



A comprehensive approach  
for Neurosurgeons,  
Orthopaedic Surgeons,  
Medical Spine Specialists,  
and Advanced Practice  
Providers

**July 23–28, 2025**

Cleveland Clinic Lutheran Hospital  
and Hyatt Regency at the Arcade  
Cleveland, OH

Honored Guest Lecturer

**Luis Manual Tumialán, MD**

Barrow Brain and Spine

[www.ccfcmcme.org/CSR25](http://www.ccfcmcme.org/CSR25)



# Ed Benzel Cleveland Spine Review: *Hands-On 2025*

Presented by Cleveland Clinic Center for Spine Health



# Ed Benzel Cleveland Spine Review: *Hands-On 2025*



**Ed Benzel Cleveland Spine Review: *Hands-On 2025*** is a comprehensive course utilizing the cadaver laboratory and didactic sessions with ample time for discussion. This intensive course emphasizes the fundamentals of spine surgery, particularly biomechanical considerations, and the surgery decision-making process.

Through intensive, hands-on sessions utilizing cadavers, participants study surgical techniques and strategies for a range of procedures including occipitocervical, cervical, thoracic, and lumbar fixation techniques. Complex surgical exposures in all regions of the spine are emphasized.

Led by experienced faculty, the course examines the multiple adjuncts to surgery, including soft tissue and bone retractors and distractors, minimally invasive surgical techniques, spinal implants (from multiple vendors), and dissection tools. Non-operative strategies are also emphasized. Significant time is dedicated to operative indication discussions. The problem-based decision-making process is introduced and emphasized during these very interactive discussions.

Upon completion of the Cleveland Spine Review, the participant will be able to:

- Utilize problem-based decision-making to develop logical algorithms for solving complex problems.
- Employ physiological and surgical principles to spinal fusion and instrumentation.
- Apply anatomic and physiologic principles to the variety of surgical approaches available to access all regions of the spine.
- Recognize the fundamental skills required to perform the most appropriate operation for any given clinical pathology, and to recognize one's own limitations in this regard.
- Evaluate available instrumentation systems and appreciate the advantages of each, as well as the relative indications for their use.

## Why Should Non-Surgeons Attend?

Nurses, Advanced Practice Nurses, Physician Assistants, Physiatrists and other medical spine specialists have the unique opportunity to learn side by side, in didactic sessions as well as a cadaver laboratory, with surgeons in a relaxed, collegial atmosphere.

Additionally, a special session for non-surgeons is held prior to the start of the Spine Review on the first day to meet fellow attendees and prepare for the content to be presented throughout the remainder of the course.

A variety of non-surgical breakout sessions and a cadaver dedicated to non-surgeons gives participants a multifaceted learning experience. Social functions complete an extremely memorable course.



## Register now for the July 23–28 hands-on course in Cleveland

These are verbatim comments taken from the evaluation form of past course attendees:

"I have learned so much about management of patients, who to offer surgery to and who not to, how to evaluate spinal conditions, how to order injections"

"Amazingly insightful (and often entertaining) presentations."

"The presenters were full of information and knowledge. They were not only passionate about their presentation but were willing to stay over to answer questions."

"Very collegial group that kept the course fun and informative."

"Practice pearls and cases were excellent. Very solid course from top to bottom."

"This was well presented and the flow of information was in a way that was easy to comprehend and in a reinforcing manner. Even though I have attended this event before the material was updated and fresh. Excellent group of people with a diverse set of thoughts and opinions."

