

SECTION I Basic Science

- 1 Anatomy, 2**
Henry D. Clarke, Mark J. Kransdorf, Christopher R. Conley, Henrik Bo Pedersen, W. Norman Scott
- 2 Anatomic Aberrations, 50**
Henry D. Clarke, W. Norman Scott
- 3 Clinical Examination of the Knee, 65**
Justin B. Jones, Aaron Althaus, Jason P. Hochfelder, Timothy G. Reish, William J. Long, Michael P. Nett, Henrik Bo Pedersen, Gregory J. Roehrig, Alfred J. Tria, Jr., W. Norman Scott
- 4 Gene Therapy for the Treatment of Knee Disorders, 79**
Johnny Huard, Walter R. Lowe, Freddie H. Fu

SECTION II Imaging of the Knee

- 5 Knee Imaging Techniques and Normal Anatomy, 86**
Samuel D. Madoff, Jarett S. Burak, Kevin R. Math, Daniel M. Walz
- 6 Fractures, 111**
Michael B. Mechlin
- 7 Imaging of the Meniscus, 133**
Monica Tafur, Jenny T. Bencardino
- 8 Cruciate Ligaments, 161**
Felix M. Gonzalez, Adam C. Zoga
- 9 Imaging of Synovium and Cartilage of the Knee, 183**
Tarek M. Hegazi, Kristen E. McClure, William B. Morrison
- 10 Lateral Supporting Structures: Posterolateral Corner Structures and Iliotibial Band, 197**
Eric Y. Chang, Christine B. Chung
- 11 Medial Supporting Structures: Medial Collateral Ligament and Posteromedial Corner, 215**
Sherlin Lavianlivi, Sana Ali, Mohammed M. Hoque, Luis S. Beltran, Javier Beltran
- 12 Imaging of the Extensor Mechanism, 229**
Catherine N. Petchprapa
- 13 Imaging of Total Knee Arthroplasty, 243**
Michael K. Brooks, Christopher J. Palestro, Barbara N. Weissman
- 14 Tumors in the Knee, 264**
Edward J. Derrick, Michele N. Edison, Kurt F. Scherer, Christopher W. Wasyliv, Christopher R. Pettis, Laura W. Bancroft
- 15 Ultrasound-Guided Procedures, 287**
Christopher John Burke, Ronald S. Adler

SECTION III Biomechanics

- 16 Three-Dimensional Morphology of the Knee, 298**
Mohamed R. Mahfouz
- 17 Fluoroscopic Analysis of Total Knee Replacement, 307**
Michael T. LaCour, Richard D. Komistek
- 18 In Vivo Kinematics of the Patellofemoral Joint, 312**
Trevor Grieco
- 19 Forward Solution Modeling: An In Vivo Theoretical Simulator of the Knee, 323**
Brad Meccia
- 20 Contact Mechanics of the Human Knee, 329**
Adrija Sharma, Richard D. Komistek

- 21 In Vivo Mechanics and Vibration of the Knee Joint, 338**
Ian M. Zeller
- 22 Does Strain in the Patella Change After Total Knee Arthroplasty? A Finite Element Investigation of Natural and Implanted Patellae, 346**
Clare K. Fitzpatrick, Mark A. Baldwin, Azhar A. Ali, Peter J. Laz, Paul J. Rullkoetter
- 23 Wear Simulation of Knee Implants, 353**
Louise M. Jennings, Raelene M. Cowie, Claire L. Brockett, John Fisher
- 24 Knee Wear, 358**
John H. Currier, Douglas W. Van Citters
- 25 The Asian Knee, 374**
Rajesh N. Maniar, Tushar Singhi, Parul R. Maniar
- 26 Mobile Fluoroscopy: Determination of Natural, Unrestricted Knee Motion, 388**
William R. Hamel, Richard D. Komistek

