# Table of Contents

**Ch. 1. Basic Science and Injury of Muscle, Tendon, and Ligaments**

**Sect. A. Muscle and Tendon**
- Thomas M. Best, Donald T. Kirkendall, Louis C. Almekinders, William E. Garrett, Jr.

**Sect. B. Ligaments**
- Joseph A. Buckwalter, Savio L.-Y. Woo

**Sect. C. Effects of Medications in Sports Injuries at the Tissue Level**
- Joseph A. Buckwalter, Savio L.-Y. Woo

**Sect. D. Sports Medicine Terminology**
- Dean C. Taylor, Robert A. Arciero

**Ch. 2. Basic Science and Injury of Articular Cartilage, Menisci, and Bone**

**Sect. A. Articular Cartilage**
- Joseph A. Buckwalter, Van C. Mow

**Sect. B. Meniscus**
- Joseph A. Buckwalter, Van C. Mow

**Sect. C. Bone**
- Mark R. Brinker

**Ch. 3. The Effects of Medications in Sports Injuries**

- David M. Gloystein, Martin J. Gillespie, Robert C. Schenck, Jr.

**Ch. 4. Biomechanics**
- John E. Novotny, Bruce D. Beynnon

**Ch. 5. Research Design and Statistics in Sports Medicine**
- Carl G. Mattacola, Darren L. Johnson

**Ch. 6. Surgical Principles**

**Sect. A. Suture Materials**
- Alberto G. Schneeberger, Christian Gerber

**Sect. B. Construction and Fixation of a Tendon Anterior Cruciate Ligament Graft**
- Stephen M. Howell, L. M. Hull, Kazunori Yasuda

**Sect. C. Suture Anchors**
- F. Alan Barber, Morley A. Herbert

**Sect. D. Biodegradable Materials**
- Tim Bollom, Keith Meister

**Sect. E. Allograft Tissues**
- Brad E. Brautigan, Darren L. Johnson, David M. Caborn, Rudy Robbe

**Sect. F. Thermal Modification of Connective Tissue: Basic Science Considerations**
- John L. Andary, Steven P. Amosczy

**Sect. G. Basic Arthroscopic Principles**
- Mark D. Miller

**Sect. H. Arthroscopic Knot Tying**
- John Antoniou, Richard Rosencwaig, Douglas T. Harryman II

**Sect. I. Use and Abuse of the Pneumatic Tourniquet**
- Robert A. Pedowitz

**Ch. 7. Risk Assessment and Management of Nonorthopaedic Conditions**

**Sect. A. Viral Disease**
- John H. Wilckens, John E. Glorioso, Jr.

**Sect. B. Paired Organ Loss**
- Jorge E. Gomez

**Sect. C. Hypertension and Other Cardiac Disease in Athletes**
- Kenneth M. Leclerc

**Sect. D. Athletes and Sudden Cardiac Death**
- James S. Dunnick

**Sect. E. Diabetes Mellitus**
- Blaise A. Nemeth, David B. Allen

**Sect. F. Exercise-Induced Asthma**
- Nizar N. Jarjour, Robert F. Lemanske, Jr.

**Sect. G. Sports and Epilepsy**
Ch. 8. Rehabilitation
Sect. A. The Language of Exercise and Rehabilitation
  John D. Child, James J. Irrgang
Sect. B. Open and Closed Chain Exercises (Non-Weight-Bearing and Weight-Bearing Exercises)
  Russell M. Paine, Ron M. Johnson
Sect. C. Therapeutic Modalities
  Electrical Stimulation
    W. Ben Kibler, Keith Deurler
  Application of Cold
    William A. Grana
  Application of Heat
    W. Ben Kibler, Keith Deurler
  Exercise Modalities: Cycle Ergometry, StairMaster, Elliptical Fitness Trainer, Slideboard, Elastic Resistance
    Ron M. Johnson, Russell M. Paine
  Continuous Passive Motion
    Thomas C. Turturro
  Stretching
    Robert Anderson, Edmund R. Burke
  Role of Proprioception in Functional Joint Stability
    Scott M. LeClair, Joseph B. Myers, Bryan L. Riemann
  Functional Training Progressions for the Prevention of Anterior Cruciate Ligament Injuries in Female Athletes
    Christine M. Bonci, DeAnn Koepler, Lisa D. Lowe

Ch. 9. Complex Regional Pain Syndromes Including Reflex Sympathetic Dystrophy and Causalgia
  Sacheen H. Mehta, Thomas N. Lindenfeld

Ch. 10. Nutrition for Sports
  Leslie Bonci

Ch. 11. Sports Pharmacology
  Sect. A. Ergogenic Drugs in Sports
    Edward R. McDevitt
  Sect. B. Recreational Drug Use in Athletes
    Gary A. Green