Register online at [www.ccfcmc.org/CSR25](http://www.ccfcmc.org/CSR25)



## The Art Steffee Honored Guest Lecturer

**Louis Tumialán**  
Barrow Neurological Institute

## Course Directors

**Edward C. Benzel, MD**  
Cleveland Clinic, Cleveland, OH

**Jason Savage, MD**  
Cleveland Clinic, Cleveland, OH

**Richard Schlenk, MD**  
Cleveland Clinic, Cleveland, OH

**Michael Steinmetz, MD**  
Cleveland Clinic, Cleveland, OH

**Gregory R. Trost, MD**  
University of Wisconsin, Madison, WI

## Planning Committee Members

**Erin Anderson, PA-C**  
Cleveland Clinic, Cleveland, OH

**Andrea Strayer, PhD, NP, CNRN**  
University of Iowa, Iowa City, IA

**Rachel Waite, CNP**  
Cleveland Clinic, Cleveland, OH

## Luis Manuel Tumialán

### The Art Steffee Honored Guest Lecturer

**Luis Manuel Tumialán** is a Professor of Neurosurgery at the Barrow Neurological Institute specializing in minimally invasive spinal surgery. He graduated from Georgetown University School of Medicine, completed his internship at the Naval Medical Center in San Diego. Dr. Tumialán completed additional training in undersea medicine in Groton Connecticut and Navy Dive School in Panama City, Florida. Upon completion of his operational training, he served as the Diving Medical Officer assigned to Naval Special Warfare Unit One in Guam during the Global War on Terror in the aftermath of September 11th, 2001. He received a Naval and Marine Corps Commendation Medal for service in support of Operation Enduring Freedom in Southeast Asia and a Navy Humanitarian Medal for the search and maritime rescue of a foreign national.



Once he returned to the mainland, Dr. Tumialán completed his neurosurgery training at Emory University School of Medicine and returned to the Naval Medical Center in San Diego where he conducted extensive research on the outcomes of spinal motion preservation in active duty military and the impact of minimally invasive surgery on return to active duty military service. He joined Barrow Brain and Spine in 2010 where he serves as the director of minimally invasive spine surgery the HonorHealth system. Dr. Tumialán's main interests are in minimally invasive spinal surgery and motion preservation surgery of the spine as well as developing techniques for the next generation of spinal surgery.

Dr. Tumialán has served as the Scientific Program Chairman, Annual Meeting Chairman and Secretary for the AANS/CNS Spine Section. Dr. Tumialán has been named Chair- Elect of the Spine Section for 2027. He has also served as the Scientific Program Chair for the Society of Minimally Invasive Spinal Surgeons (SMISS) and the International Society for the Advancement of Spinal Surgery (ISASS). He currently serves as the secretary of ISASS. Dr. Tumialán also serves as a Director for the American Board of Neurological Surgeons (ABNS). His interest in socioeconomics has led him to the Council of State Neurosurgical Societies (CSNS) where he has served as Treasurer, Corresponding Secretary and is currently the Vice Chair of that organization.

Dr. Tumialán is on the editorial board for both the Journal of Neurosurgery: Spine and Associate Editor for Operative Neurosurgery. He has authored over 130 peer reviewed publications and over 20 book chapters on spinal surgery.

In 2020, Dr. Tumialán published a single authored textbook entitled "Minimally Invasive Spine Surgery: A Primer". He lives in Phoenix, Arizona with his wife Andrea, his three sons (Julian, Andreas and Lucian) and his daughter (Soledad).

