



Johns Hopkins University
School of Medicine
Department of Neurosurgery

Presents

EIGHTH ANNUAL

Johns Hopkins

Spine Workshop

September 7–8, 2018

Vista Labs

A Cadaveric Surgical Training Center
Baltimore, Maryland

This activity is approved for *AMA PRA Category 1 Credits™*.

Illustration by Ian Suk, Johns Hopkins University Department of Neurosurgery



JOHNS HOPKINS
MEDICINE

DESCRIPTION

With safety as an utmost priority in spinal surgery, it is imperative that surgical trainees receive continual anatomical education. This is accomplished in the operating room while trainees learn on live patients. However, the safest way to learn is via cadaveric instruction. With the cost of health care increasing, the decrease in industry sponsored cadaveric courses due to political pressures against industry-sponsored medical education, and decreased working hours for physicians, such education is now at a premium. A spine cadaveric workshop is not only demanded but required in the current medical education so that surgeons can continue to be trained in safe and effective surgical techniques on the spine.

WHO SHOULD ATTEND

This activity is intended for spinal neurosurgeons and orthopaedic surgeons.

OBJECTIVES

After attending this activity, the participant will demonstrate the ability to:

- State indications and options for patients with spinal disorders.
- Describe technical instructions in decompressing and stabilizing the spinal column using minimally invasive techniques as well as standard and new techniques.
- Practice and improve spinal techniques before performing on a patient.
- Discuss the pros and cons of demonstrated procedures, better informing an action plan.
- Assess the anatomy of the spine, including occipital, thoracic, lumbar, sacral and pelvic regions in spine surgery.

ACCREDITATION STATEMENT

The Johns Hopkins University School of Medicine is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.



CREDIT DESIGNATION STATEMENT

The Johns Hopkins University School of Medicine designates this live activity for a maximum of 20 *AMA PRA Category 1 Credits*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

POLICY ON SPEAKER AND PROVIDER DISCLOSURE

It is the policy of the Johns Hopkins University School of Medicine that the speaker and provider globally disclose conflicts of interest. The Johns Hopkins University School of Medicine OCME has established policies that will identify and resolve conflicts of interest prior to this educational activity. Detailed disclosure will be made prior to presentation of the education.

NOTICE ABOUT OFF-LABEL USE PRESENTATIONS

The Johns Hopkins University School of Medicine / *Eighth Annual Johns Hopkins Spine Workshop* may include presentations on drugs or devices, or use of drugs or devices, that have not been approved by the Food and Drug Administration (FDA) or have been approved by the FDA for specific uses only. The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or device he or she wishes to use in clinical practice.

The Johns Hopkins University School of Medicine is committed to the free exchange of medical education. Inclusion of any presentation in this program, including presentations on off-label uses, does not imply an endorsement by Johns Hopkins of the uses, products, or techniques presented.

AMERICANS WITH DISABILITIES ACT

The Johns Hopkins University School of Medicine fully complies with the legal requirements of the ADA and the rules and regulations thereof.

COPYRIGHT INFORMATION

All rights reserved. No part of this syllabus may be used or reproduced in any manner whatsoever without written permission except in the case of brief quotations embodied in articles or reviews.

WHAT YOU SHOULD KNOW ABOUT GIFTS TO PHYSICIANS FROM INDUSTRY

Gift giving from the pharmaceutical, device and medical equipment industries to physicians has long been a customary practice. But when gift giving is not practiced within established ethical boundaries, the perception of conflict of interest is raised. All physicians and physicians in training should adhere to the AMA Code of Medical Ethics, Opinion 8.061, "Gifts to Physicians from Industry" which can be found under the AMA Code of Medical Ethics at www.ama-assn.org/go/ethicalgifts.

Johns Hopkins faculty, staff, employees, students, and trainees must adhere to the more restrictive Johns Hopkins Medicine Policy on Interaction with Industry that can be found on HopkinsMedicine.org by clicking Research > For Our Researchers > Research Affairs Offices > Office of Policy Coordination > Policy on Interaction with Industry or directly through this link http://www.hopkinsmedicine.org/Research/OPC/Policy_Industry_Interaction.

