

## *Preface*

Lumbar artificial disc replacement and motion preservation represent some of the most anticipated advances in spinal surgery today. The appeal of this technology to patients is enormous. A recent poll of 461 patients surveyed by *Spine-health.com* revealed that, given the choice, 49% of patients would postpone fusion surgery in hopes of having disc replacement, while 26% of patients would weigh their decision to have fusion more carefully if they knew that disc replacement were a viable option for them. Patients and surgeons alike are excited about the potential benefits of artificial disc replacement, including reduced morbidity, no need for bone grafting, shorter hospital stays reduced operative time, higher satisfaction rates, and faster return to work.

The key determinant of success for each individual patient is proper patient selection. The key determinant for success with this new technology, however, is the frequency and safety of disc replacement revisions. So the topic of complications and revisions in lumbar arthroplasty, the focus of this issue of *Roundtables in Spine Surgery*, is of particular significance as this procedure becomes more widely performed.

We have an outstanding faculty of experts contributing to our discussion of revision surgery. Their articles and stimulating comments provide a worldwide perspective on this important subject. Matthew Scott-Young explains the conceptual basis and strategy for handling complex clinical revisions, and Sal Brau provides guidance for approaches for vascular and general surgical access to the anterior lumbar spine. Rudi Bertagnoli, Hal Mathews, and Frank Cammisa detail their experience with implants with different biomechanical means of spinal fixation, while Fred Geisler relates his experience analyzing hundreds of cases in the U.S. IDE study and discusses the significance of neurologic adverse events and their avoidance. Lumbar disc replacement has been available in Europe for 20 years, so it seemed appropriate to include an international group

of experts to help guide us through successful revision scenarios. Thus, in addition to Matthew Scott-Young and Rudi Bertagnoli, Jürgen Harms, Karin Büttner-Janzen, Rob Fraser, and Luiz Pimenta, have all provided their input. It is our hope that the reader will gain valuable insights and helpful information as he or she seeks to learn more about this new technology.

It is important to note, however, that this monograph provides no final answers; rather, it marks the beginning of our attempts to ensure that these procedures are performed safely and effectively. We know that lumbar disc replacement is a procedure with tremendous appeal for our patients. Ultimately, the key to maintaining that appeal and to the success of this new technology, is in learning to minimize potential complications. This can be accomplished through focus groups of experts discussing these issues, by surgeons continually reevaluating their results, by improvements in instrumentation and collaboration with company engineers, and by effectively and accurately communicating with our Internet-savvy patients.

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