## Guest Faculty

**Jonathan Belding, MD**  
MetroHealth Medical Center

**Nathaniel Brooks, MD**  
University of Wisconsin

**Eldad Hadar, MD**  
University of North Carolina

**Gwyneth Hughes, MD**  
Akron Children's Hospital

**Kristen Jones, MD**  
University of Minnesota

**Sameer Kitab, MD**  
University of Al-Qadisiyah, Iraq

**Vince Miele, MD**  
University of Pittsburgh

**Des Kwok, MD**  
Hamilton General Hospital

**Eric Momin**  
Grand Junction, Colorado

**Tim Moore, MD**  
Hamilton General Hospital

**Rakesh Patel, MD**  
University of Michigan

**Sharad Rajpal**  
Avista Adventist Hospital

**Abdelfattah Saoud, MD, PhD**  
Ain Shams University

**Brad Schmidt, MD**  
University of Wisconsin

**Shelly Schmoller, PA-C**  
University of Wisconsin

**Ganesh Shankar, MD, PhD**  
Massachusetts General Hospital

**Gabe Smith, MD**  
University Hospitals of Cleveland

**Andrea Strayer, PhD, NP, CNRN**  
University of Iowa

**Suzanne Tharin, MD, PhD**  
Stanford University

**Andrew Wakefield, MD**  
Hartford Hospital

## Cleveland Clinic Faculty

**Erin Anderson, PA-C**  
Center for Spine Health

**Ryan Goodwin, MD**  
Orthopedic Surgery

**Kush Goyal, MD**  
Center for Spine Health

**Augusto Hsia, MD**  
Center for Spine Health

**Iain Kalfas, MD**  
Center for Spine Health

**Ajit Krishnaney, MD**  
Center for Spine Health

**Tom Mroz, MD**  
Center for Spine Health

**Doug Orr, MD**  
Center for Spine Health

**Dominic Pelle, MD**  
Center for Spine Health

**Richard Rammo, MD**  
Center for Neurological Restoration

**Pablo Recinos, MD**  
Brain Tumor and Neuro-Oncology Center

**Sarah Rispinto, PhD**  
Center for Spine Health

**Joanne Schneider, DNP**  
Pain Management

**Alison Stout, DO**  
Center for Spine Health before Santhosh Thomas

**Santhosh Thomas, DO**  
Center for Spine Health

**Jenny Wu, MD, MRMD**  
Diagnostic Radiology

**Rachel Waite, CNP**  
Center for Spine Health

## Unique Features of the Course

- Interactive Small Group Case Presentations: Participants are encouraged to bring cases for discussion
- Collegial atmosphere with ample opportunity to pose questions to the faculty and honored guest one-on-one and during lectures

## Course Schedule

- The program runs from Wednesday, July 23, through Monday, July 28.
- The pre-course non-surgical lectures begin at 11 a.m. on Wednesday, July 23.
- Round-trip transportation from the Hyatt Regency Hotel at the Arcade to Cleveland Clinic Lutheran Hospital will be provided each day.

## 5 Reasons Not to Miss Cleveland Spine Review 2025

1. Appropriate for oral board preparation. Emphasis is given to the fundamentals of spine surgery (especially biomechanical considerations) and the surgery decision-making process, but the week-long program also allows for a deep dive into a rich array of subtopics in spine care with more than 50 lectures and daily case review sessions.
2. A serious devotion to “hands-on.” The course is true to its name by pairing its didactic lectures with eight dedicated hands-on sessions in the cadaver laboratory.
3. Ample time for discussion and problem-based learning. Participant questions are highly encouraged throughout all portions of the course, and significant time is dedicated to operative indication discussions.
4. An extensive faculty from across the nation and the globe. Half of the course’s faculty are from or trained at Cleveland Clinic and the remaining half is from US and internationally renowned universities and medical centers.
5. This activity has been approved for *AMA PRA Category 1 Credits™*, ANCC Contact Hours, and AAPA Category 1 CME Credits with more than 50 credit hours.



