

Contributors, vii
Preface, xv

SECTION I Foundations for Clinical Practice in Neurological Rehabilitation

- 1 Foundations of Clinical Practice, 1**
Rolando T. Lazaro, Myla U. Quiben, and Sandra G. Reina-Guerra
- 2 Movement Analysis Across the Life-Span, 15**
Dale Scalise-Smith and Darcy A. Umphred
- 3 Contemporary Issues and Theories of Motor Control, Motor Learning, and Neuroplasticity, 51**
Margaret L. Roller, Susan V. Duff, Darcy A. Umphred, and Nancy N. Byl
- 4 The Limbic Network: Influence Over Motor Control, Memory, and Learning, 75**
Marcia Hall Thompson and Darcy A. Umphred
- 5 Psychosocial Aspects of Adaptation and Adjustment During Various Phases of Neurological Disability, 116**
Rochelle McLaughlin and Janet A. Hiley
- 6 Differential Diagnosis of the Patient With a Neurological Condition, 139**
John D. Heick and Rolando T. Lazaro
- 7 Examination and Evaluation of Functional Movement Activities, Body Functions and Structures, and Participation, 156**
Deborah S. Diaz
- 8 Interventions for Individuals With Movement Limitations, 174**
Rolando T. Lazaro, Myla U. Quiben, and Sandra G. Reina-Guerra

SECTION II Physical Rehabilitation Management of Individuals With Neurological System Pathologies

- 9 Medical and Developmental Challenges of Infants in Neonatal Intensive Care: Management and Follow-Up Considerations, 205**
Jane K. Sweeney, Teresa Gutierrez, and Joanna C. Beachy
- 10 Management of Clinical Problems of Children With Cerebral Palsy, 246**
Claudia R. Senesac and Rachel McAhren
- 11 Genetic Disorders: A Pediatric Perspective, 285**
Sandra G. Reina-Guerra and Eunice Yu Chiu Shen
- 12 Learning Disabilities and Developmental Coordination Disorder, 321**
Lenin C. Grajo, Julia Guzman, Stacey E. Szklut, and Darbi Breath Philibert
- 13 Spina Bifida: A Neural Tube Defect, 352**
Yasser Salem and Ellen M. Godwin
- 14 Traumatic Spinal Cord Injury, 393**
Myrtice B. Atrice, Paula M. Ackerman, Kristen Webber, Elizabeth Pharo, Elizabeth Sasso-Lance, and Rebecca Hammad

- 15 Neuromuscular Diseases, 455**
Diane D. Allen
- 16 Beyond the Central Nervous System: Neurovascular Entrapment Syndromes, 502**
Bradley W. Stockert and William J. Garcia
- 17 Multiple Sclerosis, 515**
Gail L. Widener and Kristin Horn
- 18 Disorders of the Basal Nuclei, 532**
Erin Vestal, Angela Rusher, Kristin Ikeda, and Marsha Melnick
- 19 Cerebellar Dysfunction, 560**
Susanne M. Morton, Jennifer L. Keller, and Amy J. Bastian
- 20 Balance Dysfunction, 580**
Leslie K. Allison
- 21 Vestibular Dysfunction, 617**
Kenda Fuller
- 22 Traumatic Brain Injury, 641**
Doris Chong and Sheri Kiami
- 23 Concussion, 674**
Brian M. Moore
Nicole Miranda (Tests and Measures in Acute Concussion, Headaches, and Management of Cervical Spine Dysfunction), Heather Campbell (Management of Cervical Spine Dysfunction), and Lisa D'Angelo (Cognitive/Neuropsychological Dysfunction, Cognitive Assessment, and Rehabilitation)
- 24 Movement Dysfunction Associated With Hemiplegia, 723**
Susan D. Ryerson and Lauren F. Hurt
- 25 Brain Tumors, 762**
Corrie J. Stayner, Rachel M. Lopez, and Karla M. Tuzzolino
- 26 Inflammatory and Infectious Disorders of the Brain, 778**
Judith A. Dewane
- 27 Aging, Dementia, and Disorders of Cognition, 799**
Mark David Basco, Edward James Gorgon, Ronald Barredo, Osa Jackson Schulte, James Stephens, and Joyce Ann

SECTION III Neurological Disorders and Application Issues

- 28 Disorders of Vision and Visual-Perceptual Dysfunction, 824**
Domenique Hendershot Embrey and Laurie Ruth Chaikin
- 29 Cardiovascular and Pulmonary System Health in Populations with Neurological Disorders, 854**
Marilyn Mackay-Lyons and Emily Nguyen
- 30 Pain Management, 869**
Annie Burke-Doe
- 31 Electrophysiological Testing and Electrical Stimulation in Neurological Rehabilitation, 890**
Alain Claudel, Arvie Vitente, Miguel Garcia, Rosniel Marinas, and Rolando T. Lazaro
- 32 Orthotics: Evaluation, Intervention, and Prescription, 921**
Heidi Truman and Preeti Nair
- 33 Integrating Health Promotion and Wellness into Neurorehabilitation, 938**
Janet R. Bezner and Elissa C. Held Bradford

34 Human Immunodeficiency Virus Infection: Living With a Chronic Illness, 953

Kerri Sowers, Mary Lou Galantino, and David M. Kietrys

35 Aging With Chronic Nervous System Conditions and Impairments, 982

Myla U. Quiben

36 Impact of Drug Therapy on Patients Receiving Neurological Rehabilitation, 1009

Annie Burke-Doe and Timothy J. Smith

37 Use of Neuroimaging in Rehabilitation, 1023

Rolando T. Lazaro, Darcy A. Umphred, and Preeti Deshpande Oza

38 Integrating Technology in Neurological Rehabilitation, 1032

Jeric Uy, Sophie Lefmann, Laurie A. King, Martina Mancini, and Bradley W. Stockert

39 Complementary and Integrative Therapies: Beyond Traditional Approaches to Intervention in Neurological Diseases and Movement Disorders, 1060

Darcy A. Umphred and Mary Lou Galantino