



# Biological approaches to spinal disc repair and regeneration for clinicians /

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Monografía

Although there have been significant advancements in minimally invasive spinal surgery techniques in the last few decades, optimal outcomes for chronic low back pain remain elusive. A number of promising clinical trials have been conducted using tissue engineering and biological interventions for disc degeneration. Written by renowned innovators, this is the first book that covers implementation of these groundbreaking approaches for disc disease. The text begins with key fundamentals including anatomy and physiology, pathophysiology, imaging and biomechanics to delineate healthy versus diseas

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genes / Daisuke Sakai and Jordy Schol -- Treatment of degenerated disc disease/disc regeneration : growth factors and platelet-rich plasma / Koichi Masuda and Kenji Kato -- Treatment of degenerated disc disease/disc regeneration : stem cells, chondrocytes or other cells, and tissue engineering / Steven Presciutti and Howard An -- Nucleus replacement and repair : autologous disc chondrocyte transplantation / Christian Hohaus, Timothy Ganey, and Hans Jörg Meisel -- Annulus fibrosus repair / Olivia M. Torre, Michelle A. Cruz, Andrew C. Hecht, and James C. Iatridis -- Summary of clinical trials with biological treatment approaches for spinal disease / Gernot Lang, Ibrahim Hussain, Micaella Zubkov, Yu Moriguchi, Brenton Pennicooke, and Roger Härtl -- Total disc transplantation : current results and future development / Jason Pui Yin Cheung, Dike Ruan, and Keith D.K. Luk -- What have we learned from mechanical total disc replacement? / Timothy T. Roberts, Colin M. Haines, and Edward C. Benzel -- Regulatory overview : obtaining regulatory approval of a biologic/cell product / Michaela H. Purcell, Penny J. White, H. Davis Adkisson -- What makes biological treatment strategies and tissue engineering for ddd interesting to industry? / Hassan Serhan, Elliott A. Gruskin, and William C. Horton -- What will the future bring? : perspectives from around the world / Tony Goldschlager, Claudius Thome, Howard An, and Luiz Vialle

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