Humeral Shaft Through a Modified Posterior Approach (Triceps-Reflecting), 2856
- 57-7 Antegrade Intramedullary Nailing of Humeral Shaft Fractures, 2860
- 57-8 Open Reduction and Internal Fixation of the Distal Humerus with Olecranon Osteotomy, 2865

- 57-9 Open Reduction and Internal Fixation of Radial Head Fracture, 2871
- 57-10 Stabilization of "Terrible Triad" Elbow Fracture-Dislocation (McKee et al.), 2877
- 57-11 Open Reduction and Internal Fixation of Olecranon Fracture, 2883
- 57-12 Open Reduction and Internal Fixation of Both-Bone Forearm Fractures, 2888
- 57-13 Closed Reduction and Percutaneous Pinning of Distal Radial Fracture (Glickel et al.), 2894
- 57-14 External Fixation of Fracture of the Distal Radius, 2897
- 57-15 Volar Plate Fixation of Fracture of the Distal Radius (Chung), 2898
- 57-16 Distraction Plate Fixation (Burke and Singer as Modified by Ruch et al.), 2900

Malunited Fractures

- 58-1 Correction of Metatarsal Angulation, 2919
- 58-2 Correction of Tarsal Malunion, 2919
- 58-3 Posterior Subtalar Arthrodesis (Gallie), 2922
- 58-4 Distraction Arthrodesis (Carr et al.), 2923
- 58-5 Resection of the Lateral Prominence of Calcaneus (Kashiwagi, Modified), 2924
- 58-6 Correction of Calcaneal Malunion Through Extensile Lateral Approach (Clare et al.), 2924
- 58-7 Correction of Valgus Malunion of Extraarticular Calcaneal Fracture (Aly), 2926
- 58-8 Osteotomy for Bimalleolar Fracture, 2928
- 58-9 Correction of Diastasis of the Tibia and Fibula, 2929
- 58-10 Supramalleolar Osteotomy, 2929
- 58-11 Oblique Tibial Osteotomy (Sanders et al.), 2933
- 58-12 Clamshell Osteotomy (Russell et al.), 2936
- 58-13 Subcondylar Osteotomy and Wedge Graft for Malunion of Lateral Condyle, 2938
- 58-14 Osteotomy and Internal Fixation of the Lateral Condyle, 2939
- 58-15 Open Reduction and Internal Fixation, 2940
- 58-16 Osteotomy for Femoral Malunion, 2944
- 58-17 Osteotomy for Femoral Malunion in Children, 2945
- 58-18 Correction of Cervicotrochanteric Malunion, 2947
- 58-19 Osteotomy and Plate Fixation, 2949
- 58-20 Osteotomy and Elastic Intramedullary Nailing of Midshaft Clavicular Fracture (Smekal et al.), 2952
- 58-21 Closing Wedge Valgus Osteotomy for Varus Malunion of Proximal Humerus (Benegas et al. Modified), 2956
- 58-22 Correction of Proximal Third Humeral Malunion, 2956
- 58-23 Correction of Radial Neck Malunion (Inhofe and Moneim, Modified), 2958
- 58-24 Monteggia Fracture, 2958
- 58-25 Resection of Proximal Part of Radial Shaft (Kamineni et al.), 2959
- 58-26 Osteotomy and Plating for Forearm Malunion (Trousdale and Linscheid, Modified), 2961
- 58-27 Correction of Forearm Malunion with Distal Radioulnar Joint Instability (Trousdale and Linscheid, Modified), 2962
- 58-28 Drill Osteoclasis (Blackburn et al.), 2962
- 58-29 Opening Wedge Metaphyseal Osteotomy with Bone Grafting and Internal Fixation with Plate and Screws (Fernandez), 2967
- 58-30 Volar Osteotomy (Shea et al.), 2968
- 58-31 Intramedullary Fixation, 2970
- 58-32 External Fixation (Melendez), 2971
- 58-33 Osteotomy for Intraarticular Malunion (Marx and Axelrod), 2972
- 58-34 Radiolunate Arthrodesis (Saffar), 2973
- 58-35 Ulnar Shortening Osteotomy (Milch), 2974
- 58-36 Resection of the Distal Ulna (Darrach), 2975.