## Cleveland Spine Review

### Wednesday, July 23, 2025

- 12:00–12:45 p.m. **Welcome and Introduction** – *Ed Benzel*
- 12:45–1:15 p.m. **Preoperative Evaluation / Assessment of the Spine Surgery Patient** – *Shelly Schmoller*
- 1:15–1:45 p.m. **Medical Management of Complex Spine Surgery Patients**  
*Suzanne Tharin*
- 1:45–2:15 p.m. **Bone Health** – *Gus Hsia*
- 2:15–2:45 p.m. **Intraoperative Radiation Exposure and Its Implications**  
*Thomas Mroz*
- 2:45–3:15 p.m. **Post-op Pain Management ERAS** – *Ajit Krishnaney*
- 3:15–3:30 p.m. Beverage Break
- 3:30–3:50 p.m. **How to Read the Literature** – *Suzanne Tharin*
- 3:50–4:35 p.m. **Team Building, Collaboration, and Efficiency in the OR** –  
*Brad Schmidt*
- 4:35–5:05 p.m. **Spinal Injections: What, When, and Where** – *Alison Stout*
- 5:05–5:35 p.m. **Mimics of Spine Pathology** – *Jason Savage*
- 5:35–6:05 p.m. **Image Guidance in Spine Surgery** – *Iain Kalfas*
- 6:05–7:20 p.m. **Panel Discussion** – *Richard Schlenk, Moderator*  
*Panel: Sarah Rispinto, Richard Rammo, Santhosh Thomas*
- 6:30–7:00 p.m. **CSM Case Discussion** – *Doug Orr / Greg Trost*



### Thursday, July 24, 2025

- 6:45–7:00 a.m. **Short Subjects** – *Ed Benzel*
- 7:00–7:30 a.m. **Fundamentals of Biomechanics** – *Andy Wakefield*
- 7:30–8:10 a.m. **Approaches to the Craniocervical Junction** – *Eric Momin*
- 8:10–8:30 a.m. **Endoscopic Treatment of Craniocervical Junction Pathology** – *Pablo Recinos*
- 8:30–9:00 a.m. **Current Strategies in Craniocervical Stabilization**  
*Ajit Krishnaney*
- 9:00–9:15 a.m. **It's All About the Hike** – *Ed Benzel*
- 9:15–9:45 a.m. **Ventral Cervical Surgery and Complications**  
*Thomas Mroz*
- 9:45–10:15 a.m. Break
- 10:15–10:45 a.m. **Getting Out of Trouble in Cervical Spine Surgery**  
*Sharad Rajpal*
- 10:45–11:15 a.m. **Revision Spine Surgery** – *Doug Orr*
- 11:15 a.m.–12:15 p.m. **Working Lunch: Craniocervical Case** – *Greg Trost*
- 12:15–12:30 p.m. **Transition to Lab**
- 12:30–2:45 p.m. **Lab 1 & 2: Craniocervical Junction / Ventral Cervical Surgery** – *Faculty*
- 2:45–3:15 p.m. **Cervical Trauma** – *Tim Moore*
- 3:15–3:45 p.m. **Pediatric Spine Trauma** – *Gwyneth Hughes*
- 3:45–4:30 p.m. **Case Discussion** – *Faculty*



## Cleveland Spine Review

### Friday, July 25, 2025 at Lutheran Hospital

- 6:45–7:00 a.m. **Short Subjects** – *Ed Benzel*
- 7:00–7:30 a.m. **Biomechanics of Instrumentation and Construct Design**  
*Eric Momin*
- 7:30–7:45 a.m. **Cervical Foraminotomy and Laminoplasty Indications and Techniques** – *Dom Pelle*
- 7:45–8:00 a.m. **Cervical Laminectomy and Fusion Indication and Techniques** – *Eldad Hadar*
- 8:00–8:30 a.m. **Cervical Deformity: Diagnosis and Treatment**  
*Jason Savage*
- 8:30–9:05 a.m. **Case Based Decision Making** – *Des Kwok*
- 9:05–9:15 a.m. **Transition to Lab**
- 9:15–11:30 a.m. **Lab 3: Dorsal Cervical Exposure and Craniocervical Fixation** – *Faculty*
- 11:30 a.m.–12:15 p.m. **Lunch with Cases** – *Faculty*
- 12:15–12:30 p.m. **It's All About the Hike 2** – *Ed Benzel*
- 12:30–1:00 p.m. **Biomechanics: Back Pain, Fusion, and Motion Preservation** – *Roc Patel*
- 1:00–1:45 p.m. **SPINE BOWL 1** – *Greg Trost / Suzanne Tharin*
- 1:45–1:50 p.m. **Transition to Lab**
- 1:50–3:50 p.m. **Lab 4: Dorsal Cervical Instrumentation, Deformity Correction, and CT Exposure** – *Faculty*
- 3:50–5:00 p.m. **Case Presentations** – *Mike Steinmetz*