General Information

CME CREDIT FOR PHYSICIANS (MDs and DOs):

In accordance with our accreditation guidelines, we have instituted a self-reporting system for physicians to obtain *AMA PRA Category 1 Credit*[™]. Physicians must attest to the exact number of hours that they have been in attendance. Attestation will be required on the online post-activity evaluation.

Date	Maximum Approved Hours
September 7, 2018	10.75
September 8, 2018	9.25

Please Note: *Certificates for all attendees will be available upon submission of the online evaluation form that will be available to you post-activity.*

SIGN-IN FOR ALL PARTICIPANTS

Please be sure to sign in **once** to verify your attendance. If you have paid for your registration by Hopkins Tuition Remission (TR), you must, per University policy, sign in and/or pick up your name badge at the registration desk to confirm your attendance. If we cannot verify attendance by sign in sheet or badge, we must bill the cost of your registration back to your department as a no show fee (per TR policy).

EVALUATIONS

Following the activity each attendee will be able to access the post-activity evaluation via the My CME section after signing in at <https://hopkinscme.cloud-cme.com>. The evaluation must be completed by **October 22, 2018** in order to receive your certificate of credit. The evaluations are most helpful to us in planning future programs, and we appreciate your comments and suggestions. We ask you to evaluate each speaker.

OUTCOMES SURVEY

An outcomes survey will be sent to all physician attendees within two months post activity to assist us in determining what impact this activity had on the attendee's practice.

EMERGENCY TELEPHONE NUMBER

Direct any calls to (410) 637-3704. A message will be posted for you.

ELECTRONIC DEVICES

As a courtesy to speakers and other attendees, please turn off all cell phones and pagers while the meeting is in progress.

CONTACT INFORMATION

Johns Hopkins University School of Medicine
Office of Continuing Medical Education
Turner 20, 720 Rutland Avenue
Baltimore, Maryland 21205-2195

Telephone.....(410) 502-9636
Fax(866) 510-7088
Website<https://hopkinscme.cloud-cme.com>
E-mail CME cmenet@jhmi.edu

CONFIDENTIALITY DISCLAIMER FOR CME CONFERENCE ATTENDEES

I certify that I am participating in a Johns Hopkins University School of Medicine CME activity for accredited training and/or educational purposes.

I understand that while I am participating in this capacity, I may be exposed to “protected health information,” as that term is defined and used in Hopkins policies and in the federal HIPAA privacy regulations (the “Privacy Regulations”). Protected health information is information about a person’s health or treatment that identifies the person.

I pledge and agree to use and disclose any of this protected health information only for the training and/or educational purposes of my visit and to keep the information confidential. I agree not to post or discuss this protected health information, including pictures and/or videos, on any social media site (e.g. Facebook, Twitter, etc.), in any electronic messaging program or through any portable electronic device.

I understand that I may direct to the Johns Hopkins Privacy Officer any questions I have about my obligations under this Confidentiality Pledge or under any of the Hopkins policies and procedures and applicable laws and regulations related to confidentiality. The contact information is: Johns Hopkins Privacy Officer, telephone: 410-735-6509, e-mail: HIPAA@jhmi.edu.

“The Office of Continuing Medical Education at the Johns Hopkins University School of Medicine, as provider of this activity, has relayed information with the CME attendees/participants and certifies that the visitor is attending for training, education and/or observation purposes only.”

For CME Questions, please contact the CME Office
(410) 955-2959 or e-mail cmenet@jhmi.edu.
For CME Certificates, please call (410) 502-9636.

Johns Hopkins University School of Medicine
Office of Continuing Medical Education
Turner 20/720 Rutland Avenue
Baltimore, Maryland 21205-2195

*Reviewed & Approved by:
General Counsel, Johns Hopkins Medicine (4/1/03)
(Updated 4/09 and 3/14)*

ACKNOWLEDGEMENT

We wish to acknowledge the following companies that have provided an educational grant in support of this activity. Please note that the commercial support received is solely for the educational component of the activity and will not be used to provide food and beverage.

