

**2nd Annual Spinal Navigation, Emerging Technologies
and Systems Integration Course**
Saturday, December 9, 2017
at the Seattle Science Foundation

AGENDA

- 7:30am** **Breakfast & Registration**
- 7:45am – 7:55am** **What is the Seattle Science Foundation?**
Rod J. Oskouian, Jr., M.D.
- 7:55am – 8:10am** **Welcome, Introductions, Course Overview and Survey**
J. Patrick Johnson, MD and Doniel Drazin, M.D.

Part 1: Image Guided Spine Surgery (Chair: J. Patrick Johnson, M.D.)

- 8:10am – 8:30am** **Cost Effectiveness of Navigation**
John Street, M.D., Ph.D.
Objectives:
- Indicate the benefits of navigation
 - Interpret the cost effectiveness of navigation in case studies
 - Demonstrate where navigation is not cost effective
- 8:30am – 8:50am** **Accuracy and Learning Curves with Navigation**
Doniel Drazin, M.D.
Objectives:
- Illustrate the pitfalls of navigation
 - Indicate when navigation is not beneficial
 - Utilize alternative techniques for identify anatomy/location when navigation is not indicated
- 8:50am – 9:10am** **Radiation Exposure and the CONS of Image-Guided Spine Surgery**
Jens Chapman, M.D.
- Illustrate the concerns with radiation exposure to the provider and the patient
 - Indicate the average level of exposure to the patient with common procedures and image guidance systems
 - Utilize methods to avoid unnecessary exposure
- 9:10am – 9:30am** **Are Indications Needed or Just Navigate Everything?**
J. Patrick Johnson, M.D.
Objectives:
- Discriminate when and why navigation is needed.
 - Indicate the reasons navigation is not needed
 - Identify methods for doing surgery without navigation
- 9:30am - 9:40am** **Break & Exhibits**
- 9:40am – 10:00am** **Navigating the Cervical Spine: Considerations of the Anatomy**
John Street, M.D., Ph.D.
Objectives:
- Indicate the benefits of knowing your anatomy in the cervical spine

- Illustrate anatomic anomalies to consider in the cervical spine
- Review what navigation modalities are most effective for surgery in the cervical spine

10:00am – 10:20am Navigation in Spinal Deformity: Pearls

David W. Polly, Jr., M.D.

Objectives:

- Indicate the benefits of navigation with spinal deformity cases
- Review the pitfalls of relying on navigation only for spinal deformity cases
- Practice using navigation in the clinical setting on a spinal deformity procedure

10:20am – 10:40am Spine Trauma Navigation: Key Concepts

Terrence Kim, M.D.

Objectives:

- Indicate when navigation is beneficial in spine trauma
- Demonstrate the pitfalls of using navigation in spine trauma
- Visualize anatomic considerations in the trauma setting that make navigation use beneficial and/or not helpful

10:40am – 10:50am Break & Exhibits

Part 2: Emerging Technologies (Chair: Rod Oskouian, Jr., M.D.)

10:50am – 11:10am Robotic Assisted Spine Surgery

Christopher Good, M.D.

Objectives:

- Indicate when robotic assisted spine surgery is beneficial in spine
- Demonstrate the pitfalls of using robotics in spine surgery population
- Delineate the pros and cons that make robotics use beneficial and/or not helpful

11:10am – 11:25am Live Demo – Robotic Exoscope in Spine Surgery

Rod Oskouian, Jr., M.D.

Objectives:

- Illustrate a live demonstration of a exoscope in spine surgery
- Indicate the benefits of using a exoscope system for surgery
- Identify when exoscope is not beneficial in spine surgery

11:25am – 11:40am Machine-Vision Image Guided Surgery: Cost-Effective, Radiation-Free Image Guided Surgery

Deep Guha, M.D.

