

## **LUMBAR SPINE SURGERY: A REVIEW OF SURGICAL TECHNIQUES AND RECENT IMPROVEMENTS**

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This presentation is a keynote lecture and review of surgical techniques in the lumbar spine. Indications and complications of microdiscectomy are discussed. Lumbar fusion is the golden standard surgical technique for incapacitating back pain. Different techniques, indications and complications are discussed. Lumbar disc prosthesis as an alternative technique is evaluated. More recent improvements in technology are presented, with regards to biomaterials and composite materials. Kyphoplasty is discussed, as well as 3D printing and patient specific implants. Techniques of disc nucleus prosthesis are evaluated, as well as new evolutions in biologics and bone graft substitutes such as P-15 or I factor. More recently faster fusion has been achieved with the use of interbody fusion cages with surface coating technology, such as ultra-thin titanium coating. Finally, posterior dynamic stabilization is discussed, as well as global set-up in operating rooms with specialized spine frames. The main author presents a comprehensive overview and review based on his personal experience as a full-time spine surgeon since more than 20 years and based on literature and personal research.



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