### Saturday, July 26, 2025

- 8:00–8:15 a.m. **Short Subjects** – *Ed Benzel*
- 8:15–9:00 a.m. **Journal Club – Analyzing the Literature** – *Suzanne Tharin*
- 9:00–9:30 a.m. **How to Write an Article for Publication** – *Ed Benzel*
- 9:30–10:00 a.m. **Steve Halton Jr Memorial Lecture** – *Luis Tumialán*
- 10:00–10:30 a.m. **Surgery of the Geriatric Spine** – *Doug Orr*
- 10:30–11:30 a.m. **Innovations in Spine Surgery** – *Mike Steinmetz and Jason Savage*
- 11:30 a.m.–12:00 p.m. **Saturday Morning Cases** – *All Faculty*  
CSM / L5 Foraminal Stenosis / Neuro Intact Burst
- 12:00–12:30 p.m. **What to Do When Neuromonitoring Changes**  
*Mike Steinmetz*
- 12:30–1:00 p.m. **It's All About the Hike** – *Ed Benzel*



## Cleveland Spine Review

### Sunday, July 27, 2025

8:00–8:15 a.m.	<b>Short Subjects</b> – <i>Ed Benzel</i>
8:15–8:45 a.m.	<b>Spine Tumors: Work-up and Treatment Options</b> <i>Ajit Krishnaney</i>
8:45–9:00 a.m.	<b>Spinal Radiosurgery</b> – <i>Ganesh Shankar</i>
9:00–9:30 a.m.	<b>Exposure of the Cervicothoracic Junction</b> <i>Richard Schlenk</i>
9:30–10:00 a.m.	<b>Dorsal Thoracic and Lumbar Instrumentation</b> <i>Nathaniel Brooks</i>
10:00–10:05 a.m.	<b>Transition to Lab</b>
10:05 a.m.–12:30 p.m.	<b>Lab 5: Dorsal Thoracic Exposure / Instrumentation</b> <i>Faculty</i>
12:30–1:25 p.m.	<b>ART STEFFEE Lecture</b> – <i>Luis Tumialán</i>
1:25–1:45 p.m.	<b>Lumbar Complications</b> – <i>Andrew Wakefield</i>
1:45–2:15 p.m.	<b>Open Thoracoadbominal and Retroperitoneal Approach</b> <i>Roc Patel</i>
2:15–2:45 p.m.	<b>ALIF OLIF LLIF Exposure and Technique</b> <i>Dom Pelle</i>
2:45–2:50 p.m.	<b>Transition to Lab</b>
2:50–4:45 p.m.	<b>Lab 6: Ventral Exposures and Instrumentation</b> <i>Faculty</i>
4:45–5:30 p.m.	<b>SPINE BOWL 2</b> – <i>Greg Trost / Suzanne Tharin</i>