SECTION IV Sports Medicine: Articular Cartilage and Meniscus

- 27 Articular Cartilage: Biology, Biomechanics, and Healing Response, 393**
Constance R. Chu, Grace Xiong, Thomas P. Andriacchi
- 28 Articular Cartilage Injury and Adult Osteochondritis Dissecans: Treatment Options and Decision Making, 401**
Justin W. Griffin, Phillip Locker, Nicole A. Friel, Brian J. Cole
- 29 International Experience With Autologous Chondrocyte Implantation With Periosteum (Autologous Chondrocyte Implantation) Including Scaffold Guided Techniques and Tissue Engineered Matrix Support, 412**
Lars Peterson, Haris S. Vasiladiis
- 30 Osteochondral Autograft Transplantation, 427**
Yonah Heller, James R. Mullen, Nicholas A. Sgaglione
- 31 Osteochondral Allograft Transplantation, 442**
Michael R. Boniello, Samuel P. Robinson, Kevin F. Bonner
- 32 Articular Cartilage Repair With Bioscaffolds, 454**
Brian Chilleli, Jack Farr, Andreas H. Gomoll
- 33 Management of Failed Cartilage Repair, 462**
Eric C. Makhni, Maximilian A. Meyer, Brian J. Cole
- 34 Osteochondritis Dissecans of the Knee in the Young Patient, 469**
Matthew D. Milewski, Carl W. Nissen, Kevin G. Shea
- 35 Secondary, Spontaneous, and Postarthroscopy Osteonecrosis of the Knee: Diagnosis and Management, 475**
Eric J. Strauss, Brandon J. Erickson, Charles Bush-Joseph, Bernard R. Bach, Jr.
- 36 Healing of Knee Ligaments and Menisci, 485**
Ian D. Hutchinson, Seth L. Sherman, Arielle J. Hall, Scott A. Rodeo
- 37 Arthroscopic Meniscal Resection, 503**
Tristan Camus, Yair D. Kissin, W. Norman Scott, Fred D. Cushner

CONTENTS

38 Arthroscopy-Assisted Inside-Out and Outside-In Meniscus Repair, 513

Eduard Alentorn-Geli, J.H. James Choi, Joseph J. Stuart, Dean C. Taylor, Claude T. Moorman III

39 All-Inside Arthroscopic Meniscal Repair, 523

Megan M. Gleason, F. Winston Gwathmey, Jr., David R. Diduch

40 Meniscal Allograft Transplantation, 530

Kostas Economopoulos, Thomas R. Carter, Anikar Chhabra

41 Synthetic Meniscal Substitutes and Collagen Scaffold for Meniscal Regeneration, 544

Ian D. Hutchinson, Patrick G. Marinello, Suzanne A. Maher, Arielle J. Hall, Seth L. Sherman, Scott A. Rodeo

SECTION V Sports Medicine: Ligament Injuries

42 Classification of Knee Ligament Injuries, 556

Kristopher D. Collins, Craig S. Radnay, Christopher A. Hajnik, Giles R. Scuderi, W. Norman Scott

43 Sports Knee Rating Systems and Related Statistics, 575

Christopher M. Kuenze, Joe Hart

44 Medial Ligamentous Injuries of the Knee: Acute and Chronic, 584

Ian Power, Gehron Treme, Robert C. Schenck, Jr.

45 Fibular Collateral Ligament and the Posterolateral Corner, 592

Robert F. LaPrade, Chase S. Dean, Jason M. Schon, Jorge Chahla

46 Anterior Cruciate Ligament Injuries and Reconstruction: Indications, Principles, and Outcomes, 608

Russell M. Odone, William J. Long, W. Norman Scott

47 Bone-Patellar Tendon-Bone Autograft Anterior Cruciate Ligament Reconstruction, 623

Robert A. Magnussen, Joseph P. DeAngelis, Kurt P. Spindler

48 Anterior Cruciate Ligament Reconstruction With Hamstring Tendons, 631

Leo A. Pinczewski, Lucy Salmon, Emma Heath

49 Anterior Cruciate Ligament Reconstruction With Central Quadriceps Free Tendon Graft, 642

Harris S. Slone, John W. Xerogeanes

50 Allograft Anterior Cruciate Ligament Reconstruction, 646

Matthew J. Salzler, Jonathan A. Stone, Christopher D. Harner

51 Double-Bundle Anterior Cruciate Ligament Reconstruction, 658

Zaneb Yaseen, Daniel Guenther, Sebastian Irrarrazaval, Freddie H. Fu

52 Anterior Cruciate Ligament Reconstruction via the Anteromedial Portal and Single-Tunnel, Double-Bundle Techniques, 665