Globus Medical

Medical Device Business Services, Inc.

Medtronic

NuVasive, Inc.

Stryker Corporation

We wish to acknowledge the following companies that have provided a gift-in-kind in support of this activity. Please note that the commercial support received is solely for the educational component of the activity and will not be used to provide food and beverage.

Globus Medical

Medical Device Business Services, Inc.

Medtronic

The Physician Payments Sunshine Act was enacted by Congress to increase public awareness of financial relationships between drug and medical device manufacturers and physicians. In compliance with the requirements of this Act, the commercial supporter/s of this activity may require the Johns Hopkins University School of Medicine to report certain professional information (such as name, address, National Provider Identifier (NPI), and State License number) of physician attendees who receive complimentary food and beverage in conjunction with a CME activity. The commercial supporter is required to submit the collected data to the Centers for Medicare and Medicaid Services which will then publish the data on its website.

EXHIBITORS

Platinum Level

Baxter Healthcare

Bronze Level

Ethicon US, LLC

Globus Medical

Stryker Corporation

FULL DISCLOSURE POLICY AFFECTING CME ACTIVITIES

As a provider approved by the Accreditation Council for Continuing Medical Education (ACCME), Johns Hopkins University School of Medicine Office of Continuing Medical Education (OCME) requires attested and signed global disclosure of the existence of all financial interests or relationships with commercial interest from any individual in a position to control the content of a CME activity sponsored by OCME. The following relationships have been reported for this activity:

SPEAKERS NAME

Ali Baaj, MD

James Harrop, MD

Ryan Kretzer, MD

Ilya Laufer, MD

Brian Neuman, MD

Ali Ozturk, MD

Charles Sansur, MD

Daniel Sciubba, MD

Nicholas Theodore, MD

Reza Yassari, MD

No other speakers have indicated that they have any financial interests or relationships with a commercial entity.

PLANNERS NAME

Daniel Sciubba, MD

No other planners have indicated that they have any financial interests or relationships with a commercial entity.

Note: Grants to investigators at the Johns Hopkins University are negotiated and administered by the institution which receives the grants, typically through the Office of Research Administration. Individual investigators who participate in the sponsored project(s) are not directly compensated by the sponsor, but may receive salary or other support from the institution to support their effort on the project(s).

RELATIONSHIPS

Honoraria: DePuy Synthes

Consulting Fee: Johnson and Johnson (DePuy/Ethicon)

Fees for Non-CE Services Received Directly from a Commercial Interest or its Agent: Stryker

Consulting Fee: Globus Medical, Institute for Musculoskeletal Science and Education, LLC, NuVasive, Stryker Spine

Royalty: Globus Medical, Institute for Musculoskeletal Science and Education, LLC, NuVasive

