

Foreword

Spinal deformities represent a complex and challenging field within orthopedic surgery. The treatment of these conditions requires a comprehensive understanding of the underlying anatomy, biomechanics, pathology, and surgical techniques. Regrettably, there have been very few textbooks dedicated solely to spinal deformities, making it difficult for surgeons and students to find a single, authoritative source that covers the breadth and depth of this specialized field. That is why the second edition of *Spinal Deformities: The Comprehensive Text* is a long-awaited and much-needed resource.

This textbook stands apart from others in its category by offering a truly comprehensive approach to the study and management of spinal deformities. It provides a detailed exploration of the subject matter, covering everything from the fundamentals of spinal anatomy and biomechanics to the intricacies of various spinal deformities. The content follows closely the core curriculum developed by the Scoliosis Research Society (SRS), ensuring that it meets the educational needs of both budding and practicing spine deformity surgeons.

The first edition of this textbook was published in 2003. Since then, the field of spine deformity surgery has experienced a remarkable evolution. Over the past two decades, there have been significant advancements in our understanding of the mechanics of correction, development of new implants and techniques for improved three-dimensional correction, emergence of innovative growing constructs for early-onset scoliosis, and introduction of minimally invasive and nonfusion approaches. This second edition reflects these ground-breaking advancements, providing readers with up-to-date knowledge and techniques that have revolutionized the field.

One of the critical aspects emphasized in this textbook is the reduction of risks associated with major spinal

deformity correction. From perioperative management to intraoperative neuromonitoring techniques, the book explores strategies to enhance patient safety and optimize surgical outcomes. By addressing these essential considerations, the authors and editors have ensured that this textbook is not only a comprehensive reference but also a practical guide for spine deformity surgeons at all levels of experience.

Accompanying the text is a video bank featuring 36 videos that illustrate the major techniques employed by spine deformity surgeons. These videos serve as valuable visual aids, enhancing the reader's understanding of the surgical procedures and facilitating the acquisition of practical skills. This integration of multimedia resources further distinguishes this textbook and enriches the learning experience for its readers.

It is worth noting that textbooks dedicated exclusively to spinal deformities are still scarce. However, *Spinal Deformities: The Comprehensive Text* fills this void. With its extensive coverage of the subject matter and the expertise of the authors and editors, who are esteemed spine deformity surgeons from the SRS, this book is destined to become the definitive and authoritative textbook in the field for years to come.

In conclusion, the second edition of *Spinal Deformities: The Comprehensive Text* is a landmark publication that addresses a significant gap in the literature. Its comprehensive approach, adherence to the SRS core curriculum, and incorporation of the latest advancements in spinal deformity surgery make it an indispensable resource for both aspiring and seasoned spine deformity surgeons. I am confident that this textbook will serve as a guiding light, fostering excellence in the field and ultimately improving the lives of patients affected by spinal deformities.

Kenneth M. C. Cheung

Past President, Scoliosis Research Society

Jessie Ho Professor in Spine Surgery

The University of Hong Kong

Hospital Chief Executive, The University of Hong Kong

Shenzhen Hospital

Shenzhen, Guangdong Province, China

Foreword

Having trained with Ronald DeWald and having known Chris DeWald since he started his journey into spinal deformity surgery, it is my distinct honor to write this Foreword as I can attest that both have dedicated themselves to improving the lives of patients with spinal deformities. Those of you who know Ronald DeWald will recognize some of his familiar sayings such as “trust no one” and “did you check it yourself” that reflect his attention to detail, his honesty, and his genuine concern for stellar patient care. Dr. Ron DeWald’s creativity and masterful surgery have fortunately been pushed even further by Chris, his son.

The challenges inherent in treating spinal deformity mandate optimal understanding of its complexities. Clarity regarding the natural history, three-dimensional anatomy, biomechanics, tissue biology, radiographic imaging, nonsurgical and surgical techniques, and associated concepts regarding spinal deformity is vital to achieving safe, reproducible, and durable outcomes. Today’s surgeons face an explosion of literature, implants, biologics, navigation/robotic systems, and other technologies juxtaposed against increasing needs to contain costs, address rising patient expectations, and tackle increasingly challenging pediatric and adult conditions. Although risk

stratification and patient safety protocols have improved, significant challenges remain as this exciting field continues to evolve.

That is where this textbook comes in. As far back as the 1980s, Ron DeWald envisioned developing a core curriculum focused on spinal deformity since these conditions differ from other spinal pathologies. Accordingly, he authored earlier treatises on this topic. Now, with this unique textbook and video library, Chris has spearheaded a new effort to augment the skill set necessary to guide treatment of these challenging conditions. Experts spanning nonsurgical as well as surgical specialties have contributed to the comprehensive array of information codified and logically organized in these volumes in which each chapter features authorship by a member of the Scoliosis Research Society (SRS). This skillfully honed resource is a functional guide for all, from the novice to the seasoned expert.

Many thanks to the DeWalds, the associate editors, Laura Ferguson, the authors, the technical advisors, and to all who, over the past 7 years and despite the pandemic, brought this textbook to fruition. Notably, all proceeds stemming from this publication will go directly to the SRS.

Mark Weidenbaum, MD

Vice Chair for Clinical Affairs

Professor, Clinical Orthopedic Surgery

Quality and Safety Officer, Degenerative Spine Surgery

Scoliosis and Spine Surgery

The Och Spine Hospital

New York Presbyterian Hospital/Allen

Senior Learning Advisor

College of Physicians and Surgeons

Columbia University

New York, New York, USA

Preface

This is the second edition of *Spinal Deformities: The Comprehensive Text*. The first edition was spearheaded by my father, Ronald DeWald, my co-editor. The basis behind that textbook as with this second edition was to help spinal deformity surgeons have a foundation on which their knowledge of spinal deformity can be built. The idea behind the development of this foundation was to develop a core curriculum for those doctors wishing to treat patients with spinal deformities. During the development of this textbook, the SRS under the leadership of Laurel Blakemore has developed a core curriculum that is found on the SRS web page.

Spinal surgery continues to advance rapidly, but the ability to understand and perform a multitude of procedures is what makes the spinal deformity surgeon unique. This textbook expands on the first edition to help formulate the spinal deformity curriculum to include anatomy, etiologies, pediatric and adult deformities, their surgical and nonsurgical treatments, and potential complications.

I have tried to honor and incorporate the chapter revisions of many senior SRS surgeons that helped mold the foundation of spinal deformity surgery. It is their work that allows us to continue to improve our ability to treat our patients.

Christopher J. DeWald, MD

It has been 20 years since the first edition of this book was published and 57 years since the founding of the Scoliosis Research Society. I was a founding member, and I can recall vividly that first meeting. I remember simple things such as definitions of what a compensatory and structural curve were. Members had a wide variety of thoughts.

But look at the SRS now. It is multinational and the leading society to continue to improve the treatment of this once-ignored affliction. I hope this text will help guide the next generation of surgeons to continue superior treatment of spinal deformities worldwide.

Ronald L. DeWald, MD