



# **12<sup>th</sup> Annual Spine Masters Course**

**Saturday, July 13, 2024**

## **Syllabus**

## **DISTINGUISHED FACULTY**

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#### **Course Co-Chair**

Complex Spine Surgeon  
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### **Rod J. Oskouian, Jr., M.D.**

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Axis Spine Center  
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**Christopher Shaffrey, M.D.**

Professor of Orthopaedic and Neurological  
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**Michael Steinmetz, M.D.**

Chair of the Department of Neurosurgery  
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Cleveland, Ohio

**Alekos Theologis, M.D.**

Associate Professor, Spine Surgeon  
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# AGENDA

**7 a.m. Registration & Breakfast**

**7:25 a.m. Welcome and Course Introduction**

*Jens R. Chapman, M.D. and Rod J. Oskouian Jr., M.D.*

## **SESSION 1: ROBOTICS**

*Moderated by Rod J. Oskouian, Jr., M.D.*

**7:30 a.m. What Is the Role of Robotics In Spine Surgery In The Future, and What Is My Current Practice?**

*Richard Chua, M.D.*

### **Objectives:**

- Summarize important lessons learned from difficult cases and career milestones
- Describe different definitions of success in robotic surgery
- Describe the role of robotic surgery in the future

**7:45 a.m. Robotics for Deformity cases**

*Roland Kent, M.D.*

### **Objectives:**

- Illustrate the use of robotics in deformity surgery
- Highlight important bone density assessment criteria
- Compare strategies for perioperative vs. intraoperative optimization for screw placement

**8:00 a.m. What Are the Limits of Robotics in Spine Surgery?**

*Martin Pham, M.D.*

### **Objectives:**

- Compare outcomes of robotics vs. non-robotic surgery
- Evaluate the practical risk-benefit profile in robotic spine surgery vs. non-robotic surgery

**8:15 a.m. Is There A Role For Robotics For Anything Else Besides Screw Placement?**

*Noojan Kazemi, M.D.*

### **Objectives:**

- Present data on Robotic surgery outcome in comparison to non-robotic cohorts
- Describe learning points and limitations of robotic surgery

**8:30 a.m.      Live Demonstration Broadcast from BioSkills Lab No. 1  
Sacroiliac Screw Placement for Deformity Surgery Using Robotics**

*Martin Pham, M.D.*

*Moderated: Rod J. Oskouian Jr., M.D.*

**Objectives:**

- Demonstrate screw placement using robotics
- Outline tips and tricks for the prevention and management of dural tears

**9 a.m.            How I Use a Robot In My Current Practice and the Limitations of Robotic Surgery**

*Andrew Manista, M.D.*

**Objectives:**

- Describe the robot and its current use in my practice
- Outline the current limitations of robotic surgery
- Illustrate reimbursement and economics of robotics in spine surgery

**9:15 a.m.      Session 1: Q&A**

**SESSION 2: DEFORMITY**

*Moderated by Jens R. Chapman, M.D.*

**9:25 a.m.      MIS in Deformity Surgery: What Are the Risks, Benefits and Costs to Society and the Patient - Is it Worth it?**

*Rod Oskouian, M.D.*

**Objectives:**

- Outline the indications for MIS surgery
- Summarize indications and possible complications of MIS surgery
- Evaluate how to weigh potential complications vs anticipated benefit

**9:40 a.m.      Breakthroughs in Spinal Deformity Surgery**

*Vincent Arlet, M.D.*

**Objectives:**

- Explain the perspective of spinal deformity surgery throughout the last 100 years
- Provide insights into where we are heading with advanced technology in the next decades

**9:55 a.m.      Breaks & Exhibits (not for CME credit)**

**10:10 a.m.    Live Demonstration Broadcast from BioSkills Lab No. 2  
Intradiscal Osteotomy with New Technologies Using Robotics**

*Roland Kent, M.D.*

*Moderator: Rod Oskouian, M.D.*

**Objectives:**

- Describe approach and posterior fixation for poor bone quality
- Evaluate risk-benefit profile of posterior fixation in a patient with poor bone quality

**10:40 a.m. What Are the Optimal Alignment Parameters in Adult Deformity Surgery?**

*Alekos Theologis, M.D.*

**Objectives:**

- Describe what's more important: pelvic alignment or sagittal balance
- Outline how to measure sarcopenia

