



NASS Overall Chair: Patrick Hsieh, MD, MS
NASS Chair: Charles Reitman, MD

JSSR Chair: Masaya Nakamura, MD, PhD

JSSR Planning Committee: Yukihiro Matsuyama, MD, PhD (President and Overall Chair, JSSR)

JSSR Organizing Committee: Hirotaka Haro, MD, PhD (Vice President, JSSR); Masashi Neo, MD; Kazuhiro Hasegawa, MD, PhD; Kazuhiro Chiba, MD, PhD; and Masahiko Watanabe, MD, PhD

**All sessions live streamed except for fireside chats in HST (Hawaii Standard Time) and JST (Japan Standard Time)*

Sunday, July 4

2:00-6:00 p.m. **Registration/Speaker Information Center**

6:00-7:30 p.m. **Opening Reception**

Monday, July 5 HST/Tuesday, July 6 JST

7:00-8:30 a.m. **Fireside Breakfast at the Beach** (*ticketed event*):
Osteobiologics: How Do You Choose Biologics in Your Practice and What Works for You?

11:45 a.m.-4:00 p.m. **Technical Exhibition**

11:30 a.m.-6:00 p.m. **Registration/Speaker Information Center**

11:55 a.m.-12:00 p.m. **Opening Remarks**

6:55-7:00 a.m. JST

12:00-1:30 p.m. **Abstract Session: Outcomes Following Cervical Spine Surgery**
Moderators: *TBD*

7:00-8:30 a.m. JST

1:30-2:00 p.m. **Networking Break/Technical Exhibition**

8:30-9:00 a.m. JST

2:00-3:30 p.m. **Symposium: Cervical stenosis and Ossification of Posterior Longitudinal Ligament (OPLL) with Myelopathy**

9:00-10:30 a.m. JST

Cervical stenosis with myelopathy is a leading cause of disability worldwide. Cervical stenosis with Ossification of Longitudinal Ligament (OPLL) is a particular challenging problem as there are increased perioperative surgical risks, including dural injury with CSF leak and neurological injury. In this symposium, faculty will address various approaches to treat cervical stenosis with myelopathy and OPLL, as well as present technical advances and surgical nuances to improve perioperative outcomes of cervical spondylitic myelopathy and OPLL.

Upon completion of this symposium, participants should gain strategies to:

- Recognize the advantages and limitations of different approaches to treat cervical stenosis and OPLL;
- Evaluate and choose the optimal approach to improve perioperative and long-term outcomes for patients with cervical stenosis and OPLL with myelopathy;
- Obtain technical and treatment pearls to treat patients with cervical stenosis and OPLL with cervical myelopathy.

Agenda

2:00-2:05 p.m. 9:00-9:05 a.m. JST	Welcome and Introduction
2:05-2:15 p.m. 9:05-9:15 a.m. JST	Technical Modifications and Clinical Outcomes of Expansive Open-door Laminoplasty <i>Kazuhiro Chiba, MD, PhD, National Defense Medical College</i>
2:15-2:25 p.m. 9:15-9:25 a.m. JST	More Than 20 Year Follow-up after Cervical Laminoplasty <i>Yoshiharu Kawaguchi, MD, PhD, Toyama University</i>
2:25-2:35 p.m. 9:25-9:35 a.m. JST	Residual Neuropathic Pain in Postoperative Patients for Cervical Ossification of Posterior Longitudinal Ligament <i>Masayuki Miyagi, MD, PhD, Kitasato University</i>
2:35-2:45 p.m. 9:35-9:45 a.m. JST	The Hyper-angulated Screw/Plate Fixation Facilitates Optimal Bone Purchase for Multilevel Cervical Anterior Fusion <i>Masahiko Takahata, MD, PhD, Hokkaido University</i>
2:45-2:55 p.m. 9:45-9:55 a.m. JST	Debate for OPLL Treatments with Case Presentation <i>TBD</i>
2:55-3:05 p.m. 9:55-10:05 a.m. JST	Laminoplasty for OPLL <i>TBD</i>
3:05-3:15 p.m. 10:05-10:15 a.m. JST	Laminectomy and Fusion for Cervical Myelopathy and OPLL <i>TBD</i>
3:15-3:25 p.m. 10:15-10:25 a.m. JST	Anterior Approach for Cervical Stenosis with and without OPLL <i>TBD</i>
3:25-3:30 p.m. 10:25-10:30 a.m. JST	Questions and Discussion
3:30-4:00 p.m. 10:30-11:00 a.m. JST	Networking Break/Technical Exhibition
4:00-5:30 p.m. 11:00 a.m.-12:30 p.m. JST	Abstract Session: Complications
5:30 p.m. 12:30 p.m. JST	General Meeting Adjourns

Tuesday, July 6 HST/Wednesday, July 8 JST

11:45 a.m.-5:00 p.m. **Technical Exhibition**

11:30 a.m.-6:00 p.m. **Registration/Speaker Information Center**

11:55 a.m.-12:00 p.m. **Opening Remarks**

6:55-7:00 a.m. JST

12:00-1:30 p.m.

