While multiple sclerosis was once considered to be strictly an adult disease, its occurrence in pediatric populations has been clearly demonstrated over the past two decades. Diagnostic criteria were initially developed in 2007 and subsequently revised in 2013 to aid clinicians in diagnosing the condition and initiating disease-modifying therapy. While many patients present with classic features of multiple sclerosis, clinicians can struggle to reach a diagnosis if they have not encountered a pediatric patient with the disease. In addition, a unique spectrum of diseases affecting the white matter of the central nervous system in pediatric populations to include acute disseminated encephalomyelitis, neuromyelitis optica, inborn errors of metabolism, leukodystrophies, and vasculopathies can further broaden the considered differential diagnosis leading to an expansive and expensive workup that can overwhelm patients, families, and clinicians.

In 2006, the National Multiple Sclerosis Society recognized the inconsistencies in the management of patients with onset of multiple sclerosis under the age of 18 and the need for improved diagnosis and care. As a result, a national pediatric MS Network was created with an initial emphasis on promoting clinical care of patients with the disease and mimics thereof. Rapidly, the network recognized the critical need for more broadly sharing difficult cases so as to improve physician education and care of such patients in light of the limitations in and access to the global knowledge of these diseases.

In 2010, under the auspices of the US Pediatric Multiple Sclerosis Network, a monthly teleconference was initiated to discuss challenging or informative cases and to help clinicians benefit from each other’s experience and wisdom, as well as expose more junior physicians to the care of patients with CNS demyelinating disorders. These monthly calls would not exist without the tenacity of Dr. Jayne Ness and “our mother of all,” Deborah Hertz, who worked at the National MS Society, who, from the very beginning, has been the strongest advocate for children with MS and related disorders (http://www.usnpmsc.org).

Based upon these teleconferences, this book is the product of a collection of passionate care providers who work tirelessly together to improve diagnosis and treatment of young patients with demyelinating disorders of the central nervous system.
The range of clinical cases presented herein reflects years of observations and sharing, illustrating the challenges in the diagnosis and management of these disorders. We have carefully chosen a series of representative clinical cases ranging from typical multiple sclerosis, neuromyelitis optica, and acute disseminated encephalomyelitis to mimics of these disorders with the hope to fill a major gap in the care of such patients as most of these disorders are reasonably rare and challenging to diagnose and treat. We are deeply indebted to the many authors who have volunteered their time to put these chapters together, often working in teams. We dedicate this book to the improved care of children with rare (but not that infrequent) inflammatory disorders of the central nervous system.

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