**10:55 a.m. Isthmic Spondylolisthesis, Anterior-Posterior Combined: What's Best and Why?**

*Kristen Jones, M.D.*

**Objectives:**

- Outline surgical considerations for isthmic spondylolisthesis
- Evaluate surgical approaches and indications for treatment of isthmic spondylolisthesis

**11:10 a.m. Breaks & Exhibits** (not for CME credit)

**11:25 a.m. Live Demonstration Broadcast from BioSkills Lab No. 3**

**Tips and Tricks of Different Types of C1 Fixation**

*Christopher Shaffrey, M.D.*

*Moderator: Rod Oskouian, M.D.*

**Objectives:**

- Demonstrate techniques for posterior construction in the cervical spine
- Outline the indications for posterior reconstruction vs. an anterior approach

**11:55 a.m. Pick up Lunch** (not for CME credit)

**12:10 p.m. Challenges of Adult Deformity Surgery and Why We Are Seeing So Much PJK & PJF**

*Amir Abdul-Jabbar, M.D.*

**Objectives:**

- Explain how understanding biomechanics can be a powerful tool in deformity correction
- Describe how fusion length in ASD correction is largely determined by coronal imbalance

**12:25 p.m. Are We Too Focused on Sagittal Alignment in Deformity Surgery Instead of Looking at Other Factors, Such as Bone Density, Sarcopenia and Other Factors?**

*Steve Glassman, M.D.*

**Objectives:**

- Illustrate the optimal sagittal alignment
- Describe how to use bone density to minimize complications
- Explain how we assess and optimize fragile patients for surgery

**12:40 p.m. History and Evolution of Early Onset Scoliosis Care**

*Behrooz Akbarnia, M.D.*

**Objectives:**

- Describe early onset scoliosis and its natural history
- Review ongoing research and the evolution of care over the past 25 years and its impact on current-day practices
- Outline the future direction and management for EOS

**12:55 p.m. What's New In Spinal Deformity Surgery and How Do We Minimize Complications Associated With Deformity Surgery?**

*Christopher Shaffrey, M.D.*

**Objectives:**

- Identify the latest advancements in spinal deformity surgery, including surgical techniques, instrumentation and adjunctive therapies
- Identify strategies and techniques aimed at minimizing complications associated with spinal deformity surgery
- Explore evidence-based approaches and best practices for preoperative planning in spinal deformity surgery

**1:10 p.m. Session 2: Q&A**

**SESSION 3: SPINAL CORD AND NEURAL TISSUE DISORDERS**

*Moderated by Jens Chapman, M.D.*

**1:20 p.m. Spinal Cord Injury, Looking Backward And Looking Forward, What Does The Future Hold?**

*Michael G. Fehlings, M.D., Ph.D.*

**Objectives:**

- Explain what clinical syndromes occur most frequently following spinal cord injury
- Analyze effective integration of decompression strategies
- Describe whether there a role for steroids in 2024

**1:35 p.m. The Current State of the Art Management - Central Cord Syndrome**

*Michael Steinmetz, M.D.*

**Objectives:**

- Describe when to use the anterior vs. posterior approach
- Describe when it's appropriate to delay surgery
- Outline how to minimize complications and optimize outcomes

**1:50 p.m. Thoracolumbar Burst Fractures**

*Erik Hayman, M.D.*

**Objectives:**

- Outline the current state-of-the-art management for burst fractures
- Recognize when to do corpectomy vs. posterior only

**2:05 p.m. Live Demonstration Broadcast from BioSkills Lab No. 4  
Effective Anterior Approach to Prone Thoracolumbar Reconstructive Surgery**

*Amir Abdul-Jabbar, M.D.*

*Moderator: Jens R. Chapman, M.D.*

**Objectives:**

- Assess technical tips and tricks for anterior surgery
- Present potential pitfalls and how to avoid them