Delayed Union and Nonunion of Fractures

- 59-1 Dual Onlay Graft, 2985
- 59-2 Cancellous Insert Grafts (Nicoll), 2986
- 59-3 Massive Sliding Graft (Gill), 2987
- 59-4 Whole Fibular Transplants, 2987
- 59-5 Intramedullary Fibular Allografts (Crosby et al.), 2988
- 59-6 Resection of the Distal Fragment of the Medial Malleolus, 2996
- 59-7 Sliding Graft, 2996
- 59-8 Bone Graft of Medial Malleolar Nonunion (Banks), 2997
- 59-9 Posterolateral Bone Grafting, 2999
- 59-10 Percutaneous Bone Marrow Injection (Connolly et al.), 2999

- 59-11 Internal Fixation Using Russell-Taylor Interlocking Nail, 3001
- 59-12 Plate Fixation and Bone Grafting of the Clavicle, 3007
- 59-13 Open Reduction and Insertion of a Prosthesis, 3008
- 59-14 Open Reduction Internal Fixation with Bone Grafting of the Humeral Condyle, 3011

Acute Dislocations

- 60-1 Open Reduction and Repair of Patellar Dislocation, 3019
- 60-2 Grafting of the Medial Patellar Retinaculum, 3019
- 60-3 Open Reduction and Repair of the Extensor Mechanism, 3020
- 60-4 Open Reduction of Hip Dislocation, 3024
- 60-5 Anatomic Reconstruction of the Conoid and Trapezoid Ligaments (Mazzocca et al.), 3029
- 60-6 Coracoclavicular Suture Fixation, 3031
- 60-7 Distal Clavicular Excision (Stewart), 3031
- 60-8 Open Reduction of Radial Head Dislocation, 3033

Old Unreduced Dislocations

- 61-1 Ligamentous Reconstruction for Old Unreduced Dislocation of the Proximal Tibiofibular Joint, 3040
- 61-2 Open Reduction for Old Unreduced Dislocation of the Knee, 3040
- 61-3 Open Reduction for Old Unreduced Dislocation of the Patella, 3042
- 61-4 Intertrochanteric Osteotomy for Chronic Anterior Dislocation of the Hip (Aggarwal and Singh), 3042

- 61-5 Traction and Abduction for Chronic Posterior Hip Dislocation (Gupta), 3043
- 61-6 Resection of the Medial End of the Clavicle for Old Sternoclavicular Joint Dislocation, 3044
- 61-7 Resection of the Lateral End of the Clavicle for Old Unreduced Acromioclavicular Joint Dislocations (Mumford; Gurd), 3045
- 61-8 Reconstruction of the Superior Acromioclavicular Ligament for Old Unreduced Acromioclavicular Joint Dislocation (Neviaser), 3046
- 61-9 Transfer of the Coracoacromial Ligament for Old Unreduced Acromioclavicular Joint Dislocation (Rockwood), 3046
- 61-10 Arthroscopic Transfer of the Coracoacromial Ligament for Old Unreduced Acromioclavicular Joint Dislocation (Boileau), 3047
- 61-11 Open Reduction of Anterior Shoulder Dislocations (Rowe and Zarins), 3052
- 61-12 Open Reduction of Posterior Shoulder Dislocation from a Superior Approach (Rowe and Zarins), 3053
- 61-13 Open Reduction of Posterior Shoulder Dislocation Through an Anteromedial Approach (McLaughlin), 3053
- 61-14 Deltopectoral Approach for Posterior Shoulder Dislocation (Keppler et al.), 3054
- 61-15 Open Reduction and V-Y Lengthening of Triceps Muscles for Old Unreduced Elbow Dislocation (Speed), 3058