Benton E. Heyworth, Andrew Wall, Thomas J. Gill

53 Complications of Anterior Cruciate Ligament Reconstruction, 671

Brian E. Walczak, Samuel R.H. Steiner, Jason D. Archibald, Geoffrey S. Baer

54 Revision Anterior Cruciate Ligament Reconstruction, 678

Shawn G. Anthony, Pramod B. Voleti, Riley J. Williams III

55 Revision Anterior Cruciate Ligament Surgery: One-Stage versus Two-Stage Technique, 685

Cody L. Evans, Mark D. Miller, David R. Diduch

56 Osteotomy and the Cruciate-Deficient Knee, 702

Sebastiano Vasta, Biagio Zampogna, Annunziato Amendola

57 Rehabilitation of the Surgically Reconstructed and Nonsurgical Anterior Cruciate Ligament, 712

Thomas L. Sanders, Jonathan T. Finnoff, Diane L. Dahm

58 Knee Bracing for Athletic Injuries, 724

Geoffrey S. Van Thiel, Amer Rasheed, Bernard R. Bach, Jr.

59 Decision Making and Surgical Treatment of Posterior Cruciate Ligament Ruptures, 739

Frank R. Noyes, Sue D. Barber-Westin

60 Posterior Cruciate Ligament Reconstruction: Posterior Inlay Technique, 791

Adam S. Wilson, Mark D. Miller

61 Posterior Cruciate Ligament Reconstruction: Transtibial Double-Bundle Technique, 801

Gregory C. Fanelli

62 Posterior Cruciate Ligament Reconstruction: Remnant-Preserving Technique Through the Posteromedial Portal, 810

Sung-Jae Kim, Sung-Hwan Kim

63 The Dislocated Knee, 819

Jonathan N. Watson, Verena M. Schreiber, Christopher D. Harner, Volker Musahl

64 Dislocation of the Proximal Tibiofibular Joint, 833

Amit Nathani, John A. Grant

SECTION VI Sports Medicine: Patellar and Extensor Mechanism Disorders

65 Disorders of the Patellofemoral Joint, 843

David DeJour, Paulo R.F. Saggin, Vinicius Canello Kuhn

66 Distal Realignment of the Patellofemoral Joint: Indications, Effects, Results, and Recommendations, 885

Jeffrey T. Spang, William R. Post, John P. Fulkerson

67 Surgery of the Patellofemoral Joint: Proximal Realignment, 902

Andrew B. Old, Andre M. Jakoi, W. Norman Scott, Giles R. Scuderi, Gabriel Levi

68 Repair and Reconstruction of the Medial Patellofemoral Ligament for Treatment of Lateral Patellar Dislocations: Surgical Techniques and Clinical Results, 939

M. Tyrrell Burrus, Marc A. Tompkins, Betina B. Hinckel, David R. Diduch, Elizabeth A. Arendt

69 Sulcus-Deepening Trochleoplasty, 954

David DeJour, Paulo R.F. Saggin, Vinicius Canello Kuhn

70 Quadriceps and Patellar Tendon Disruption, 967

Jourdan M. Cancienne, F. Winston Gwathmey, Jr., David R. Diduch

SECTION VII Knee Arthritis

71 Gout and Other Crystalline Arthropathies, 986

Aryeh M. Abeles, Michael H. Pillinger

72 Knee Osteoarthritis, 992

Pamela B. Rosenthal

73 Overview of Psoriatic Arthritis, 998

Gary E. Solomon

74 Systemic Allergic Dermatitis in Total Knee Arthroplasty, 1003

Gideon P. Smith, Andrew G. Franks, Jr., David E. Cohen

75 Rheumatoid Arthritis of the Knee: Current Medical Management, 1010

Andrew G. Franks, Jr.