### Monday, July 28, 2025 at Lutheran Hospital

6:45–7:00 a.m.	<b>Short Subjects</b> – <i>Ed Benzel</i>
7:00–7:30 a.m.	<b>Thoracolumbar Trauma – Case Based</b> – <i>Kristen Jones</i>
7:30–8:00 a.m.	<b>Case Studies</b> – <i>Jonathan Belding</i>
8:00–8:30 a.m.	<b>Pediatric Scoliosis</b> – <i>Ryan Goodwin</i>
8:30–8:45 a.m.	<b>Adult Deformity: Measurement and Classification</b> <i>Jason Savage</i>
8:45–9:15 a.m.	<b>Degenerative Spondylolisthesis and Scoliosis</b> <i>Richard Schlenk</i>
9:15–9:30 a.m.	<b>Iatrogenic Deformity Prevention</b> – <i>Ajit Krishnaney</i>
9:30–10:00 a.m.	<b>Deformity Correction Techniques</b> – <i>Doug Orr</i>
10:00–10:30 a.m.	<b>Sacropelvic Fixation</b> – <i>Abdelfattah Saoud</i>
10:30–10:35 a.m.	<b>Transition to Lab</b>
10:35–11:50 a.m.	<b>Lab 7: Deformity</b> – <i>Faculty</i>
11:50 a.m.–12:50 p.m.	<b>Lunch / SPINE BOWL Finale</b> – <i>Greg Trost / Suzanne Tharin</i>
12:50–1:20 p.m.	<b>Lumbar MIS Techniques</b> – <i>Gabe Smith</i>
1:20–1:40 p.m.	<b>MIS in Deformity and Trauma</b> – <i>Gabe Smith</i>
1:40–1:55 p.m.	<b>Spine Endoscopy</b> – <i>Than Brooks</i>
1:55–2:10 p.m.	<b>Sports Injuries and Return to Play</b> – <i>Vince Miele</i>
2:10–2:30 p.m.	<b>Preventing Surgical Site Infections</b> – <i>Brad Schmidt</i>
2:30–2:50 p.m.	<b>Primary Spinal Infections</b> – <i>Sameer Kitab</i>
2:50–3:20 p.m.	<b>Course Wrap-up</b> – <i>Ed Benzel</i>
3:20–3:25 p.m.	<b>Transition to Lab</b>
3:25–5:00 p.m.	<b>Lab 8: Participant Choice</b> – <i>Faculty</i>
5:00 p.m.	<b>Course Concludes</b>
6:30 p.m.	<b>Course Reception Finale at The Corner Alley</b>



## Wednesday, July 23

at Hyatt Regency at the Arcade Hotel

7:30–8:00 a.m. **Registration / Meet and Greet / Continental Breakfast**

8:00–8:10 a.m. **Welcome and Introductions**

*Andrea Strayer, Erin Anderson and Rachel Waite*

8:10–8:40 a.m. **Spine Anatomy – Andrea Strayer**

8:40–9:20 a.m. **Spinal Pathology – Greg Trost**

9:20–9:50 a.m. **Now That I Have Imaging – How to Interpret?**

*Jenny Wu*

9:50–10:15 a.m. **Back Pain Myth-busters – Rachel Waite**

10:15–11:00 a.m. **Chronic Pain – Joanne Schneider**



## Friday, July 25

at Lutheran Hospital

10:45–11:15 a.m. **Post-op Care – Erin Anderson**

2:30–3:30 p.m. **New Patient History and Exam Pearls for the New Provider –**

*Kush Goyal*

## Sunday, July 27

at Lutheran Hospital

11:30 a.m.–12 noon **Compression Fractures**

*Shelly Schmoller and Andrea Strayer*

3:30–4:15 p.m. **Post-Operative Complications and Avoidance**

*Andrea Strayer*

## Location

### Lectures and Labs:

Cleveland Clinic Lutheran Hospital  
1730 W. 25th Street, Cleveland

### Lodging:

 Hyatt Regency at the Arcade

(Note: The lectures on Wednesday, July 23, will be held at the Hyatt Regency hotel. All other lectures from Thursday through Monday will take place at Cleveland Clinic Lutheran Hospital.)

## Hotel Reservations

Hotel reservations are separate from the course registration and are the responsibility of the participant. Rooms have been blocked for attendees at the following hotel:

### Hyatt Regency at the Arcade

420 Superior Ave E, Cleveland, OH 44114  
Telephone: 1.800.233.1234

Visit the hotel link at <https://www.hyatt.com/en-US/group-booking/CLERC/G-ENPS> to reserve your room online or call the hotel directly at 1.800.233.1234 and ask for the “Cleveland Spine Review” rate of \$169+17.5% tax or by using the group code “G-ENPS” on Hyatt.com.

