

Preface

Neuropsychologists have been entrenched in academic medical schools, hospitals, rehabilitation facilities, and other medically oriented care facilities since the inception of the specialty. As experts on brain–behavior relationships, we straddle a unique bridge between medicine and psychology. The mission and goals may have changed somewhat since the days of localization, but the need to be knowledgeable about the cognitive sequelae associated with medical disease remains unchanged. We argue that it is perhaps even *greater* with time as awareness of neuropsychology grows, service utilization expands, and patients become more medically complicated. Familiarity with the science in this area allows for informed and tailored assessments and interventions, and increased ability to educate and intervene therapeutically with patients and their families, to consult and advise other members of the medical community, and to engage in collaborative research across an array of patients who are medically ill.

The primary goal of this book is to highlight the current literature with regard to the association between physical and cognitive dysfunction from a bodily system perspective as opposed to a disease-based perspective. There are 11 bodily systems: skeletal, muscular, integumentary, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive. Attempting to overcome the shortcomings of previous books on this topic of being all things to all people, we made several a priori decisions. First, we decided that the muscular, skeletal, and integumentary systems have minimal impact as a whole on cognitive functioning aside from pain, so we opted to have a specific chapter on pain as opposed to these three systems more broadly. Second, as most books in neuropsychology are written about diseases of the central nervous system, we avoided a chapter on this specific topic to allow for a primary focus on physical ills *outside* of the central nervous system. Last, a decision was made to focus on adults. Perhaps a systems-based book focusing on pediatrics would be a good companion volume.

These decisions, along with combining several systems, resulted in the six chapters that comprise Part I of the book: Cardiovascular; Respiratory; Endocrine and Metabolic; Digestive, Renal, and Hepatic; Immune/Lymphatic I—Autoimmune; Immune/Lymphatic II—Infectious. Since functioning encompasses more than just specific body systems, we sought to include a second section that covered a range of behavioral health topics: Arousal, Sleep, and Fatigue; Weight and Nutrition; Acute and Chronic Pain; Alcohol and Substance Use; and Personality and Temperament. Throughout all chapters, we review not only the system or behavioral health domain at hand but also its neuroanatomy/neuropathology, cognitive implications, assessment and treatment considerations, and possible iatrogenic outcomes for those treatments.

The undertaking of this book was a daunting task that ended up taking multiple years. The inspiration and concept happened innocently during a conversation between the two editors at a social event in 2018 at the American Psychological Association annual conference. Sometimes the best ideas happen rather unexpectedly. Our progress was hampered significantly by the COVID-19 pandemic, which created challenges that we could not have imagined when we started. We have been blessed by a number of colleagues from around the globe who unselfishly (and with little convincing) agreed to add this assignment to their long list of other responsibilities during an already trying time. They agreed to share their knowledge, often hard-earned from an entire career focused on the topic that has captivated them and motivated their desire to further science.

Our inspiration for this book partly comes from our combined 40 years of having the privilege of working with medically complex patients in our respective medical school practices. However, we also must acknowledge early scholarly works that have covered the same topic. On the bookshelf of anyone who has been in neuropsychology for any length of time may be *Medical Neuropsychology*, a classic book that reviewed the impact of bodily system dysfunction on cognition edited by Drs. Ralph E. Tarter, David H. van Thiel, and Kathleen L. Edwards in 1988, and a second edition many years later, in 2001, edited by Drs. Tarter, Meryl Butters, and Sue R. Beers. It is these early examples that inspired this book both in terms of the topics covered and the emphasis on the need for examining cognition from a bodily systems perspective.

Who should get this book? While of obvious interest to neuropsychologists and those seeking to gain board certification in neuropsychology, this book was not written solely for them. There are a number of other specialists who may have an interest in the cognitive effects of medical disease, such as neurologists, pharmacists, psychiatrists, nursing, social workers, rehabilitation specialists, and researchers in the neurosciences. We hope that the book will lighten the load for those who need to have a reasonable understanding of this large body of literature and inspire those who will continue to advance our scientific understanding.