- 76 Hemophilia and Pigmented Villonodular Synovitis Hemophilia and the Knee, 1015**
Andrew G. Franks, Jr.
- 76B Human Immunodeficiency Virus Infection and Its Relationship to Knee Disorders, 1020**
Henry Masur

SECTION VIII Anesthesia for Knee Surgery

PART I Preoperative Evaluation

- 77 Basics, Preoperative Assessment, and Medical Optimization, 1032**
Milad Nazemzadeh
- 78 Patients With Stents, 1037**
Ghislaine M. Isidore
- 79 Diabetes Mellitus and the Knee, 1040**
Jesse Ng
- 80 Rheumatoid Arthritis, 1046**
Cheng-Ting Lee, Arthur Atchabahian
- 81 Bilateral Total Knee Replacement: Indications for Sequential and Simultaneous Surgery, 1051**
Daniel C. Smith, Shawna Dorman, Jonathan M. Vigdorichik, Richard Iorio

PART II Perioperative Management of Inpatient Procedures

- 82 Monitoring During Total Knee Arthroplasty, 1056**
Milica Markovic
- 83 Spinal or General Anesthesia? 1058**
Chan-Nyein Maung, Milad Nazemzadeh
- 84 Revision Total Knee Arthroplasties, 1062**
Milica Markovic
- 85 The Pneumatic Tourniquet, 1063**
Jean-Pierre Estèbe
- 86 Cement Embolism, 1069**
Jean-Pierre Estèbe
- 87 Tranexamic Acid, 1071**
Jan Boublik, Arthur Atchabahian
- 88 Blood Loss and Fluid Management, 1078**
Sanford M. Littwin, Alopi Patel
- 89 Anesthesia for Knee Surgery, 1081**
Sanford M. Littwin, Neda Sadeghi
- 90 Specific Considerations for Fractures and Dislocations, 1083**
Chan-Nyein Maung, Milad Nazemzadeh

PART III Preoperative Analgesia: Nerve Blocks

- 91 Femoral Nerve Block, 1086**
Jodi Sherman
- 92 Adductor Canal Block, 1091**
Shawna Dorman, Pia Jæger, Ulrik Grevstad
- 93 Fascia Iliaca Compartment Block, 1094**
Jan Boublik
- 94 Psoas Compartment Block, 1097**
Uchenna O. Umeh
- 95 Sciatic Nerve Block, 1101**
Jan Boublik
- 96 Obturator Nerve Block, 1106**
Arthur Atchabahian

- 97 Continuous Perineural Analgesia for Knee Surgery, 1109**
Christophe Aveline
- 98 Local Anesthetic Infiltration, 1117**
John P. Begly, Jonathan M. Vigdorichik
- 99 Epidural Analgesia, 1123**
Rishi Vashishta, Lisa V. Doan
- 100 Neuraxial Opioids, 1125**
Rishi Vashishta, Lisa V. Doan
- 101 Systemic Opioids and Postoperative Nausea and Vomiting, 1127**
Lisa V. Doan, Rishi Vashishta
- 102 Multimodal Pharmacologic Analgesia, 1130**
Tomas J. Kucera, Sorosch Didehvar, Christopher Gharibo
- 103 Chronic Pain After Total Knee Arthroplasty, 1134**
Patrick J. Milord, Hersh Patel, Christopher Gharibo

PART IV Ambulatory Procedures

- 104 Knee Arthroscopy, 1140**
Lisa Mouzi Wofford

PART V Thromboprophylaxis

- 105 Thromboprophylaxis and Neuraxial Anesthesia, 1147**
Yeseniya Aronova, Milad Nazemzadeh