The cut-off date for the special rate is Tuesday, July 1, 2025.

The Hyatt Regency is located 12 miles from Cleveland Hopkins International Airport.

## Registration/Refund Policy

Register at [www.ccfme.org/CSR25](http://www.ccfme.org/CSR25). The course size is limited. The registration deadline is Wednesday, July 16, 2025 at 5:00 pm EST, or until all available slots have been taken. To register after July 16, please contact Martha Tobin at 216.312.9101 or [tobinm@ccf.org](mailto:tobinm@ccf.org)

In case of cancellation, a \$50 cancellation fee may be deducted from your refund. Written notification of your cancellation is required in order to process your refund. NO REFUNDS WILL BE ISSUED AFTER JULY 16, 2025.

## Accreditation

In support of improving patient care, Cleveland Clinic Center for Continuing Education is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

### CREDIT DESIGNATION

- **American Medical Association (AMA):** Cleveland Clinic Center for Continuing Education designates this live activity for a maximum of 53.0 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.  
Participants claiming CME credit from this activity may submit the credit hours to the American Osteopathic Association for Category 2 credit.
- **American Nurses Credentialing Center (ANCC):** Cleveland Clinic Center for Continuing Education designates this live activity for a maximum of 53.0 ANCC contact hours.
- **American Academy of PAs (AAPA):** Cleveland Clinic Center for Continuing Education has been authorized by the American Academy of PAs (AAPA) to award AAPA Category 1 CME credit for activities planned in accordance with AAPA CME Criteria. This activity is designated for 53.0 AAPA Category 1 CME credits. PAs should only claim credit commensurate with the extent of their participation.
- **Certificate of Participation:** A certificate of participation will be provided to other health care professionals for requesting credits in accordance with their professional boards and/or associations.

### • ABS and ABOS Maintenance of Certification

**(MOC):** Successful completion of this CME activity, which includes participation in the evaluation component, enables the participant to earn up to:

- **ABOS MOC:** 53.0 Accredited CME credits in the ABOS Maintenance of Certification Program
- **ABS CC:** 53.0 Accredited CME credits toward ABS Continuous Certification Program

It is the CME activity provider's responsibility to submit participant completion information to ACCME for the purpose of granting ABOS and ABS credit. Credit will be reported within 30 days of claiming credit.

## Faculty Disclosure

The Cleveland Clinic Center for Continuing Education has implemented a policy to comply with the current Accreditation Council for Continuing Medical Education Standards for Integrity and Independence requiring mitigation of all faculty conflicts of interest. Faculty declaring a relevant financial relationship will be identified in the activity syllabus.

## Health & Safety Information

All applicable Centers for Disease Control (CDC), state, and local safety protocols will be enforced for this event. As participants are responsible for their own health choices, the use of masks by all participants at this event is optional.

## Americans with Disabilities Act

The Cleveland Clinic Center for Continuing Education fully intends to comply with the legal requirements of the Americans with Disabilities Act. If you need assistance, please notify us at least two weeks prior to the activity.

For additional information: Ms. Martha Tobin  
216.312.9101 or [tobinm@ccf.org](mailto:tobinm@ccf.org) (email)

## Non-Surgeon Lectures

*Please Note: Non-surgeons attend the same lectures as the surgeons. They also begin with a pre-course session on the first day. Special, non-surgical-only lectures include:*

- Functional Anatomy and Physiology of the Spine, Spinal Cord and Peripheral Nerves
- Cervical Spine Pathology and Correlative Neuro Assessment
- Radiology Fundamentals
- Biomechanics Fundamentals
- Spinal Column Pathology and Medical Decision-Making: The Surgeon's Perspective
- Outcomes Assessment
- Lumbar Spine Pathology and Correlative Neuro Assessment
- Post-Operative Nursing Care Considerations
- Compression Fractures
- Interactive Cervical and Lumbar Case Discussions



## Have Your Family Vacation in Cleveland in 2025!

For family entertainment, Cleveland offers a wealth of fun and excitement sure to intrigue families with children of all ages. From thrilling rides at area amusement parks to fun-filled attractions and interesting museums, there's plenty to see and do year round in Greater Cleveland.

