

Contents

Section 1: Background

1. Neurophysiology of the Spinal Cord, 1
Vera Staley and George Marzloff
2. Neuroanatomy, 9
Krysten Kasting and Stephanie Cowherd Ryder
3. Epidemiology, Risk Factors, and Genetics, 19
Scott Schubert and Christina Draganich
4. Prevention of Spinal Cord Injury, 29
Jacob Jeffers and David Coons
5. Clinical and Basic Research, 33
Jed E. Olson and Jennifer Wahl

Section 2: Acute Injury Assessment and Care

6. Prehospital Evaluation and Management, 41
Allison Kessler and Stephanie Hendrick
7. Neurological Assessment and Classification, 47
Andrea T. Aguirre and Venessa A. Lee
8. Neuroimaging, 51
Heather Asthagiri and Justin Tu
9. Electrodiagnostics in Spinal Cord Injury, 57
Lindsay A. Smith, Derek Bui, David R. Schulze, Ryan A. Smith, and Anne Nastasi
10. Functional Assessments, 63
Justin Foley, Nicholas Gavern, Justin Provo, Elizabeth York, Andrea T. Aguirre, and Venessa A. Lee
11. Outcomes After Traumatic Spinal Cord Injury, 71
Brittany Snider, Einat Engel-Haber, and Steven Kirshblum

Section 3: Medical Management

12. Cardiovascular Issues in Spinal Cord Injury: Neurogenic Shock, Spinal Shock, and Orthostatic Hypotension, 77
William Carter
13. Autonomic Dysreflexia, 83
William McKinley
14. Pulmonary Issues After Spinal Cord Injury, 89
Teodoro Castillo
15. Sleep Disorders in Individuals With Spinal Cord Injury, 101
Oksana Witt and Teodoro Castillo
16. Thromboembolism/Deep Vein Thrombosis, 109
Audrey Leung and Hetal Patel
17. Neurogenic Bowel, 115
Lance L. Goetz
18. Dysphagia and Common GI Issues After SCI, 123
Stacy Gross, Katelyn Barley, and Keith Burau
19. Neurogenic Bladder, 131
Rajbir Chaggar and Lance L. Goetz

20. Urological Conditions in Persons With Spinal Cord Injury, 139
William R. Visser, Shira Lanyi, Adam P. Klausner, and Sarah C. Krzastek
21. Sexuality and Reproduction After Spinal Cord Injury, 147
Jennifer Weekes
22. Women's Health After Spinal Cord Injury, 153
Jennifer Weekes
23. Musculoskeletal Disorders, 157
Deborah Caruso
24. Heterotopic Ossification, 163
Audrey Chun
25. Spine Fractures, Dislocations, and Instability, 169
Ricky Placide and Alden Newcomb
26. Spine Complications, 177
Kevin Forster and Lance L. Goetz
27. Spinal Orthoses, 181
Jeffrey Tubbs
28. Posttraumatic Syringomyelia, 189
Lance L. Goetz
29. Spasticity, 195
Sean McAvoy and Derrick Miller
30. Thermoregulation and Sweating, 209
Brittini Micham
31. Traumatic Brain Injury and Spinal Cord Injury, 211
David H. Glazer and Daniel Krasna
32. Neuromodulatory and Disease-Modifying Agents, 217
William McKinley and Steven Peretiatko
33. Pressure Ulcers/Injuries: Prevention, Treatment, and Management, 223
Linda R. Droste and Jean W. McCauley
34. Nutritional and Body Composition Assessments After Spinal Cord Injury, 233
Milissa L. Janisko, David R. Dolbow, and Ashraf S. Gorgey
35. Endocrine/Metabolic, 239
Tommy Sutor, Jacob Goldsmith, and Ashraf S. Gorgey
36. Infections With Spinal Cord Injury, 247
Kyle Jisa and William Carter
37. Evaluation and Management of Pain After Spinal Cord Injury, 251
Robert J. Trainer and Denise D. Lester
38. Psychological Aspects of Spinal Cord Injury, 259
Caitlin P. Campbell and Brian Mutcher

Motor Information

Signaling from the cortex to the periphery for muscle activation involves a series of motor neurons. Upper

Section 4: Myelopathy

- 39. Traumatic Myelopathy, 265
Lavina Jethani, Mahmut T. Kaner, and Isaac Hernandez Jimenez
- 40. Nontraumatic Myelopathies, 277
Joanne M. Delgado-Lebron, Eduardo Nadal-Ortiz, and Andres Gutierrez
- 41. Myelopathy Without Specified Etiology, 287
Mara C. Harris, Blake Fechtel, and Camilo Castillo

Section 5: Long-Term Management and Outcomes

- 42. Healthcare Maintenance for Patients With Spinal Cord Injuries/Disorders: Primary, Preventive, and Promotive Care, 293
Mohammed B.A. Bhuiyan, Lisa A. Beck, James Milligan, Cody Unser, and Philippines Cabahug
- 43. Spinal Cord Injury and Aging, 301
Michael Ray Ortiz

- 44. Exercise and Modalities, 309
Ricky Hawkins
- 45. Functional Mobility Following Spinal Cord Injury, 313
Cory Wernimont and Julie Mannlein
- 46. Activities of Daily Living, 323
Kathryn Beckner, Karen DeMarco, and Heather Kloepping
- 47. Communication and Spinal Cord Injury, 329
Katelyn Barley and Stacy Gross
- 48. Participation/Living With Spinal Cord Injury, 333
Katharine Tam
- 49. Rehabilitation Team, 339
Ellia Ciammaichella
- Answers to Review Questions, 345
- Index, 361