SECTION IX Plastic Surgery

- 106 Soft Tissue Healing, 1150**
Susan Craig Scott, Robert S. Reiffel, Kelly L. Scott, Alyssa Reiffel Golas
- 107 The Problem Wound: Coverage Options, 1162**
Sarah Sasor, Kevin R. Knox, Kelly L. Scott, Susan Craig Scott

SECTION X Fractures About the Knee

- 108 Distal Femur Fractures, 1168**
Ryan Stancil, George J. Haidukewych, Adam A. Sassoon
- 109 Tibial Plateau Fractures, 1180**
Adam A. Sassoon, Nathan Summers, Joshua R. Langford
- 110 Fractures of the Patella, 1195**
Frank A. Liporace, Joshua R. Langford, Richard S. Yoon, George J. Haidukewych
- 111 Treatment of Periprosthetic Fractures Around a Total Knee Arthroplasty, 1208**
George J. Haidukewych, Steven Lyons, Thomas Bernasek

SECTION XI Pediatric Knee

- 112 Normal Knee Embryology and Development, 1217**
James G. Jarvis, Hans K. Uthoff
- 113 Congenital Deformities of the Knee, 1223**
Charles E. Johnston II
- 114 Meniscal Disorders, 1247**
Matthew Beran, Dennis E. Kramer, Mininder S. Kocher, Kevin Klingele
- 115 Osteochondritis Dissecans, 1255**
Benton E. Heyworth, Theodore J. Ganley
- 116 Reconstruction of the Anterior Cruciate Ligament in Pediatric Patients, 1261**
Allen F. Anderson, Christian N. Anderson