Objectives:

- Illustrate the appropriateness and application of machine-vision image guided surgery
- Indicate the benefits of using the machine-vision image guided surgery
- Identify when machine-vision image guided surgery is not beneficial in spine surgery

11:40am- 11:55 am Minimally Invasive Techniques Using Image-Guided Surgery (IGS)

Hoan Tran, M.D.

Objectives:

- Illustrate the appropriateness and application of minimally invasive surgery using IGS
- Indicate the benefits of using minimally invasive techniques and IGS
- Identify when minimally invasive surgery with IGS is not beneficial in spine surgery

11:55am – 12:10pm Image-Guided Open Navigation Platform For Spinal Surgery

Adetokunbo A. Oyelese, M.D., Ph.D., FAANS

Objectives:

- Illustrate the appropriateness and application of the image-guided open navigation
- Indicate the benefits of using the image-guided open navigation for spinal surgery
- Identify when image-guided open navigation is not beneficial in spine surgery

12:10pm – 12:20pm Break & Pick Up Lunch

**12:20pm – 1:15pm Awake at the Wound
(working lunch)**
David Hanscom, M.D. and David Elaimy
Objectives:

- Illustrate the possibilities in treatment with pain management
- Predict future trends in treatment with regards to this therapy
- Discriminate potential shortcomings of this treatment modality

Part 3: Systems Integration (Chair: Ken Catchpole, M.D.)

1:15pm – 1:35pm Human Factors and Systems Integration in Spine Surgery
Ken Catchpole, Ph.D.
Objectives:

- Demonstrate the negatives of system integration in spine surgery
- Illustrate how human factors play a critical role including training and implementation
- Predict the future benefits of systems integration in spine surgery

1:35pm – 1:55pm Principles of LEAN and the Toyota Production System to Spine Surgery
Rajiv Sethi, M.D.
Objectives:

- Display the principles of LEAN
- Demonstrate how the LEAN principles can apply to spine surgery
- Indicate potential challenges with LEAN with regards to spine surgery

1:55pm – 2:15pm Prehab and the DOCC Process
David Hanscom, M.D.
Objectives:

- Display the principles of the DOC process
- Demonstrate how the DOCC process can apply to spine surgery
- Indicate potential challenges with DOCC with regards to spine surgery

Part 4: Hands-on Experience

2:15pm – 2:30pm Technology/Lab Station preview
Doniel Drazin, M.D.
Objective:

- Preview each lab station and what the technology is that is being highlighted

2:30pm – 4:30pm Hands-on BioSkills Lab Rotations (15 minute rotations)
Objectives:

- Demonstrate use of spinal imaging guidance systems
- Practice using robotic surgical systems in spine surgery
- Perform cadaveric procedures utilizing both image guidance and robotics

Station 1
Image-Guided Open Navigation Platform
Adetokunbo A. Oyelese, M.D., Ph.D., FAANS

Station 2
Minimally Invasive + Percutaneous + PSIS Pin
Terrence Kim, M.D. & David W. Polly, Jr., M.D.

Station 3
Minimally Invasive + Percutaneous
Hoan Tran, M.D.

Station 4

Robotics In Spine Surgery

Christopher Good, M.D.

Station 5

Laminectomy, Facetectomy, Osteostomies Made Easy

Robert Hart, M.D.

Station 6

Exoscopes In Spine Surgery: Robotics

Rod Oskouian, Jr., M.D. & Jordan Amadio, M.D.

Station 7

Exoscopes In Spine Surgery: 3D

Doniel Drazin, M.D.

Station 8

Machine-Vision Image Guided Surgery

Deep Guha, M.D.

Station 10

Robotic Applications In Spine Surgery

Michel Lefranc, M.D.

4:30pm

Adjourn

COURSE FACULTY

Jordan Amadio, M.D.

Neurosurgeon
Emory University School of Medicine
Atlanta, Georgia

Ken Catchpole, Ph.D.

Professor of Clinical Practice and Human Factors
Medical University of South Carolina
Charleston, South Carolina

Jens Chapman, M.D.

Complex Spine Surgeon
Swedish Neuroscience Institute
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David Elaimy

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