CONTENTS

G. Andrew Murphy

VOLUME I PART PART RECONSTRUCTIVE PROCEDURES OF THE SHOULDER AND ELBOW GENERAL PRINCIPLES IN ADULTS 1 Surgical Techniques and Approaches 12 Shoulder and Elbow Arthroplasty 532 Andrew H. Crenshaw, Jr. Thomas W. Throckmorton 2 Magnetic Resonance Imaging 13 Arthrodesis of the Shoulder 127 in Orthopaedics and Elbow 583 Dexter H. Witte Thomas W. Throckmorton PART PART RECONSTRUCTIVE PROCEDURES OF THE HIP IN ADULTS **AMPUTATIONS** 3 Arthroplasty of the Hip 158 James W. Harkess and John R. Crockarell, Jr. 14 General Principles of Amputations 598 Patrick C. Toy 4 Hip Resurfacing 311 David G. Lavelle 15 Amputations of the Foot 613 David R. Richardson 325 Arthrodesis of the Hip William E. Albers 16 Amputations of the **Lower Extremity** 637 6 Hip Pain in the Young Adult and Hip Marc J. Mihalko **Preservation Surgery** 333 James L. Guyton 17 Amputations of the Hip and Pelvis 651 Marc J. Mihalko PART 18 Amputations of the Upper Extremity 659 RECONSTRUCTIVE PROCEDURES Kevin B. Cleveland OF THE KNEE IN ADULTS 19 Amoutations of the Hand 673 Arthroplasty of the Knee 376 James H. Calandruccio William M. Mihalko Arthrodesis of the Knee 445 PART William E. Albers 9 Soft Tissue Procedures and Corrective INFECTIONS Osteotomies about the Knee 453 Andrew H. Crenshaw, Jr. 20 General Principles of Infection 706 Kevin B. Cleveland 725 21 Osteomyelitis **RECONSTRUCTIVE PROCEDURES OF** Gregory D. Dabov THE ANKLE IN ADULTS 22 Infectious Arthritis 749 10 Total Ankle Arthroplasty 486 Anthony A. Mascioli and Ashley L. Park G. Andrew Murphy 23 Tuberculosis and Other **Unusual Infections** 11 Ankle Arthrodesis 503 773

Marc J. Mihalko

P	ART VIII		PART	
	TUMORS		FRACTURES AND DISLOCATIONS IN CHILDREN	
24	General Principles of Tumors Patrick C. Toy and Robert K. Heck, Jr.	788	36 Fractures and Dislocations in Children 5. Terry Canale and James H. Beaty	1364
25	Benign Bone Tumors and Nonneoplastic Conditions Simulating Bone Tumors Robert K. Heck, Jr. and Patrick C. Toy	859	PART	
26	Benign/Aggressive Tumors of Bone Robert K. Heck, Jr.	887	THE SPINE	
27	Malignant Tumors of Bone Robert K. Heck, Jr.	909	37 Spinal Anatomy and Surgical Approaches George W. Wood II	1524
28	Soft Tissue Tumors Pafrick C. Toy and Robert K. Heck, Jr.	947	38 Fractures, Dislocations, and Fracture-Dislocations of the Spine Keith D. Williams	1559
VC	DLUME II		39 Arthrodesis of the Spine George W. Wood II	1629
	ART IX		40 Pediatric Cervical Spine William C. Warner, Jr.	1653
1	CONGENITAL AND DEVELOPMENDISORDERS	NTAL	41 Scoliosis and Kyphosis William C. Warner, Jeffery R. Sawyer, and Derek M. Kelly	1691
29	Congenital Anomalies of the Lower Extremity Derek M. Kelly	980	42 Lower Back Pain and Disorders of Intervertebral Discs Raymond J. Gardocki and Ashley L. Park	1897
30	Congenital and Developmental Anomalies of the Hip and Pelvis Derek MKelly	1079	43 Infections of the Spine Francis X. Camillo	1965
31	Congenital Anomalies of the Trunk and Upper Extremity Derek M. Kelly	1119	44 Other Disorders of the Spine Raymond J. Gardocki and Francis X. Camillo	1993
32	Osteochondrosis or Epiphysitis and Other Miscellaneous Affections S. Terry Canale		VOLUME III	
		1133	PART XIII	
P	ART X		SPORTS MEDICINE	
	NERVOUS SYSTEM DISORDERS IN CHILDREN		45 Knee Injuries Robert H. Miller III and Frederick M. Azar	2052
33	Cerebral Palsy Jeffrey R. Sawyer	1202	46 Shoulder and Elbow Injuries Robert H. Miller III, Frederick M. Azar and Thomas W. Throckmorton	2213
34	Paralytic Disorders Jeffrey R. Sawyer	1255	47 Recurrent Dislocations Barry B. Phillips	2255
35	Neuromuscular Disorders William C. Warner, Jr. and Jeffrey R. Sawyer	1335	48 Traumatic Disorders Frederick M. Azar	2311