7:00-8:30 a.m. JST

Symposium: Minimally Invasive Spine Surgery

Minimally invasive spine surgery (MIS) is very popular among many surgeons and patients today. While MIS has been around for more than 20 years, it remains a very controversial and hotly debated topic in spine surgery. Questions remain whether MIS is truly better for patients and their clinical outcomes. In this symposium, faculty will present recent advancements of MIS treatments for degenerative spine disease.

Upon completion of this symposium, participants should gain strategies to:

- Understand indications for MIS in spine surgery and recognize the benefits and limitation of MIS surgery;
- Consider and incorporate the advantages of endoscopy in spine surgery;
- Learn and adopt technological advancement to improve outcomes and reduce complications in MIS.

Agenda

12:00-12:05 p.m.

Introduction

7:00-7:05 a.m. JST

12:05-12:15 p.m.

Posterior Tubular Approaches for Treatment of Lumbar Degenerative Spine Disease
TBD

7:05-7:15 a.m. JST

12:15-12:25 p.m.

Transforaminal Full Endoscopic Lumbar Spine Surgery under Local Anesthesia: Future Perspective
Kohichi Sairyo, MD, PhD, Tokushima University

7:15-7:25 a.m. JST

12:25-12:35 p.m.

Decompression and Fusion Technique with the Use of Spinal Endoscope
Hiroshi Yamada, MD, PhD, Wakayama Medical University

7:25-7:35 a.m. JST

12:35-12:45 p.m.

Lateral Access Minimally Invasive Spine Surgery: Current and Future Prospects
Ken Ishii, MD, PhD, International University of Health and Welfare

7:35-7:45 a.m. JST

12:45-12:55 p.m.

New Anterior Approach to L5/S1
Seiji Ohtori, MD, PhD, Chiba University

7:45-7:55 a.m. JST

12:55-1:05 p.m.

How to Incorporate Virtual Reality and Augmented Reality in Improving MIS Learning Curve?
TBD

7:55-8:05 a.m. JST

1:05-1:15 p.m. 8:05-8:15 a.m. JST	Navigation and Robotics for Minimally Invasive Spine Surgery <i>TBD</i>
1:15-1:25 p.m. 8:15-8:25 a.m. JST	Complication Avoidance and Management in MIS <i>TBD</i>
1:25-1:30 p.m. 8:25-8:30 a.m. JST	Questions and Discussion

1:30-2:00 p.m.
8:30-9:00 a.m. JST

Networking Break/Technical Exhibition

2:00-3:00 p.m.
9:00-10:00 a.m. JST

Abstract Session: Cervical Spine

3:00-4:30 p.m.
10:00-11:30 a.m. JST

Symposium: Adult Spinal Deformity

With an increasingly aging as well as more active population, adult spinal deformity is one of the fastest growing and challenging areas of spine surgery. Faculty will discuss the evaluation principles, predictive modeling and surgical techniques to optimize clinical outcomes and reduce complications.

Upon completion of this symposium, participants should gain strategies to:

- Understand contemporary principles and technological advances in deformity evaluation;
- Appreciate the advantages and disadvantages for the various deformity correction options;
- Recognize complication mitigation strategies.

Agenda

3:00-3:05 p.m. 10:00-10:05 a.m. JST	Welcome and Introduction
3:05-3:15 p.m. 10:05-10:15 a.m. JST	Preoperative Planning for Adult Spinal Deformity Surgery: How to Optimize Preparation to Improve Surgical and Clinical Results? <i>TBD</i>
3:15-3:25 p.m. 10:15-10:25 a.m. JST	Need of Universal Patient Profiling System for Decision Making of Adult Spine Deformity Treatment <i>Manabu Ito, MD, PhD, National Hospital Org. Hokkaido Medical Center</i>
3:25-3:35 p.m. 10:25-10:35 a.m. JST	Selection of Osteotomies and Spinal Releases in Treatment of Adult Spinal Deformity <i>TBD</i>
3:35-3:45 p.m. 10:35-10:45 a.m. JST	Surgery for Adult Spinal Deformity: Osteotomy and Complication, How to Prevent Complications <i>Yukihiro Matsuyama, MD, PhD, Hamamatsu Medical University</i>