Surgeon Advisory Board: NuVasive

Consulting Fee: Brainlab, DePuy Synthes, Globus, Medtronic and SpineWave

Grant Research: Depuy Synthes

Principal Investigator: Depuy Synthes

Consulting Fee: Depuy Synthes

Consulting Fee: Globus, Medtronic and Stryker

Honoraria: K2M

Consulting Fee: Depuy Synthes, Globus, K2M, Medtronic, Nuvasive, Stryker

Royalty: Depuy Synthes, Globus Medical

Consulting Fee: Depuy Synthes, Globus Medical, Medicolegal Case Review

Fellowship Support/Research: AO North America

Honoraria: Globus

RELATIONSHIPS

Consulting Fee: Depuy/Synthes, Globus, K2M, Medtronic, Nuvasive, Stryker

Speakers

Activity Director

Daniel Sciubba, MD

Professor of Neurosurgery, Oncology and Orthopaedic Surgery

Johns Hopkins Speakers

Ali Bydon, MD

Professor of Neurosurgery

Sheng-fu Larry Lo, MD, MHS

Assistant Professor of Neurosurgery

Brian Neuman, MD

Assistant Professor of Orthopaedic Surgery

Lee Riley, III, MD

Professor of Neurosurgery and
Orthopaedic Surgery

Zadek Family Professorship in
Orthopaedic Surgery

Vice Director, Clinical Operations

Nicholas Theodore, MD, MS, FACS

Professor of Biomedical Engineering,
Neurosurgery, Orthopaedics and Pediatrics

Director, Neurosurgical Spine Center

Guest Speakers

Ali Baaj, MD

Associate Professor of Neurological Surgery

Co-Director, Spinal Deformity and
Scoliosis Program

Weill Cornell Medical Center
New York, New York

Benjamin Elder, MD, PhD

Staff Neurosurgeon

Mayo Clinic

Rochester, Minnesota

Rory Goodwin, MD, PhD

Assistant Professor of Neurosurgery

Director, Metastatic Spine Tumor

Chief, Spinal Tumor Section

Duke University School of Medicine
Durham, North Carolina

James Harrop, MD

Professor of Neurological Surgery

Chief, Division of Spine and

Peripheral Nerve Surgery

Thomas Jefferson Hospital
Philadelphia, Pennsylvania

Ryan Kretzer, MD

Partner, Western Neuro

Director, Spine Surgery Division

Vice Chair, Department of Neurosciences

Carondelet Neurological Institute

St. Joseph's Hospital

Tucson, Arizona

Ilya Laufer, MD

Neurosurgeon

Director, Minimally Invasive Spine

Tumor Surgery Program

Memorial Sloan Kettering Cancer Center
New York, New York

Christopher Neal, MD

Associate Program Director of Neurosurgery

Walter Reed National Medical Center

Bethesda, Maryland

Ali Ozturk, MD

Assistant Professor of Medicine

Pennsylvania Hospital

Philadelphia, Pennsylvania

Charles Sansur, MD

Associate Professor of Neurosurgery

Director, Spine Surgery

University of Maryland Medical Center

Baltimore, Maryland

Reza Yassari, MD

Associate Professor of Clinical Neurological

The Leo M. Davidoff Department of

Neurological Surgery

Albert Einstein College of Medicine

Bronx, New York

Program

Friday, September 7, 2018

- 6:30 - 7:00 Registration and Continental Breakfast
- 7:00 - 7:30 **Welcome and Conference Goals**
Daniel Sciubba, MD

Lecture Session I - Occipito-Cervical Access and Instrumentation

- 7:30 - 7:50 **Anterior Approaches to Subaxial Cervical Spine (ACDF, ACCE, Odontoid Screw)**
James Harrop, MD
- 7:50 - 8:10 **Posterior Cervical Instrumentation (Lateral Mass, C1-2, Translaminar, Occipito-Cervical)**
Nicholas Theodore, MD, MS, FACS
- 8:10 - 8:30 **Anterior Approaches to Craniocervical Junction**
Sheng-fu (Larry) Lo, MD, MHS
- 8:30 - 8:45 Refreshment Break

Concurrent Laboratory Session I - Cervical Approaches and Instrumentation

Hands-on Cadaver Workshop 1

- 8:45 - 10:00 **Anterior Cervical Discectomy, Anterior Cervical Corpectomy, Cage and Plate, Odontoid Screw**
All Faculty
- 10:00 - 11:45 **Occipital, C1, C2, Lateral Mass Screws, Translaminar Screws**
All Faculty

Hands-on Cadaver Workshop 2

- 9:00 - 11:45 **Transoral Dissection Table**
Daniel Sciubba, MD
- 11:45 - 1:00 Working Lunch
- 12:00 - 12:30 **Cervical Degenerative Case Discussion**
Ali Bydon, MD and Lee Riley, III, MD
- 12:30 - 1:00 **Cervical Spine Trauma**
Charles Sansur, MD