P	ART XIV		PART XVII	
1	ARTHROSCOPY		MICROSURGERY	
49	General Principles of Arthroscopy Barry B. Phillips	2364	63 Microsurgery Mark T. Jobe	3126
50	Arthroscopy of the Foot and Ankle Susan N. Ishikawa	2379	PART XV	
51	Arthroscopy of the Lower Extremity Barry B. Phillips and Marc J. Milhalko	2393		
52	Arthroscopy of the Upper Extremity Barry B. Phillips	2467	64 Basic Surgical Technique and	
P	ART XV		Postoperative Care David L. Cannon	3200
Y	FRACTURES AND DISLOCATIONS IN ADULTS		65 Acute Hand Injuries David L. Cannon	3221
53	General Principles of Fracture Treatment George W. Wood II	2560	66 Flexor and Extensor Tendon Injuries David L. Cannon	3247
54	Fractures of the Lower Extremity Matthew I. Rudloff	2617	67 Fractures, Dislocations, and Ligamentous Injuries	3305
55	Fractures and Dislocations of the Hip John C. Weinlein	2725	68 Nerve Injuries	3367
56	Fractures of Acetabulum and Pelvis James L. Guyton and Edward A. Perez	2777	Mark T. Jobe 69 Wrist Disorders	3383
57	Fractures of the Shoulder, Arm, and Forearm	2829	David L. Cannon	-3477
58	Edward A. Perez Malunited Fractures	2917	70 Special Hand Disorders David L. Cannon	.34//
59	A. Paige Whittle Delayed Union and Nonunion		71 Paralytic Hand James H. Calandruccio and Mark T. Jobe	3495
	of Fractures Kevin B. Cleveland	2981	72 Cerebral Palsy of the Hand Mark T. Jobe	3535
60	Acute Dislocations Anthony A. Mascioli	3017	73 Arthritic Hand James H. Calandruccio	3555
61	Old Unreduced Dislocations William E. Albers	3039	74 Compartment Syndromes	
V	OLUME IV		and Volkmann Contracture Mark T. Jobe	3613
F	PART		75 Dupuytren Contracture James H. Calandruccio	3625
	PERIPHERAL NERVE INJURIES		76 Carpal Tunnel Syndrome, Ulnar Tunnel Syndrome,	
62	Peripheral Nerve Injuries	3062	and Stenosing Tenosynovitis	3637

//	of the Hand James H. Calandruccio and Mark T. Jobe	3661	83	G. Andrew Murphy	39/9
78	Hand Infections David L. Cannon	3693	84	Arthritis of the Foot David R. Richardson	4027
79	Congenital Anomalies of the Hand Mark T. Jobe	3713	85	Diabetic Foot Susan N. Ishikawa	4057
	PART XX		86	Neurogenic Disorders E. Greer Richardson	4079
-01	THE FOOT AND ANKLE		87	Disorders of Nails and Skin Susan N. Ishikawa	4117
80	Surgical Techniques E. Greer Richardson	3796	88	Fractures and Dislocations of the Foot Susan N. Ishikawa	4139
81	Disorders of the Hallux E. Greer Richardson	3805	89	Sports Injuries of the Ankle David R. Richardson	4213
82	Disorders of Tendons and Fascia and Adolescent and Adult Pes Planus	3907			

策划编辑: 刘子媛 康 清 责任编辑: 王 霞 白玖芳 美术编辑: 赵 冬

TWELFTH EDITION VOLUME THREE

CAMPBELL'S OPERATIVE ORTHOPAEDICS

坎贝尔骨科手术学

S. Terry Canale • James H. Beaty

英文原版影印 零距离领略巨著风采

全球最负盛名的骨科学"圣经" 世界级专家联袂编撰 骨科医生案头必读之参考书

- 第12版全新改版, 吸取了近年来的最新成果, 除保留作为"金标准"的经典技术之 外,还介绍了大量新技术、新装备,并强调了微创外科技术。
- 重点介绍各种骨科手术技术,详细叙述各类骨科手术的细节,并配以相应的图解, 呈现给读者第一手的临床手术经验,包括手术指征、手术前后处理和并发症防治的 原则、各种诀窍和注意事项等。
- 配图7000余幅,其中很多图片为重新绘制,直观展现骨科手术技术要点。
- 无论对于刚开始从事骨科工作的低年资住院医生,还是年资较高的骨科专家,以及 广大医学院校师生,本书均为一部值得深入研读的高级参考书,影印版更可以作为 学习专业英语的最佳读物。

This edition is licensed for sale in China only, excluding Hong Kong SAR and Taiwan. This edition is not authorized for export outside this territory. Circulation of this edition outside this territory is unauthorized and illegal.

上架建议: 骨科学



定价: 1380.00元 (全四卷)