CONTENTS

- 117 Tibial Spine Fractures, 1273**
Dennis E. Kramer, Yi-Meng Yen, Mininder S. Kocher
- 118 Physeal Fractures About the Knee, 1281**
Corinna C. Franklin, David L. Skaggs, Jennifer Weiss
- 119 Patellar Instability, 1289**
Richard Y. Hinton, Richard G. Levine, James C. Dreese
- SECTION XIIA Joint Replacement and Its Alternatives**
- 120 Nonoperative Treatment of Knee Arthritis, 1307**
Zan A. Naseer, Louis Okafor, Anne Kuwabara, Harpal S. Khanuja
- 121 Osteotomies About the Knee, 1323**
Andrew Feldman, Guillem Gonzalez-Lomas, Stephanie J. Swensen, Daniel J. Kaplan
- 122 Osteotomy for the Arthritic Knee: A European Perspective, 1343**
Simone Cerciello, Sébastien Lustig, Elvire Servien, Philippe Neyret
- 123 Scoring Systems and Their Validation for the Arthritic Knee, 1362**
Adam C. Brekke, Philip C. Noble, David Rodriguez-Quintana, Brian S. Parsley, Kenneth B. Mathis
- 124 Historic Development, Classification, and Characteristics of Knee Prostheses, 1375**
John N. Insall, Henry D. Clarke
- 125 Unicompartmental, Bicompartamental, or Tricompartamental Arthritis of the Knee: Algorithm for Surgical Management, 1405**
Sridhar R. Rachala, Rafael J. Sierra
- 126 Patellofemoral Arthroplasty, 1409**
Jess H. Lonner
- 127 Unicompartmental Knee Arthroplasty: A European Perspective, 1420**
Matthieu Ollivier, Sébastien Parratte, Jean-Noël Argenson
- 128 Unicompartmental Knee Replacement With ACL Reconstruction, 1430**
Paolo Adravanti, Giuseppe Calafiore, Aldo Ampollini
- 129 Fixed-Bearing Medial Unicompartmental Knee Arthroplasty, 1435**
Hassan Alish, Erdan Kayupov, Craig J. Della Valle
- 130 Medial Unicompartmental Knee Arthroplasty Mobile Bearing, 1446**
Hemant Pandit, David Murray, Christopher A.F. Dodd
- 131 Bicompartamental Knee Arthroplasty, 1471**
Michael S. Shin, V. Karthik Jonna, Alfred J. Tria, Jr.
- 132 Bicondylar Knee Replacement, 1476**
Francesco Benazzo, Stefano M.P. Rossi, Matteo Ghiara, Priyadarshi Amit
- 133 Bicruciate Total Knee Arthroplasty, 1487**
Stephen Gregorius, Christopher L. Peters
- 134 Bicruciate Total Knee Arthroplasty: An Alternate View, 1493**
Bertrand W. Parcells, Jared S. Preston, Alfred J. Tria, Jr.
- 135 European Analysis and Results of Partial Knee Replacement, 1498**
Emmanuel Thienpont
- 136 Posterior Cruciate Ligament Retention in Total Knee Arthroplasty, 1502**
Brian M. Culp, Aaron G. Rosenberg
- 137 Preserving the Posterior Cruciate Ligament, 1509**
Ate Wymenga, Petra Heesterbeek
- 138 Custom-Made Knee Replacements, 1519**
Wolfgang Fitz, Frank A. Buttacavoli
- 139 Posterior Cruciate Sacrificing Total Knee Arthroplasty, 1526**
Aaron A. Hofmann, Brian P. Dahl
- 140 Posterior Cruciate Ligament—Substituting Total Knee Arthroplasty, 1529**
William J. Long, Justin B. Jones, Michael P. Nett, Gregory J. Roehrig, Giles R. Scuderi, W. Norman Scott
- 141 Posterior Cruciate Ligament Substituting Total Knee Arthroplasty: Considerations in the Middle East, 1545**
Sam Tarabichi, Majd Tarabichi
- 142 Mobile-Bearing Total Knee Arthroplasty, 1566**
Jason M. Jennings, David C. McNabb, Raymond H. Kim
- 143 Cemented Total Knee Arthroplasty: The Gold Standard, 1572**
Nicholas T. Ting, Bryan D. Springer
- 144 Cementless Total Knee Arthroplasty, 1576**
R. Michael Meneghini, Lucian C. Warth
- 145 Patellar Resurfacing in Total Knee Arthroplasty, 1585**
Oliver S. Schindler
- 146 Patella Resurfacing—Never, 1630**
Tomoyuki Matsumoto, Hirotsugu Muratsu
- 147 Patella Resurfacing—Always, 1637**
Khalid Odeh, Stephen Yu, Daniel J. Kaplan, Claudette Lajam, Richard Iorio
- 148 Alignment in Total Knee Arthroplasty, 1647**
Johan Bellemans
- 149 Surgical Approaches in Total Knee Arthroplasty: Standard and Minimally Invasive Surgery Techniques, 1652**
William J. Long, Jason P. Hochfelder, Michael P. Nett, Alfred J. Tria, Jr., Giles R. Scuderi
- 150 Surgical Techniques and Instrumentation in Total Knee Arthroplasty, 1665**
Thomas Parker Vail, Jason E. Lang
- 151 Gap-Balancing Techniques in Total Knee Arthroplasty, 1721**
Jason M. Jennings, Douglas A. Dennis
- 152 Modern Measured Resection Technique, 1727**
Andrea Baldini, Giovanni Balato, Vincenzo Franceschini, Alfredo Lamberti
- 153 Is the Understanding of Gap Balancing and Measured Resection Techniques Necessary to Understand Image-Guided Surgical Techniques for Knee Arthroplasty? 1736**
Dana Lycans, Ali Oliashirazi
- 154 Mid-Flexion Instability After Total Knee Arthroplasty, 1740**
Jan Victor, Thomas Luyckx
- 155 Correction of Fixed Deformities With Total Knee Arthroplasty, 1750**
Andrea Baldini, Giovanni Balato, Alfredo Lamberti
- 156 Correction of Deformities With Total Knee Arthroplasty: An Asian Approach, 1761**
Shuichi Matsuda, Shinichi Kuriyama
- 157 Pressure Sensors and Soft Tissue Balancing, 1766**
Patrick A. Meere
- 158 The Clinical Effectiveness of Custom-Made Guides for Total Knee Arthroplasty, 1770**
Emmanuel Thienpont