Ch. 12. Sports Psychology and Injured Athletes
  William D. Parham

Ch. 13. The Female Athlete
  Letha Y. Griffin

Ch. 14. The Orthopaedically Disabled Athlete
  Frank A. Gottschalk

Ch. 15. Environmental Stress
  Sect. A. Heat Intolerance
    M. Alan Hinton
  Sect. B. Cold Injury
    Edward G. Hixson
  Sect. C. Altitude Stress
    Edward G. Hixson

Ch. 16. Imaging Techniques
  Sect. A. Imaging of Sports-Related Injuries
    Timothy G. Sanders, Chris Fults-Ganey
  Sect. B. Differences between the Immature and Mature Skeleton
    George W. Gross

Ch. 17. Special Considerations in the Pediatric and Adolescent Athlete
  Sect. A. Exercise Physiology
    Frank A. Kulling
  Sect. B. Sports and the Neurodevelopment of the Child and Adolescent
    Helen D. Pratt, Dilip R. Patel, Donald F. Greydanus
  Sect. C. Preparticipation Evaluation of the Young Athlete
    Keith L. Stanley
  Sect. D. The Child Athlete with Chronic Disease
    Charles T. Morton
  Sect. E. The Disabled Pediatric Athlete
    Frank M. Chang
  Sect. F. Psychological Aspects of Sports in Children and Adolescents
    William P. Elsass, Ilaina M. Wingler
  Sect. G. Overuse Injuries in the Skeletally Immature Athlete
    Carl L. Stanitski
  Sect. H. Physeal Injuries in Young Athletes
    Daniel C. Wascher, Enrico J. Stazzone, Gerald A. M. Finerman
  Sect. I. Strength Training in Children and Adolescents
Bettina M. Gyr

Ch. 18. The Team Physician: The Preparticipation Examination and On-Field Emergencies
Christopher C. Madden, W. Michael Walsh, Morris B. Mellion

Ch. 19. Head Injuries

Sect. A. Head Injuries in Adults
Robert C. Cantu

Sect. B. Pediatric Sports-Related Head Injuries
Kevin L. Stevenson, P. David Adelson

Ch. 20. Cervical Spine

Sect. A. Cervical Spine Injuries in the Adult
Joseph S. Torg

Sect. B. The Cervical Spine in the Child
Peter D. Pizzutillo

Ch. 21. Shoulder

Sect. A. Functional Anatomy and Biomechanics of the Shoulder
Functional Anatomy and Biomechanics of the Adult Shoulder
Patrick J. McMahon, James E. Tibone, Marilyn M. Pink
Anatomy, Biomechanics, and Kinesiology of the Child’s Shoulder
Ralph J. Curtis, Jr.

Sect. B. Imaging of the Glenohumeral Joint
Timothy G. Sanders

Sect. C. Injuries to the Acromioclavicular Joint in Adults and Children
Augustus D. Mazzocca, Robert Sellards, Ralph Garretson, Anthony A. Romeo

Sect. D. Injuries to the Sternoclavicular Joint in the Adult and Child
Michael A. Wirth, Charles A. Rockwood, Jr.

Sect. E. Clavicle Fractures
Clavicle Fractures in Adult Athletes
Carl J. Basamania

Clavicle Injuries in the Pediatric and Adolescent Athlete
Edmund G. Witkowski, Carl J. Basamania

Sect. F. Glenoid and Scapula Fractures in Adults and Children
Allen Deutsch, Gerald R. Williams

Sect. G. Fractures of the Coracoid in Adults and Children
Allen Deutsch, Gerald R. Williams

Sect. H. Scapulothoracic Crepitus and Bursitis in Athletes
John E. Kuhn

Sect. I. Sternum and Rib Fractures in Adults and Children
Augustus D. Mazzocca, Ralph Garretson, Anthony A. Romeo

Sect. J. Glenohumeral Instabilities
Glenohumeral Instability in Adults
Marianne Backer, Russell F. Warren
Glenohumeral Instabilities in the Child
Ralph J. Curtis, Jr.

Sect. K. Superior Labral Injuries
Mark W. Maffet, Walter R. Lowe

Sect. L. Rotator Cuff and Impingement Lesions in Adult and Adolescent Athletes
Sumant G. Krishnan, Richard J. Hawkins

Sect. M. Injuries of the Proximal Humerus
Injuries of the Proximal Humerus in Adults
Dan Guttmann, Chang-Hyuk Choi, Frances Cuomo
Fractures of the Proximal Humerus in the Child
Kaye E. Wilkins

Sect. N. Nerve Lesions of the Shoulder
Kenneth P. Butters, Kenneth M. Singer

Sect. O. Thoracic Outlet Syndrome
Karim Abdollahi, Virchel E. Wood

Ch. 22. Arm

Sect. A. Soft Tissue Injury and Fractures
Soft Tissue Injury and Fractures of the Arm in the Adult
James B. Bennett, Thomas L. Mehlhoff
Fractures and Soft Tissue Injuries of the Arm in the Child
Kaye E. Wilkins

