Preface

Disk Degeneration and Pain

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“God whispers to us in our pleasures, speaks to us in our conscience, but shouts in our pains: It is His megaphone to rouse a deaf world.”

—C.S. Lewis (1898–1963)

It has been our sincerest honor to have guest-edited this focus issue on “Disk Degeneration and Pain” for the *Global Spine Journal*. Of particular importance is that this issue commemorates the “first” focus issue of our newly developed journal, which we hope will be one of many more to come.

In a recent publication by Vos et al,¹ published by *The Lancet*, low back pain was identified as “the leading” debilitating condition worldwide, representing a tremendous socioeconomic and health care burden. Although not always synonymous with each other, disk degeneration is regarded as one of the determinants related to the development of low back pain. As such, disk degeneration and low back pain have gained the attention of the medical, scientific, and public interest for many years. Nevertheless, these conditions are complex and multi-factorial, and their development and management continue to challenge spine specialists and

researchers alike. Therefore, in an effort to expound on matters, we have tailored a unique focus issue composed of multi-disciplinary international experts that have come together in an effort to raise awareness of the current cutting-edge issues surrounding disk degeneration and pain, ranging from imaging and pathomechanisms to novel treatments. Adhering to review-style papers, this focus issue addresses the following:

- Fenty et al elaborate on the novel imaging modalities that have been developed to assess the disk in a more sensitive manner than traditional imaging. Also, the authors illustrate how such technology can assist to image pain, and have utility in clinical decision-making and practice.
- Samartzis et al have provided an article that for the first time provides an extensive discussion as to how body fat can lead to the development of disk degeneration and low back pain. In an age where overweight and obesity as well as lack of physical activity are increasing in prevalence worldwide, the article stresses the need to address adiposity and its inflammatory agents as unique risk factors

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related to spinal changes and their role in personalized spine care.

- Ito and Creemers, Lotz et al, Hiyama et al, and Wuertz and Haglund address distinct mechanisms that play a role as pain generators of the disk and endplate. These reports further highlight the complexities of pain arising from various regions of the anterior portion of the motion segment, their individual contributions in path pathways, and understanding for future therapeutic interventions.
- Mwale as well as Erwin report on the novel therapeutic technologies that can lead to regeneration or progression-modification of the degenerated disk and/or act as analgesic agents in the setting of discogenic back pain. These reports further highlight the pros and cons of the cutting-edge technology that exists and the need to be more patient-specific when tailoring therapeutic interventions.
- Purmessur et al report their findings stemming from an exhaustive systematic review of the literature addressing candidates located in or derived from the notochord or notochordal cells and their efficacy in addressing discogenic back pain. The authors' findings substantiate the need to further explore specific factors and mechanisms to validate the role of these candidates in their target use.

Such a focus issue is not accomplished without the devotion and sacrifice by many. In that sentiment, we would first like to acknowledge our families for all their support and understanding throughout this process. We are in debt to Chi

Lam and Thea Swanson, whose help in coordinating this special issue was instrumental in keeping the work timely and topical. We would also like to thank the editorial board for their support of this project. In particular and of utmost importance, we wish to thank all the contributing authors who gave wholeheartedly of their time and insights to our relatively new journal, who believed in the educational value of this project, and who continue to strive on a daily basis to advance the spine field. We sincerely thank you for taking this journey with us, and supporting the journal in this initiative and in many others to come.

In closing, it is our sincerest intention that you, the reader, find this work to be informative and educational. We hope we have provided a current and unique perspective on the topic of disk degeneration and pain, and hopefully this focus issue may inspire and lead to new research platforms in the years ahead. Perhaps most poignant, we hope this focus issue serves as a needed "megaphone" in the struggle against pain development and management, and in so doing improve upon spine care, patient outcomes, and individual quality of life across borders.

Reference

- 1 Vos T, Flaxman AD, Naghavi M, et al. Years lived with disability (YLDs) for 1160 sequelae of 289 diseases and injuries 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet* 2012;380(9859):2163–2196