

# BOOK REVIEWS

## **Limb Lengthening and Reconstruction Surgery**

S. Robert Rozbruch and Svetlana Ilizarov, editors.

New York: Informa Healthcare; 2007. 695 pages. \$299.95.

ISBN: 978-0-8493-4051-2.

Based on the principles of distraction osteogenesis originally elucidated by Gavriil A. Ilizarov, *Limb Lengthening and Reconstruction Surgery* successfully covers the entire current spectrum of Ilizarov-based surgery. It was not long ago that Ilizarov, who is now universally known as the father of deformity correction, was working in Siberia and was unknown in the West. Fortunately, a group of Italians “discovered” the Ilizarov circular fixator in the early 1980s and brought a completely new branch of orthopaedic medicine to the rest of the world.

Thereafter, awareness of Ilizarov and his contributions quickly increased, especially after the 1992 English-language publication of his major work, *Transosseous Osteosynthesis*, which detailed the principles he had spent nearly his entire professional life developing and applying clinically.

As “Ilizarov fever” began to hit the United States in the mid-1980s, a number of American orthopaedic surgeons became dedicated Ilizarovians, including John Herzenberg and Dror Paley. Both were instrumental in solving and outlining the geometric basis of deformity correction, which later became the foundation of the center of rotation of angulation (CORA) method. With Herzenberg’s assistance, Paley published *Principles of Deformity Correction*, the preeminent reference on limb reconstruction surgery, ostensibly based on the CORA technique.

S. Robert Rozbruch, a former fellow of Paley and Herzenberg, returned to New York from Baltimore in the late 1990s to establish, along with Ilizarov’s daughter, Svetlana, the Institute for Limb Lengthening and Reconstruction at the Hospital for Special Surgery. Svetlana Ilizarov, an expert in Ilizarov surgery and rehabilitation, trained with her father in Kurgan, Siberia. Building on their clinical training with the masters of the field, Rozbruch and Ilizarov have produced a textbook that is different from those produced by their mentors. The book is not based on theory or geometry; rather, it is a highly inclusive and clinically-relevant synopsis of current Ilizarov therapy.

This 695-page book is particularly appropriate for senior residents and fellows—especially those specializing in trauma, pediatrics, joint reconstruction, tumor, the upper extremity, and, of course, limb lengthening and reconstruction.

The book is also a great resource for experienced surgeons, particularly with regard to the review of rarely encountered deformities.

Written by a group of international leaders in the field, *Limb Lengthening and Reconstruction Surgery* contains forty-nine chapters and includes a foreword by Paley. The text is very readable, even for junior residents. Virtually all aspects of deformity correction (both congenital and acquired), limb reconstruction, and limb lengthening are covered. Divided into thirteen parts, the book begins with a fascinating biography of Ilizarov, which was written by his daughter. Part II provides a review of the biological and mechanical principles underlying distraction osteogenesis and the Ilizarov method. Parts III and IV describe external fixation, both unilateral and circular, in treating acute trauma, nonunions, and malunions, primarily of the lower extremity. Parts V, VI, VII, and X cover specific applications of the Ilizarov method to the foot and ankle, knee, hip, and upper extremity. Other sections relate to pediatrics, reconstruction after tumor resection, stature lengthening, technology, and postoperative care.

The text is effectively supplemented by many visual aids, without which visualization of some complex procedures and techniques, such as application of the Taylor spatial frame to tibial plateau fractures (Chapter 6) and malunions (Chapter 12), would be difficult. Other particularly well-illustrated chapters include Chapter 14 (Bone Defects) and Chapter 23 (Proximal Tibial Osteotomy for Medial Compartment Osteoarthritis of the Knee Using the Taylor Spatial Frame).

In true Ilizarov style, the book also contains numerous case examples, many of which are from the personal experience of the editors. These cases are often followed by a section outlining common complications, such as pin-track infection, joint contracture, residual deformity, regenerate fracture, or docking failure of transported bone. Various treatment options and surgical techniques are also reviewed and together provide good preoperative guidance. Perhaps the most salient feature of the book is a “Review of Literature” table, which is included in many chapters and facilitates additional directed reading.

This book deserves much praise; however, a few aspects might be modified for future editions. For example, although the extensive visual aids throughout the text are welcome, many of them, especially the histologic and intraoperative photographs, would be more illustrative if they were in color. There are only two color figures: one is an illustration of the bone-forming units at the osteotomy-distraction site, and the



## BOOK REVIEWS

other is of the Internet-based Taylor spatial frame program. Although certainly helpful, they are randomly placed on an inserted page in the middle of the book. This reader wishes there were more of the same throughout the book.

Supplementing textbooks with accompanying CD inserts has become a recent trend. Many of the cases described in the book pertain to relatively rare disorders, such as tibial or fibular hemimelia (Chapters 30 and 31), and a complementary CD might serve to expand on the clinical case examples that are provided in the textbook. Finally, for the novice, a glossary of terms would be helpful.

The editors are to be congratulated on their fine selection of contributors and for providing a comprehensive, invaluable resource that should accompany the prior works of Ilizarov and Paley. The book is essential reading for specialists with an interest in Ilizarov reconstruction and should be included on the shelf of any medical library.

*Evan M. Schwechter, MD*  
Montefiore Medical Center  
Albert Einstein College of Medicine  
Bronx, New York

... the book is not based on theory or geometry rather, it is a highly inclusive and clinically relevant synopsis of current Ilizarov therapy.

This 672-page book is particularly appropriate for senior residents and fellows—especially those specializing in limb lengthening, joint reconstruction, tumor, the upper extremity, and of course, limb lengthening and reconstruction. The book is a great resource for experienced surgeons, particularly with regard to the review of rarely encountered deformities.

Written by a group of international leaders in the field of limb lengthening and reconstruction surgery, this 672-page book includes a foreword by Paley. The text is very readable, even for junior residents. Virtually all aspects of deformity correction (both congenital and acquired), limb reconstruction, and limb lengthening are covered. Included into this text are the book begins with a fascinating biography of Ilizarov, which was written by his daughter. It provides a review of the biological and mechanical principles underlying distraction osteogenesis and the Ilizarov method. Part III and IV describe external fixation, both unilateral and bilateral, in treating acute trauma, nonunion, and malunion of the lower extremity. Part V, VI, VII, and X cover specific applications of the Ilizarov method to the foot and ankle, knee, hip, and upper extremity. Other sections relate

Stephen S. Gattner, MD  
Willits, California

*Limb Lengthening and Reconstruction Surgery*  
2, 3rd Edition, and System Manual, editor  
ISBN 978-0-7817-2522-2