- 2:35 p.m. Contemporary Management of OPLL and Cervical Myelopathy**  
*Patrick Johnson, M.D.*  
**Objectives:**
- Describe etiology and clinical presentation of intracranial hypotension
  - Characterize risk factors for intraoperative incidental durotomy
  - Explain the goals of intraoperative and post-management of durotomy
- 2:50 p.m. Break & Exhibits** (*not for CME credit*)
- 3:00 p.m. Spinal Cord Injuries: Evaluation, Initial Management, Surgical Timing and Considerations**  
*Dan Resnick, M.D.*  
**Objectives:**
- Identify the key features of the ASIA Neurological assessment tool
  - Describe the pathophysiology of a spinal cord injury
  - Explain the benefits of early surgery
- 3:15 p.m. Management of Spinal Cord Injury: Where Have We Been? Where Are We Now? Where Are We Going?**  
*John Hurlbert, M.D.*  
**Objectives:**
- Describe the current preferred treatments regarding blood pressure and general resuscitation for SCI patients
  - Identify potential clinical adverse consequences of different management routes
- 3:30 p.m. Live Demonstration Broadcast from BioSkills Lab No. 5**  
**MIS Interbody Fusion**  
*Noojan Kazemi, M.D.*  
*Moderator: Amir Abdul-Jabbar, M.D.*  
**Objectives:**
- Demonstrate a minimally invasive interbody fusion
  - Summarize the indications associated for MIS surgery
  - Describe complications associated with MIS surgery
- 4:00 p.m. Session 3: Q&A**  
*Moderated by Jens R. Chapman, MD*
- 4:10 p.m. Course Wrap-Up**  
*Jens R. Chapman, M.D., & Rod J. Oskouian Jr., M.D.*
- 4:15 p.m. Adjourn**



## Acknowledgments

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### **Educational Grant**

Alphatec Spine  
Globus Medical  
Orthofix/SeaSpine

### **Exhibit Support**

Cerapedics  
Globus Medical  
Kyocera  
Medtronic  
Stryker

### **In-Kind Support**

Alphatec Spine  
Globus Medical  
Medtronic  
Orthofix/SeaSpine  
Stryker

## **Course Planning Committee**

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### **Course Evaluation**

Please take a moment to complete our online evaluation, which will be emailed to you. Your feedback helps to ensure the effectiveness of this CME activity, as well as improve future educational activities. All responses are considered anonymous. <https://www.surveymonkey.com/r/MastersSpine2024>

If you do not receive the survey via email, please call (206) 732-6500 or email [cme@seattlesciencefoundation.org](mailto:cme@seattlesciencefoundation.org).

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### **AMA PRA Category 1 Credits™**

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**Purpose:** The information provided addresses several requirements of the Accreditation Council for Continuing Medical Education (ACCME) to help **ensure independence** in CME activities. Everyone in a position to control the content of a CME activity must disclose **ALL** financial relationships with an ineligible company to the CME provider. This information must be disclosed to participants prior to the beginning of the activity. Also, CME providers must mitigate current conflicts of interest prior to the educational activity.

**Definitions: "Financial relationships"** are those whose relationships in which the individual benefits by receiving a salary, royalty, intellectual property rights, consulting fee, honoraria, ownership interest (e.g., stocks, stock options or other ownership interest, excluding diversified mutual funds), or other financial benefit.

The ACCME defines **ineligible companies** as those whose primary business is producing marketing, selling, reselling, or distributing healthcare products used by or on patients. Among the exemptions to this definition are government organizations non healthcare-related companies and nonprofit organizations that do not advocate for an ineligible company(ies). Circumstances create a **"conflict of interest"** when an individual has an opportunity to affect the CME content about products or services of an ineligible company with which they have a financial relationship.

ACCME focuses on financial relationships with ineligible companies in the 24-month period preceding the time that the individual is being asked to assume a role controlling content of the CME activity. ACCME has not set a minimal dollar amount for relationships to be significant. Inherent in any amount is the incentive to maintain or increase the value of the relationship.

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**CME Activity Planning Committee Members:** If a conflict of interest exists, the Planning Committee member must withdraw from the planning committee unless the conflict can be mitigated. Mitigation may be made by one of the following methods: (1) Peer review of CME content will be conducted at another oversight level to assure balance; (2) Change in focus of course so the activity does not include information related to products or services about which the Planning Committee has a conflict; (3) Severing relationship(s) between the member and any related ineligible company; (4) Others to be determined by the SSF CME committee.