- 159 Computer Navigation in Primary Total Knee Arthroplasty, 1775**
James Brown Stiehl
- 160 Kinetically Aligned Total Knee Arthroplasty, 1784**
Stephen M. Howell, Maury L. Hull, Mohamed R. Mahfouz
- 161 Computer-Assisted Navigation: Minimally Invasive Surgery for Total Knee Replacement, 1797**
David R. Lionberger
- 162 Robotics in Total Knee Arthroplasty: Development, Outcomes, and Current Techniques, 1806**
William L. Bargar, Nathan A. Netravali
- 163 Robotic Unicompartmental Knee Arthroplasty, 1813**
Aaron Althaus, William J. Long, Jonathan M. Vigdorichik
- 164 Management of Extra-Articular Deformity in Total Knee Arthroplasty With Navigation, 1818**
Clint Wooten, J. Bohannon Mason
- 165 Computer-Assisted Total Knee Arthroplasty for Extramedullary Deformity, 1827**
Peter Pyrko, Matthew S. Austin
- 166 Impact of the Cavus Foot and Ankle on the Painful Knee, 1837**
Michael P. Clare
- 167 Flat Foot and Its Effect on the Knee, 1844**
Justin Greisberg
- 168 The Impact of the Foot and Ankle on Total Knee Replacement, 1848**
Craig S. Radnay

SECTION XIIB Revision and Complex Knee Arthroplasty

- 169 Complications of Total Knee Arthroplasty, 1858**
Saurabh Khakharia, Michael P. Nett, Christopher A. Hajnik, Giles R. Scuderi
- 170 Extensile Exposures for Revision Total Knee Replacement, 1884**
Nicholas J. Lash, Donald S. Garbuz, Bassam A. Masri
- 171 Revision of Aseptic Failed Total Knee Arthroplasty, 1897**
Michael P. Nett, Giles R. Scuderi
- 172 The Infected Total Knee Replacement, 1916**
Erik P. Severson, Kevin I. Perry, Arlen D. Hanssen
- 173 Instability in Total Knee Arthroplasty, 1927**
James A. Browne, Sebastien Parratte, Mark W. Pagnano
- 174 Management of Bone Defects in Revision Total Knee Arthroplasty: Augments, Structural and Impaction Graft, and Cones, 1936**
R. Michael Meneghini, Arlen D. Hanssen
- 175 Patellar Revision, 1946**
James A. Browne, Mark W. Pagnano
- 176 Patellar Fractures in Total Knee Arthroplasty, 1953**
Daniel J. Berry
- 177 Extensor Mechanism Disruption After Total Knee Arthroplasty, 1959**
Matthew P. Abdel, Kelly L. Scott, Arlen D. Hanssen

SECTION XIII Total Knee Arthroplasty Perioperative Management Issues

- 178 Obesity: Risks of Intervention, Benefits of Optimization, 1968**
William A. Jiranek, Andrew Waligora, Shane Hess, Gregory Golladay

- 179 Pain Catastrophizers: A Subgroup at Risk for Poor Outcome After Total Knee Arthroplasty, 1972**
John J. Mercuri, Daniel L. Riddle, James D. Slover
- 180 Medical Optimization of Patients With Atherosclerotic Cardiovascular Disease and Cardiovascular Risk Factors, 1979**
Nathaniel R. Smilowitz, Jeffrey S. Berger
- 181 Decreasing the Risk of Surgical Site Infections Following Total Knee Arthroplasty, 1983**
Joseph A. Bosco III, Jarrett D. Williams
- 182 Effects of Prehabilitation, Falls, and Musculoskeletal Comorbidity on Total Knee Arthroplasty Outcomes, 1988**
Daniel L. Riddle
- 183 Intra-articular and Periarticular Injections, 1995**
Nima Eftekhary, Jonathan M. Vigdorichik
- 184 Techniques and Eligibility for Same Day/Next Day Discharge of Total Knee Arthroplasty, 2001**
David A. Crawford, Keith R. Berend, Adolph V. Lombardi
- 185 Pain Management After Total Knee Arthroplasty Patients Leave the Hospital, 2007**
Adam C. Young, Craig J. Della Valle, Asokumar Buvanendran