**See what Fodor's, Travel & Leisure, the *LA Times* and others are saying about Cleveland:** [www.thisiscleveland.com/media/cleveland-in-the-news](http://www.thisiscleveland.com/media/cleveland-in-the-news)

### Some Area Attractions

- Cedar Point Amusement Park
- Cleveland Metroparks Zoo and RainForest
- Rock and Roll Hall of Fame and Museum
- Great Lakes Science Center
- NASA John H. Glenn Research Center at Lewis Field
- Cleveland Botanical Garden
- The Steamship William G. Mather
- Cleveland Museum of Natural History
- Pro Football Hall of Fame
- Cleveland Orchestra
- Playhouse Square Center
- Cleveland Play House
- Rocket Mortgage Field House
- Progressive Field
- Greater Cleveland Aquarium



Rock and Roll Hall of Fame and Museum



Progressive Field



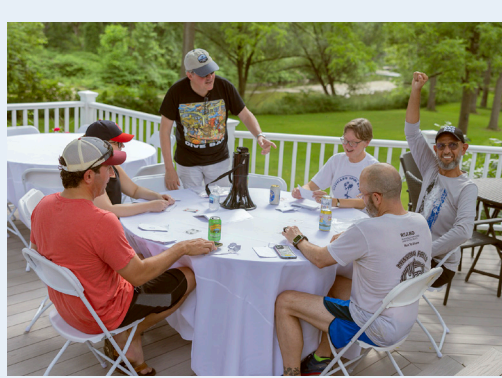
Great Lakes Science Center



Cleveland Zoo



# It's ALL About the Hike!



Register online at [www.ccfcm.org/CSR25](http://www.ccfcm.org/CSR25)

Hike photos provided by Gandhivarma Subramaniam, MD





## Ed Benzel Cleveland Spine Review: *Hands-On 2025*

**July 23–28, 2025**

Cleveland Clinic Lutheran Hospital and Hyatt Regency at the Arcade  
Cleveland, OH

### Course Registration Fees

Surgeons	\$4,500
Surgical Residents/ Fellows*	\$2,950
Physiatrists and Non-Physicians	\$1,750

\*Letter from program director is required to receive discounted fee. If letter is not received two weeks prior to the activity, the full physician fee will be charged.

Course fee includes registration materials, continental breakfasts and lunches, breaks, Opening Reception, Hike Fest and Closing Reception.

### Registration and Cancellation

Register at [www.ccfme.org/CSR25](http://www.ccfme.org/CSR25).

The course size is limited. The registration deadline is Wednesday, July 16, 2025 at 5:00 pm EST, or until all available slots have been taken. To register after July 16, please contact Martha Tobin at 216.312.9101 or [tobinm@ccf.org](mailto:tobinm@ccf.org).

In case of cancellation, a \$50 cancellation fee may be deducted from your refund. Written notification of your cancellation is required in order to process your refund. NO REFUNDS WILL BE ISSUED AFTER JULY 16, 2025.

For questions about registering online, call 216.448.8710 or email [cmeregistration@ccf.org](mailto:cmeregistration@ccf.org).

Cleveland Clinic Center for Continuing Education reserves the right to cancel or postpone activity in our sole discretion. In the unlikely event that this occurs, any registration fee(s) paid will be refunded. Be advised that Cleveland Clinic is not responsible for related costs including airline tickets, hotel costs, or any similar fee penalties incurred as a result of any trip cancellations or changes.

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