Spinal Cord Injury in the Child and Young Adult

*Lawrence C. Vogel, Kathy Zebracki,
Randal R. Betz, M.J. Mulcahey, editors*

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Spinal Cord Injury in the Child and Young Adult is an engaging and comprehensive resource for health care professionals who work with the spinal-cord injury (SCI) population. The editors are clinician-scientists with expertise in paediatric SCI, and each chapter is written by one or more content experts (more than 60 in total). This volume makes a valuable contribution, as few books exist on the topic of paediatric SCI.

Chapter 1.1 introduces Bridget, a 21-year-old woman who sustained a non-traumatic SCI at age 14. As Bridget and her parents describe their experiences of living with SCI, we see that each family member has had their own challenges, triumphs, and coping strategies. A clinician who has worked with Bridget also weighs in on Bridget's experience. This is a very effective way to begin the book: the family's story illustrates the complex nature of paediatric SCI, including the transition into adulthood.

The book is divided into eight sections. Section 1 includes chapters on epidemiology (chapter 1.2), life-care planning (chapter 1.3), and assessment (chapter 1.4). Chapter 1.3 clearly outlines the components of a life-care plan to help clinicians identify the resources required over a lifetime with SCI. Chapter 1.4 addresses the challenge of assessing children under the age of 5 years and reviews appropriate measures for children with SCI, including some commonly administered by physical therapists.

Section 2 covers the early management of paediatric SCI, including chapters on pathophysiology (chapter 2.1), acute care (chapter 2.2), and management of spine stability (chapter 2.3). This section stresses the importance of early mobilization to prevent muscle atrophy, contractures, and skin breakdown, and exemplifies the role of physical therapy during this early stage. Section 3 discusses three issues unique to paediatric SCI: non-traumatic SCI (chapter 3.1); management of high tetraplegia (chapter 3.2); and dual diagnosis of brain injury and SCI (chapter 3.3), including a discussion of the unique rehabilitation challenges.

Section 4, the largest in the book, covers medical management of paediatric SCI. Chapters 4.1–4.7 provide current information on neurogenic bowel and bladder, spasticity, autonomic dysfunction, secondary medical complications, skin integrity, metabolic complications, and pain. Physical therapists will be particularly interested in Section 5, on neuromuscular management, which thoroughly discusses orthopaedic complications –

such as hip instability and neuromuscular scoliosis – prevalent in children who sustained the SCI at an early age. Chapter 5.3 addresses upper-extremity function and various management options, such as surgery, serial casting, and functional electrical stimulation.

Section 6 consists of two chapters on physical rehabilitation. Chapter 6.2 highlights the importance of mobility, defined here as “free movement in all settings” (p. 308), to a child's development of cognitive, social, and communication skills. As well as detailed tables outlining the strengths and limitations of different wheelchair designs, this chapter provides helpful examples of wheelchair prescription for two children with very different mobility needs.

Section 7, on psychosocial issues, covers topics such as psychosocial adjustment at various stages of development, participation in recreational activities, employment, and access to public education. In addition, the long-term outcomes of paediatric SCI are reported through the results of a US-based longitudinal study.

Section 8, which closes the volume, identifies current research priorities, including biological interventions, advances in imaging, and recovery-based rehabilitation. This last topic is especially relevant to physical therapists, as it addresses the ongoing paradigm shift from compensation to neuro-recovery in the context of locomotor training.

Most chapters use short case examples to effectively reinforce chapter content. Some are more detailed than others – for example, the chapter on pain (chapter 4.7) uses the case example not only to illustrate how pain may manifest in a child with SCI but also to discuss a management plan. These more detailed case examples were more satisfying to read and demonstrate how information provided in the chapter can be applied to clinical practice. A small number of illustrations are used throughout the book; a section of colour figures at the end supplements content on axonal regeneration, imaging, and pressure injuries.

Spinal Cord Injury in the Child and Young Adult is an excellent introduction to SCI, but discusses topics in sufficient depth that a clinician with expertise in SCI would also find it useful. The authors provide practical, evidence-based recommendations for assessment and treatment. I recommend this book for health care professionals who work with children with SCI and/or adults with paediatric-onset SCI; it will help physical therapists see the big picture of paediatric SCI care.

Kristin Musselman, PT, PhD
Scientist, Toronto Rehabilitation Institute – University
Health Network; Assistant Professor, Department
of Physical Therapy, University of Toronto; Adjunct
Professor, School of Physical Therapy, University of
Saskatchewan; kristin.musselman@uhn.ca.

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