PART I Hospital Management of TKA Patients

- 186 Continuous Passive Motion: Pros and Cons, 2014**
Edward M. DelSole, Claudette Lajam, Parthiv A. Rathod, Ajit J. Deshmukh
- 187 Cryotherapy After Total Knee Arthroplasty, 2018**
Edward M. DelSole, Vinay K. Aggarwal, Parthiv A. Rathod, Ajit J. Deshmukh
- 188 Immediate Motion versus Splinting After Total Knee Arthroplasty, 2020**
Edward M. DelSole, David P. Taormina, Claudette Lajam, Ajit J. Deshmukh
- 189 Internet-Based versus In-Person Physical Therapy After Total Knee Arthroplasty, 2022**
Vincent M. Moretti, Nayoung Kim, Peter F. Sharkey
- 190 Venous Thromboembolic Disease: Etiology and Risk Factors After Total Knee Arthroplasty, 2025**
Vincent D. Pellegrini, Jr.
- 191 ACCP, SCIP, and AAOS Guidelines for Venous Thromboembolism Prophylaxis After Total Knee Arthroplasty, 2030**
Paul F. Lachiewicz
- 192 Aspirin and Sequential Pneumatic Compression Devices: Strengths and Limitations, 2034**
Javad Parvizi, Timothy Lang Tan
- 193 Venous Thromboembolic Disease Stratification of Risk: Who Needs Aggressive Anticoagulation, 2038**
Cory Messerschmidt, Seth Bowman, Jonathan Katz, Richard J. Friedman
- 194 Bleeding and Infection Risk With Aggressive Anticoagulation: How to Minimize Suboptimal Outcomes, 2044**
Charles L. Nelson, John M. Hardcastle

PART II Economics, Quality, and Payment Paradigms for Total Knee Arthroplasty

- 195 Total Joint Arthroplasty—Historical Perspective: Declining, Reimbursement, Rising Costs, 2049**
Amun Makani, William L. Healy

CONTENTS

- 196 Payment Paradigms, 2053**
Shaleen Vira, Jay Patel, Adam Rana
- 197 Physician-Hospital Partnerships, 2057**
*Mark Pinto, Paul Woods, Gary Lawera,
Dawn Pedinelli, Mark Froimson*
- 198 Value-Based Purchasing, 2062**
Lorraine H. Hutzler, Joseph A. Bosco III
- 199 Quality Measures and Payment for Total Knee Replacement, 2068**
Brian J. McGrory, David A. Halsey
- SECTION XIV Tumors About the Knee**
- 200 Evaluation of the Patient With a Bone Lesion About the Knee, 2079**
Ginger E. Holt, Robert J. Wilson II
- 201 Surgical Treatment of Benign Bone Lesions, 2085**
Matthew G. Cable, Nicholas P. Webber, R. Lor Randall
- 202 Surgical Management of Malignant Bone Tumors Around the Knee, 2096**
Michael D. Neel
- 203 Allograft Prosthetic Composite Reconstruction of the Knee, 2102**
Christopher P. Beauchamp, Ian D. Dickey
- 204 Megaprotheses for Reconstruction Following Tumor Resection About the Knee, 2110**
Dieter Lindskog, Mary I. O'Connor
- 205 Metastatic Disease About the Knee: Evaluation and Surgical Treatment, 2116**
Timothy A. Damron
- 206 Soft Tissue Tumors of the Knee, 2128**
Kimberly Templeton
- 207 Common Pitfalls in Tumors About the Knee: How to Recognize and Avoid, 2139**
Courtney E. Sherman, Mary I. O'Connor