Contents

Part I Editor’s Experience

1 PCL-Based Multiple Ligament Knee Injuries: What I Have Learned ............................................................. 3
Gregory C. Fanelli

Part II Anatomy and Biomechanics

2 Anatomy and Biomechanics of the Cruciate Ligaments and Their Surgical Implications ............................. 17
Christopher Kweon, Evan S. Lederman, and Anikar Chhabra

3 Anatomy and Biomechanics of the Lateral and Medial Sides of the Knee and the Surgical Implications ............................................................................................................................... 29
Andrew G. Geeslin and Robert F. LaPrade

Part III Diagnosis and Evaluation of the Multiple Ligament Injured

4 Initial Assessment in the Acute and Chronic Multiple-Ligament-Injured Knee............................................. 51
Christopher Peskun and Daniel B. Whelan

5 Classification of Knee Dislocations and the Surgical Implications .......................................................... 63

6 Instrumented Measurement of the Multiple-Ligament-Injured Knee: Arthrometry, Stress Radiography, Rotationometry, and Computer Navigation ................................................ 71
Sasha Carsen and Donald Johnson

7 MRI Imaging in the Multiple-Ligament-Injured Knee ...................................................................................... 83
W. James Malone, Faiz I. Syed, and Peter R. Bolos

Part IV Non-Surgical Treatment

8 Nonoperative Treatment of the Dislocated Knee .................................................................................. 107
John David Beck, Kaan Irgit, and John T. Riehl

Part V Surgical Treatment of the Multiple Ligament Injured Knee

9 Graft Selection in Multiple Ligament Injured Knee Surgery ........................................................................ 115
Thomas J. Kremen and David R. McAllister

Part VI Surgical Treatment of the ACL-Based Multiple Ligament Injured Knee

10 Surgical Treatment of Combined ACL and Medial-Sided Knee Injuries: Acute and Chronic ...................... 131
Michael J. Medvecky
11 Surgical Treatment of Combined ACL and Lateral Side Injuries: Acute and Chronic ........................................... 147
Julienne Lippe and Robert A. Arciero

12 Surgical Treatment of Combined ACL Medial and Lateral Side Injuries: Acute and Chronic .......................... 165
Bradley R. Wasserman and Robin V. West

13 Revision ACL-Based Multiple Ligament Knee Surgery ................................................................. 177
Seth A. Cheatham and Darren L. Johnson

Part VII Surgical Treatment of the PCL-Based Multiple Ligament Injured Knee

14 Arthroscopic Primary Cruciate Repair in the Multiligament Injured Knee ................................................. 193
Micah Lissy, Christopher J. Dy, Anil S. Ranawat, and Gregory S. DiFelice

15 Surgical Treatment of Combined PCL/Lateral-Sided Injuries: Acute and Chronic .................................. 211
M. Mustafa Gomberawalla and Jon K. Sekiya

16 Surgical Treatment of Combined PCL Medial Side Injuries: Acute and Chronic .................................... 227
Jeffrey M. Tuman and Mark D. Miller

17 Surgical Treatment of Combined PCL Medial and Lateral Side Injuries: Acute and Chronic .................... 239
James P. Stannard and Hyun Min Mike Kim

18 ACL, PCL, and Medial-Sided Injuries of the Knee ................................................................................. 255
Bruce A. Levy and Michael J. Stuart

19 Surgical Management of ACL, PCL, and Lateral-Sided Injuries: Acute and Chronic ......................... 267
Jonathan P. Marsh and Peter B. MacDonald

20 Surgical Treatment of Combined PCL-ACL Medial and Lateral Side Injuries (Global Laxity):
Acute and Chronic ......................................................................................................................... 281
Gregory C. Fanelli

21 Revision Surgery in the Posterior Cruciate Ligament and Multiple Ligament Injured Knee .................. 303
Christopher D. Harner and Timothy L. Miller

Part VIII Other Considerations

22 Mechanical Graft Tensioning in Multiple Ligament Knee Surgery ......................................................... 323
Gregory C. Fanelli

23 Management of Arterial and Venous Injuries in the Dislocated Knee .................................................... 331
John L. Gray and Matt Cindric

24 Drop Foot After Knee Dislocation: Evaluation and Treatment .............................................................. 343
Gerard J. Cush, Patrick J. Maloney, and Kaan Irgit

25 The Role of Osteotomy ......................................................................................................................... 355
Claude T. Moorman III and Katherine J. Coyner

26 Management of Chronic Tibial Subluxation in the Multiple-Ligament Injured Knee ......................... 361
Travis G. Maak and Thomas L. Wickiewicz

27 Fracture-dislocations: Evaluation and Treatment .................................................................................... 371
Andrew L. Merritt, Kyle F. Chun, and Christopher J. Wahl

28 Articular Cartilage Restoration in the Multiple Ligament Injured Knee ................................................. 387
Kevin F. Bonner and Carly Rachel Noel
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>Meniscus Transplant in the Multiple Ligament Injured Knee</td>
<td>401</td>
</tr>
<tr>
<td></td>
<td>LTC Steven J. Svoboda, Travis C. Burns, Jeffrey R. Giuliani, and LTC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brett D. Owens</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Extensor Mechanism Injury in Multiple Ligament Injured Knee</td>
<td>421</td>
</tr>
<tr>
<td></td>
<td>Laura Scordino and Thomas M. DeBerardino</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Brace Considerations in PCL Instability and the Multiple Ligament</td>
<td>429</td>
</tr>
<tr>
<td></td>
<td>Injured Knee</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Andrew A.R. Lehman and Bruce Williams</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Postoperative Rehabilitation of the Multiple Ligament Injured Knee</td>
<td>437</td>
</tr>
<tr>
<td></td>
<td>Craig J. Edson and Gregory C. Fanelli</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Complications Associated with the Treatment of the Multiple</td>
<td>443</td>
</tr>
<tr>
<td></td>
<td>Ligament Injured Knee</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Toribio T. Natividad and Daniel C. Wascher</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Part IX  Outcomes Data</strong></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Results of Treatment of the Multiple-Ligament-Injured Knee</td>
<td>453</td>
</tr>
<tr>
<td></td>
<td>Sommer Hammoud, Moira McCarthy, and Robert G. Marx</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Part X  Clinical Case Studies</strong></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Selected Case Studies in the Treatment of the Multiple-Ligament</td>
<td>463</td>
</tr>
<tr>
<td></td>
<td>Injured Knee</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gregory C. Fanelli</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Index</strong></td>
<td>471</td>
</tr>
</tbody>
</table>
The Multiple Ligament Injured Knee
A Practical Guide to Management
Fanelli, G.C. (Ed.)
2013, XVII, 478 p., Hardcover