To the good angels in my life, past and present, who lifted me on their wings and carried me through the storms.
The first edition of *Pediatric Neuro-Ophthalmology*, published in 1995, filled an important gap in the disciplines of pediatric ophthalmology, neuro-ophthalmology, and pediatric neurology. It was written in a clear and concise style, which made the volume valuable to the general ophthalmologist seeing children and the pediatric specialists. The book’s large audience, combined with its readability and inclusive contents, combined to make *Pediatric Neuro-Ophthalmology* such a success in its genre.

Almost 15 years have elapsed since the initial publication, and the growth of the body of knowledge of the developing visual system, sensory and motor, as well as the diseases associated with that sweeping cascade of events, is little short of astonishing. Hence, the need at this juncture for a revised second edition. This new edition is by no means a cursory glance backward at the published literature, as so many second editions of large, multi-authored books can be, but, rather, an in depth, concentrated and critical look at publications since. The author has fitted in the new pieces to update the text, photographs, and references where indicated. This new edition broadens our understanding not only on a phenomenological level but also by adding molecular and genetic mechanisms, insights from population genetics, epidemiology, and advances in other fields far from its domain it burnishes the insight and understanding of the reader.

*Pediatric Neuro-Ophthalmology* very much bear the unique touch of its author. A glance at chapter one, “The Apparently Blind Infant,” will clarify what I mean. The chapter is nearly twice as long, with greatly expanded references. Most importantly, this growth is packed with important new insights without slighting the older but still valid and important observations from the past. For example, the discovery of melanopsin, a bistable visual protein found not in rods or cones but in ganglion cells of the retina, is now known to contribute to our normal pupillary reaction to light. Its probable role in the peculiar paradoxical constriction to darkness is both noted and the connection made to congenital stationary night blindness and achromatopsia, along with other visual system conditions where pupil anomalies are found. These are the types of insights that make this book a delight for the novice as well as for the clinician experienced in the field.

In closing, I can but reprise my words from the first edition. “I see it as my responsibility to put this work in perspective for the reader- to-be”—be he novice or specialist, he or she will be rewarded with a truly unique text. “It is both a joy and privilege to write the Foreword again. I have learned immensely from the task.”

John T. Flynn, MD
Bolton Landing, Lake George, NY
Preface

Due to the generous representation of the afferent visual system within the brain, neurological disease may disrupt vision as a presenting symptom or as a secondary effect of the disease. Conversely, early developmental disturbances of vision often disrupt ocular motor control systems, giving rise to complex disorders such as nystagmus, strabismus, and torticollis. The signs and symptoms of neurological disease are elusive by their very nature, presenting a confounding diagnostic challenge. Neurological medications and neurosurgical treatments can produce neuro-ophthalmological dysfunction that can be difficult to distinguish from disease progression. Affected patients may experience substantial delays in diagnosis and are often subjected to extensive (and expensive) diagnostic testing. Scientific articles pertaining to specific disorders are scattered throughout medical subspecialty journals. These children continue to “fall through the cracks” of our medical education system. The increasing recognition that pediatric neuro-ophthalmology comprises a distinct set of diseases from those seen in adults has led to its emergence as a dedicated field of study.

Since the original publication of *Pediatric Neuro-Ophthalmology* nearly 14 years ago, interest in the field has burgeoned. Pediatric ophthalmology and pediatric neurology subspecialty conferences often include symposia dedicated to recent advances in pediatric neuro-ophthalmology. Technical advances in neuroimaging have given rise to a more integrated mechanistic classification of neuro-ophthalmological disease in children. Our understanding of neurodevelopmental disorders of the visual system has expanded, longstanding monoliths have been dissembled into component parts, basic molecular mechanisms have taken center stage, and genetic underpinnings have become definitional. Evolutionary alterations can now be observed at the level of the gene, adding a new dimension to our understanding of disease pathogenesis. New classifications now encompass clinically disparate conditions. Descriptive definitions have been supplanted by mechanistic ones, and clinical definitions superseded by genetic ones. Our concept of disease pathogenesis has been revised and in some cases overturned. Bearing witness to these remarkable advancements has impelled me to enhance and expand the first edition of *Pediatric Neuro-Ophthalmology* into this new and revised one.

In the first edition of this book, our goal was to present the clinical characteristics, diagnostic evaluation, and therapeutic options for the common neuro-ophthalmologic disorders of childhood. In so doing, we designed the book to provide a narrative journey through the thought processes involved in the clinical management of these disorders. In this edition, I have retained the basic narrative format of the original book, while expanding the exploration of these complex visual disorders in the context of the many new scientific advancements and discoveries that have come to light. These conditions are fun to diagnose, fascinating to understand, and gratifying to manage.

Although my two excellent coauthors have graciously bowed out of rewriting this edition, their formidable contributions to the first edition provide the bedrock of this book, and my gratitude to them is inestimable. Without them, this book would not exist. My hope is that the second edition will serve as a useful resource to ophthalmologists, neurologists, neurosurgeons, and pediatricians; and that it will spur more research into the basic mechanisms of these disorders.

Michael C. Brodsky, MD
Rochester, MN
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