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## Foreword

French Jesuit philosopher, scientist, and paleontologist, Teilhard de Chardin, has stated that “future generations stand on the shoulders of the previous leaders.” That comment has always resonated with me.

I am of the vintage that allows a longitudinal perspective of the history of modern spine surgery. I was fortunate to be at the right place at the right time and be immersed in the growth and development of current techniques and philosophies in the treatment of spinal disorders. Ed Benzel was the spearhead.

Dr. Benzel, with a background in engineering and the experience of studying under Dr. Sanford Larson, led the way in promulgating the importance of biomechanics in the treatment of spinal pathologies.

Ed and I were engaged with our fellow orthopaedists at a time when such interaction was too often frowned upon by the reigning political powers. With a cadre of like-minded spinal neurosurgeons and orthopaedists, the foundation of modern spinal reconstruction was advanced. Dr. Benzel taught biomechanics to all of us—three-point bending, fixed rigid cantilevers, compression, distraction, rotation, etc.

At the time, and prior, I had to refer to numerous orthopaedic texts to learn these terminologies and how to apply these principles to spinal reconstruction. I was exposed to Harrington rods, sublaminar wires, the Luque technique, Edward’s sleeves, etc., via my post Neurosurgery Fellowship in Orthopaedic Spine. But it was my exposure to a talk at Harvard about the derotation principles of the Cotrel-Dubousset instrumentation that stimulated my interest in full force. I realized that neurosurgeons at that time were fairly ignorant of these principles, and thus a tremendous opportunity was afforded.

Luckily, I became friends with Ed Benzel, and along with a few other stalwarts (Ron Apfelbaum, Volker Sonntag, Paul Cooper), we taught each other, learned, and partnered with our orthopaedic colleagues.

Ed led the way in biomechanics—every spine course included a lecture on the principles. His textbooks and chapters paved the way for this new edition of *Biomechanics of Spine Stabilization: Self-Assessment and Review* by Drs. Boakye, Benzel, Ghogawala, Brodke, and Chapman. All of these authors are colleagues and well-established experts in this field. They are building upon the broad shoulders of Ed Benzel.

However, this book is more than biomechanics. It encompasses anatomy, pathophysiology, surgical decision-making and technique selection, nonsurgical care, and nonoperative management. It includes the history of stabilization, modes of implant failure, bone healing, bone graft extenders, and biologics.

It is clear, concise, and VERY INSTRUCTIVE.

Each elegant chapter has learning objectives, a question-and-answer format, with fabulous elucidation of the correct answer, key principles to be gleaned, and a list of the most important references.

It was enjoyable to read, re-learn, learn anew, and refresh some long-forgotten principles.

This book is a MUST for every resident in training and fellow in spine surgery. It should be read by every practitioner of the art and science of spinal surgery. It includes case discussions, philosophical approaches to both operative and nonoperative care, with a focus on optimization of treatment. The difference between good and great outcomes is attention to detail. This book will aid every surgeon in becoming a better doctor.

On a personal note, it is meaningful to me to be a colleague of Ed, and to have been taught by him. It is equally important to have my friends, Zo, Darrel, and Jens, contribute to this effort. Lastly, to have a former fellow of mine, Max, also contribute to this provides hope that our educational endeavors will continue to prosper and enhance the care of our patients.

Respectfully submitted,

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