3:45-3:55 p.m. 10:45-10:55 a.m. JST	MIS for Treatment of Adult Spinal Deformity: Indications and Limitations <i>TBD</i>
3:55-4:05 p.m. 10:55-11:05 a.m. JST	Extensive Corrective Fusion Surgery for Severe Spinal Deformity in Patients with Parkinson's Disease <i>Yu Yamato, MD, PhD, Hamamatsu Medical University</i>
4:05-4:15 p.m. 11:05-11:15 a.m. JST	Indication for Pelvic Fixation and Selection of Techniques <i>TBD</i>
4:15-4:25 p.m. 10:15-10:25 a.m. JST	How to Reduce Implant-related Complication Rates, Pseudo, and Revision Surgery in Adult Spinal Deformity Surgery <i>Mitsuru Yagi, MD, PhD, Keio University</i>
4:25-4:30 p.m. 10:25-10:30 a.m. JST	Questions and Discussion
4:30-5:00 p.m. 11:30 a.m.-12:00 p.m. JST	Networking Break/Technical Exhibition
5:00-6:00 p.m. 12:00-1:00 p.m. JST	Abstract Session: New Concepts in Imaging
6:00 p.m. 1:00 p.m. JST	General Meeting Adjourns
6:00-7:30 p.m.	Fireside Chat at the Beach (ticketed event): How Do You Evaluate and Adopt Novel Technologies in Spine Surgery to Improve Outcomes and Minimize Complications?

Wednesday, July 7 HST/Thursday, July 9 JST

11:45 a.m.-5:00 p.m.	Technical Exhibition
11:30 a.m.-6:00 p.m.	Registration/Speaker Information Center
11:55 a.m.-12:00 p.m. 6:55-7:00 a.m. JST	Opening Remarks
12:00-1:30 p.m. 7:00-8:30 a.m. JST	<p>Symposium: Management of Spine Trauma and Spinal Cord Injury Faculty will discuss options for management of spinal trauma, including understanding the stability and biomechanics of injury and advances in technology, both for assessment as well as treatment.</p> <p>Upon completion of this symposium, participants should gain strategies to:</p> <ul style="list-style-type: none"> • Understand contemporary principles of stability and surgical indications; • Compare and contrast advantages of anterior vs. posterior approach for unstable thoracolumbar fractures; • Recognize the role of biologics in spinal cord injury.

Agenda

12:00-12:05 p.m. 7:00-7:05 a.m. JST	Welcome and Introduction
12:05-12:15 p.m. 7:005-7:15 a.m. JST	Upper Cervical Spine Injury: Clinical Feature and Treatment Strategy <i>Masahiko Watanabe, MD, PhD, Tokai University</i>
12:15-12:25 p.m. 7:15-7:25 a.m. JST	Updates on Classification and Indication for Treatments of Thoracolumbar Fractures <i>TBD</i>
12:25-12:35 p.m. 7:25-7:35 a.m. JST	What's the Role and Indication for Posterior Indirect Decompression for Thoracolumbar Fractures? <i>TBD</i>
12:35-12:45 p.m. 7:35-7:45 a.m. JST	Indication and Considerations for Anterior Approach in Treatment of Thoracolumbar Fractures <i>TBD</i>
12:45-12:55 p.m. 7:45-7:55 a.m. JST	Percutaneous Fixation without Fusion in Treatment of Thoracolumbar Fractures <i>TBD</i>
12:55-1:05 p.m. 7:55-8:05 a.m. JST	Minimally Invasive/Mini-open Vertebroectomy and Anterior Decompression/Fusion for Thoracolumbar Fractures <i>TBD</i>
1:05-1:15 p.m. 8:05-8:15 a.m. JST	Surgical Treatment for Neurological Deficits and Severe Back Pain Following Osteoporotic Vertebral Fracture <i>Shinji Takahashi, MD, Osaka City University</i>
1:15-1:25 p.m. 8:15-8:25 a.m. JST	Regenerative Medicine for Spinal Cord Injury using iPSC <i>Masaya Nakamura, MD, PhD, Keio University</i>
1:25-1:30 p.m. 8:25-8:30 a.m. JST	Questions and Discussion
1:30-2:00 p.m. 8:30-9:00 a.m. JST	Networking Break/Technical Exhibition
2:00-3:00 p.m. 9:00-10:00 a.m. JST	Abstract Session: Use of New Technology in Spine Care
3:00-4:30 p.m. 10:00-11:30 a.m. JST	Symposium: Novel Technology and Biologics Advances in biology, molecular and clinic research are critical for advancement of spine surgery in the future. In this symposium, faculty will address novel biological research with translational implications along with clinical studies involving novel spine diagnostics and treatments.

Upon completion of this symposium, participants should gain strategies to:

- Evaluate various biologics and options to optimize bone union in spine fusion surgery;
- Understand and incorporate novel medical interventions and cell-based treatments for lumbar degenerative disc diseases that are in development.