Sect. B. Neurovascular Injury of the Arm
James B. Bennett, Thomas L. Mehlhoff

Ch. 23. Elbow and Forearm

Sect. A. Biomechanics of the Elbow and Forearm
Bernard F. Morey

Sect. B. Tendinopathies about the Elbow
Acute Dislocation of the Patella in the Adult
Lee H. Diehl, William E. Garrett, Jr.
Recurrent Dislocation of the Knee in the Adult
W. Michael Walsh
Patellar Instability in the Skeletally Immature Patient
Carl L. Stanitski
Patellar Fractures in the Adult
Craig R. Bottoni, Dean C. Taylor, Robert A. Arciero
Acute Tibial Tubercle Avulsion Fractures in the Skeletally Immature Patient
Carl L. Stanitski
Anterior Knee Pain and Patellar Subluxation in the Adult
Peter C. Theut, John P. Fulkerson
Patellofemoral Mechanism
Carl L. Stanitski
Patellofemoral Tendinopathy
Jon Hyman, Scott A. Rodeo, Thomas Wickiewicz
Knee Extensor Mechanism Injuries in Athletes
Craig R. Bottoni, Dean C. Taylor, Robert A. Arciero
Peripatellar Pathology
David C. Neuschwander
Sect. F. Articular Cartilage Lesions and Osteochondritis Dissecans
Articular Cartilage Lesions and Osteochondritis Dissecans of the Knee in the Adult
C. Thomas Vangsness, Jr.
Articular Cartilage Lesions and Osteochondritis Dissecans of the Knee in the Skeletally Immature Patient
Carl L. Stanitski
Sect. G. High Tibial Osteotomy in the Anterior Cruciate Ligament-Deficient Knee with Varus Alignment
Frank R. Noyes, Sue D. Barber-Westin, Richard Simon
Sect. H. Medial Ligament Injuries
Medial Ligament Injuries in the Adult
Peter A. Indelicato, Russell C. Linton
Medial Ligament Injuries in Children
Mark A. Erickson, Gregory A. Schmale
Sect. I. Lateral and Posterior Instabilities of the Knee
Lateral and Postolateral Instability of the Knee in Adults
Roger V. Larson, Edwin Tingstad
Lateral and Posterior Injuries of the Knee in Children
Mark A. Erickson, Gregory A. Schmale
Sect. J. Anterior Cruciate Ligament Injuries
Anterior Cruciate Ligament Reconstruction in the Adult
Michael J. D'Amato, Bernard R. Bach, Jr.
Anterior Cruciate Ligament Injuries in the Child
Peter J. Fowler
Sect. K. Posterior Cruciate Ligament Injuries
Posterior Cruciate Ligament Injuries in the Adult
J. Robert Giffin, Christopher C. Annunziata, Christopher D. Hamer
Posterior Cruciate Ligament Injuries in the Child
J. Robert Giffin, Christopher C. Annunziata, Christopher D. Hamer
Sect. L. The Multiple Ligament-injured Knee
Gregory C. Fanelli, Daniel D. Feldmann, Craig J. Edson, David Maish
Sect. M. The Use of Knee Braces in Sports Medicine
Andrew Brown, John P. Albright
Sect. N. Knee Replacement in the Recreational Athlete
Henry D. Clarke, W. Norman Scott
Ch. 29. The Leg
Jack T. Andrish
Ch. 30. Foot and Ankle
Sect. A. Biomechanics of the Foot and Ankle Linkage
Roger A. Mann
Sect. B. Imaging of Sports Injuries of the Foot and Ankle
Douglas K. Smith, James S. Gilley
Sect. C. Etiology of Injury to the Foot and Ankle
Thomas O. Clanton, Robert M. Wood
Sect. D. Sports Shoes and Orthoses
Andrew H. Borom, Thomas O. Clanton
Sect. E. Ligament Injuries of the Foot and Ankle
Ligament Injuries of the Foot and Ankle in Adult Athletes
Mark M. Casillas
Ligament Injuries of the Foot/Ankle in the Pediatric Athlete
J. Andy Sullivan

**Sect. F.** Stress Fractures of the Foot and Ankle
James W. Brodsky, John O. Krause

**Sect. G.** Tendon Injuries of the Foot and Ankle
James S. Keene

**Sect. H.** Heel Pain
Keith L. Wapner, Luke Bordelon

**Sect. I.** Entrapment Neuropathies of the Foot
Roger A. Mann

**Sect. J.** Conditions of the Forefoot
Michael J. Caughlin

**Sect. K.** Osteochondroses and Related Problems of the Foot and Ankle
S. Terry Canale

Index