

# APSS-APPOS2021 13th Combined Meeting of Asia Pacific Spine Society & Asia Pacific Paediatric Orthopaedic Society

## Morning Seminar 1

# Minimally invasive spinal treatment

Chairman

**Prof. Morio Matsumoto**

Department of Orthopaedic Surgery,  
School of Medicine, Keio University

Performer

**Prof. Ken Ishii**

Department of Orthopaedic Surgery, School of Medicine,  
International University of Health and Welfare (IUHW)

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8:45-9:45

**501** 5<sup>th</sup> Floor,  
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Conference Center

6-9-1, Minatojima-nakamachi, Chuo-ku, Kobe-shi, Hyogo,  
650-0046, Japan

## Minimally invasive spinal treatment: Current and future prospects

Due to an aging population and the needs of patients with spinal disorders, various minimally invasive surgery (MIS) techniques are gaining popularity. MIS is a widely developing field that has the potential to decrease surgical risks and improve recovery, compared with traditional open spinal surgery. MIS was initially applied for indications of spinal decompression surgeries. The percutaneous nucleotomy technique, which was reported by Hijikata in 1975, developed to full-endoscopic surgery (FES). The micro endoscopic discectomy (MED) procedure was established in 1997. To date, these endoscopic surgeries have been spread and indicated for various surgical procedures including laminectomy, laminoplasty, and foraminotomy, etc.

During the last decade, MIS techniques have also been used for spinal fusion or stabilization techniques, which are classified as minimally invasive spine stabilization (MIS<sub>t</sub>) procedures including percutaneous pedicle screws (PPS) fixation, lateral lumbar interbody fusion (XLIF, OLIF, ACR), balloon kyphoplasty (BKP), percutaneous vertebroplasty, interspinous process motion-sparing implant, cortical bone trajectory, cervical total disc replacement, etc. In particular, procedures that PPS are practiced widely, such as MIS-transforaminal lumbar interbody fusion (TLIF) and MIS long fixation. The indications of MIS-fusion with PPS insertion technique include various lumbar degenerative diseases, isthmic spondylolisthesis, burst fractures, spinal metastasis, spinal deformity, as well as spinal infection. These MIS techniques typically provide preservation of paraspinal musculature, less blood loss, shorter operative time, less postoperative pain, lower infection rate, more cost-effective, compared to traditional open techniques.

In recent year, spinal surgery has experienced much technological innovation. The computer-assisted navigation and robotic-assisted surgery demonstrate significant advantages in complicated and intractable MIS cases.

On the other hand, even MIS techniques are associated with several problems and limitations including technical difficulty, training opportunities, surgical cost, equipment cost, radiation exposure, risk of litigation, etc. These downsides of surgical treatments make conservative treatments more feasible option. The field has seen advancements in pharmacological treatments, biologics, rehabilitation therapy, etc. During and after coronavirus pandemic, the spinal surgeons should consider not only various MIS techniques, but the medical expenses and conservative treatment.

In this presentation, I would like to summarize the accumulating and compelling evidence that demonstrates a paradigm shift to MIS procedures from conventional procedures. I believe that this lecture would work for the benefit of the growth and development of MIS techniques in Asia-Pacific countries.

認定  
単位

日本整形外科学会教育研修 専門医資格継続単位(N)  
必須分野:【7】脊椎・脊髄疾患  
脊椎脊髄病単位(SS)いずれか1単位を選択

※単位は、現地参加者のみ申込みが可能となります。オンライン参加では単位の取得はできません。  
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