Agenda

3:00-3:05 p.m. 10:00-10:05 a.m. JST	Welcome and Introduction
3:05-3:15 p.m. 10:05-10:15 a.m. JST	The Role of Weekly Teriparatide for Bone Union during Six Months after Single or Multi-Level Lumbar Interbody Fusion for Osteoporotic Patients <i>Hiroataka Haro, MD, PhD, University of Yamanashi</i>
3:15-3:25 p.m. 10:15-10:25 a.m. JST	Clinical Development of Tier 2 Positive Nucleus Pulposus Progenitor Cell Product for Low Back Pain <i>Daisuke Sakai, MD, PhD, Tokai University</i>
3:25-3:35 p.m. 10:25-10:35 a.m. JST	Clinical Outcomes of One and Two Level Cervical Arthroplasty for Cervical Degenerative Disease <i>TBD</i>
3:35-3:45 p.m. 10:35-10:45 a.m. JST	Novel Magnetic Resonance Imaging Techniques for Assessing Intervertebral Disc Degeneration and Regeneration <i>Daisuke Nakashima, MD, PhD, Keio University</i>
3:45-3:55 p.m. 10:45-10:55 a.m. JST	Basivertebral Nerve Ablation for Treatment of Low Back Pain: Indication and Early Clinical Results <i>TBD</i>
3:55-4:10 p.m. 10:55-11:10 a.m. JST	Spinal Osteobiologics for Fusions from A-Z: What's Available and Effective? How to Make the Best Choice to Optimize Fusion? <i>TBD</i>
4:10-4:30 p.m. 11:10-11:30 a.m. JST	Questions and Discussion
4:30-5:00 p.m. 11:30 a.m.-12:00 p.m. JST	Networking Break
5:00-6:00 p.m. 12:00-1:00 p.m. JST	Abstract Session: Deformity
6:00 p.m. 1:00 p.m. JST	General Meeting Adjourns

Thursday, July 8

11:30 a.m.-4:30 p.m. **Registration/Speaker Information Center**

11:55 a.m.-12:00 p.m.
6:55-7:00 a.m. JST

Opening Remarks

12:00-1:30 p.m.
7:00-8:30 a.m. JST

Abstract Session: Thoracolumbar Surgery

1:30-2:00 p.m.
8:30-9:00 a.m. JST

Networking Break

2:00-3:00 p.m.
9:00-10:00 a.m. JST

Abstract Session: Bone Health Considerations in Management of Spinal Disorders

3:00-4:30 p.m.
10:00-11:30 a.m. JST

Symposium: Controversies and Debates in Management of Lumbar Degenerative Spondylolisthesis

Lumbar degenerative spondylolisthesis is one of most common diagnosis leading to chronic back pain, radiculopathy or neurogenic claudication in elderly patients worldwide. Treatment of lumbar degenerative spondylolisthesis is a hotly controversial and debated topic despite many clinical studies that examined the issue. Is it better to fuse or not to fuse? What is the ideal approach for fusion? Can MIS and endoscopy minimize the need for fusion? International faculty will discuss and debate the critical questions surrounding the treatment of lumbar degenerative spondylolisthesis that are unanswered.

Upon completion of this symposium, participants should gain strategies to:

- Recognize and evaluate the different clinical and radiographical presentations of lumbar degenerative spondylolisthesis that can impart treatment decision and outcome;
- Evaluate and adopt various surgical approaches for treatment of lumbar degenerative spondylolisthesis;
- Compare and consider open vs. MIS approaches for treatment of lumbar degenerative spondylolisthesis;
- Consider and recognize the impact of sagittal alignment alterations in various surgical approaches for of lumbar degenerative spondylolisthesis.

Agenda

3:00-3:05 p.m. Introduction and Case Presentation
10:00-10:05 a.m. JST

3:05-3:20 p.m. Diagnosis and Imaging of Degenerative Lumbar Spondylolisthesis: Tailoring Treatment Based on Subtypes and Characteristics of Lumbar Degenerative Spondylolisthesis
10:05-10:20 a.m. JST
TBD

3:20-3:35 p.m. Endoscopic Decompression without and with Fusion
10:20-10:35 a.m. JST
TBD

3:35-3:50 p.m. Tubular Decompression without or with Fusion
10:35-10:50 a.m. JST
TBD

3:50-4:05 p.m. Anterior and Lateral Approaches for Treatment of Lumbar Spondylolisthesis
10:50-11:05 a.m. JST
TBD

4:05-4:20 p.m. Posterior Decompression and Fusion for Lumbar
11:05-11:50 a.m. JST Spondylolisthesis
TBD

4:20-4:30 p.m. Rebuttals and Discussion
11:20-11:30 a.m. JST

4:30 p.m.
11:30 a.m. JST

General Meeting Adjourns