Lecture Session II - Posterior Instrumentation and Approaches to Thoracic, Lumbar, Sacrum and Pelvis

- 1:00 - 1:30 **Thoracic, Lumbar, Sacral and Pelvic Screw Placement**
Christopher Neal, MD
- 1:30 - 2:00 **Posterior Lumbar Osteotomies (Ponte, Smith-Peterson Osteotomy, Pedicle Subtraction Osteotomy)**
Benjamin Elder, MD, PhD
- 2:00 - 2:30 **Posterior Thoracic Osteotomies (Ponte, Smith-Peterson Osteotomy, Vertebral Column Resection)**
Brian Neuman, MD

Program, Continued

Laboratory Session II - Posterior Instrumentation and Approaches to Thoracic, Lumbar, Sacrum and Pelvis

- 2:30 - 3:30 **Placement of Pedicle Screws in Thoracic, Lumbar, Sacrum and Pelvis**
All Faculty
- 3:30 - 4:30 **L3 Pedicle Subtraction Osteotomy**
All Faculty
- 4:30 - 5:30 **T8 Vertebral Column Resection**
All Faculty
- 5:30 - 5:50 **Cervical Tumor Case Review**
Ilya Laufer, MD
- 5:50 - 6:10 **Cervical Deformity Case Review**
Ali Ozturk, MD

Saturday, September 8, 2018

- 6:30 - 6:50 Continental Breakfast
- 6:50 - 7:00 **Conference Goals**
Daniel Sciubba, MD

Lecture Session III – Minimally Invasive Approaches to T-L-S Spine

- 7:00 - 7:30 **Spinal Biomechanics/Global Balance**
Ryan Kretzer, MD
- 7:30 - 8:00 **Minimally Invasive Posterior Approaches (Discectomy, Laminectomy, TLIF, Percutaneous Screws)**
Reza Yassari, MD
- 8:00 - 8:30 **Minimally Invasive Lateral Approaches to T-L Spine (XLIF, DLIF)**
Benjamin Elder, MD, PhD
- 8:30 - 9:00 **Minimally Invasive Approaches to Adult Degenerative Spinal Deformity**
Ali Baaj, MD

Concurrent Laboratory Session III – Minimally Invasive Approaches to T-L-S Spine

Hands-on Cadaver Workshop 3

- 9:00 - 10:30 **Minimally Invasive TLIF with Placement of Percutaneous Pedicle Screws (L4-5)**
All Faculty
- 10:30 - 12:00 **Minimally Invasive Lateral Approaches to Lumbar Spine (XLIF, DLIF) (L3-4)**
All Faculty
- 11:45 - 1:00 Working Lunch
- 12:00 - 12:30 **MIS Case Discussion**
Sheng-fu Larry Lo, MD, MHS
- 12:30 - 1:00 **Adult Deformity Case Discussion**
Benjamin Elder, MD, PhD

Lecture Session IV – Anterior and Lateral Open Approaches to T-L Spine

- 1:00 - 1:30 **Anterior Transcavitary Approaches
(Sternotomy, Manubriotomy, Aorticaval Windows)**
Daniel Sciubba, MD
- 1:30 - 2:00 **Lateral Open Access to T-L Spine
(Thoracotomy, Thoraco-abdominal Approach)**
Rory Goodwin, MD, PhD

Laboratory Session IV – Anterior and Lateral Open Approaches to T-L Spine

- 2:00 - 3:00 **Sternotomy and Trap-door Thoracotomy**
All Faculty
- 3:00 - 4:00 **Thoraco-Abdominal/10th Rib Approach, L1 Vertebrectomy,
T12-L2 Reconstruction**
All Faculty
- 4:00 Adjourn

You will receive an email notification to complete the evaluation form and to attest to the number of hours in attendance.

The Registration Desk will remain open during conference hours.

The Johns Hopkins University School of Medicine takes responsibility for the content, quality and scientific integrity of this CME activity.

This schedule is subject to change.



JOHNS HOPKINS
M E D I C I N E