**CME Activity Planners:** When a conflict of interest exists, the planning committee must address the conflict by one of the following methods: (1) Review content to be presented by speaker in advance to ensure content balance; (2) Change topic so the presentation is not related to products or services where a conflict exists; (3) Select a different presenter without any related relationships with an ineligible company; (4) Include presentations by other faculty to provide an overall balance to the content of the course; (5) Limit or specify the sources for recommendations that the presenter can use.

Each speaker is required to give a balanced, evidenced-based presentation based on published research. No conclusions or recommendations without external validation may be made by a speaker with a conflict of interest.

## Disclosure Summary

### July 13, 2024

The following planners and/or presenters, in the past 24 months, have/had financial relationship(s) with ineligible company(ies) whose primary business is producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients: (*S = Speaker; P = Planner*)

**Behrooz Akbarnia, M.D. (S):** Stocks or stock options: Viseon; Royalties or Patent Beneficiary: DePuy Spine, NuVasive, Stryker Spine

**Jens R. Chapman, M.D. (P, S):** Advisor: Globus Medical, Inc.; Grant or research support: Globus Medical; Consulting Fee: Xtant Medical

**Richard Chua, M.D. (S):** Consulting Fee: Medtronic, Arizona Medical Board; Surgeon Education: Medtronic

**Steven Glassman, M.D. (S):** Consulting Fee: Medtronic, Stryker, Proprio, K2M, Pfizer, NuVasive; Grant or research support: Norton Healthcare, Intellirod Spine, Inc., Pfizer, Texas Scottish Rite Hospital; Grant or research support: Jacqueline B. Stuart Spine Research, Cerapedics, Inc., Scoliosis Research Society, Medtronic; Chairman: American Spine Registry; Past President: Scoliosis Research Society

**Erik Hayman, M.D. (S):** Consulting Fee: Globus Medical, Inc.

**Kristen Jones, M.D. (S):** Consulting Fee: Medtronic, SI Bone

**Noojan Kazemi, M.D. (S):** Consultant: Globus Medical, Inc.

**Roland Kent, M.D. (S):** Grant or research support: Globus Medical, Carlsmed, Premia Spine, SI Bone, Orthofix; Consulting Fee: Globus Medical, SI Bone; Surgeon Education: Globus, SI Bone

**Andrew Manista, M.D. (S):** Consulting Fee: Globus, SI Bone

**Rod J. Oskouian Jr., M.D. (P,S):** Consulting Fee: Alphatec Spine, Globus Medical, SeaSpine, Stryker, Spineart, Medtronic; Consulting Fee: DePuy; Consulting Fee: Blue Ocean Spine; Royalties or Patent Beneficiary: Stryker, Globus Medical; Fellowship Grant Support: Globus Medical, Inc.

**Martin Pham, M.D. (S):** Consulting Fee: Medtronic, Globus, Thompson Surgical, NovApproach; Educational Grants: Medtronic

**Christopher Shaffrey, M.D. (S):** Consulting Fee: NuVasive,-Globus, SI Bone, Medtronic; Speakers Bureau: ACGME Neurosurgery RRC; Grant or research support: NIH, SRS, Department of Defense, ISSG Foundation; Stocks or stock options: Proprio, NuVasive-Globus; Royalties or Patent Beneficiary: NuVasive-Globus, Medtronic, SI-Bone

**Michael Steinmetz, M.D. (S):** Consulting Fee: Globus; Honoraria: Globus, Cerapedics, Premia; Royalties or Patent Beneficiary: Elsevier, Globus

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*All the relevant financial relationships listed for these individuals have been mitigated.*

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The following planners and/or presenters, in the past 24 months, have/had no financial relationship with ineligible companies whose primary business is producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients: (S = Speaker; P = Planner)

**Amir Abdul-Jabbar, M.D. (S, P); Vincent Arlet, M.D. (S); Michael Fehlings, M.D. (S); John Hurlbert, M.D. (S); J. Patrick Johnson, M.D. (S); Dan Resnick, M.D. (S); Julius Gerstmeier, M.D. (P); Cory Kepler (P)**

*All planners and presenters attested that their content suggestions and/or presentation(s) will provide a balanced view of therapeutic options and will be entirely free of promotional bias. All presentations have been reviewed by a planner with no conflicts of interest to ensure that the content is evidence-based and unbiased.*