

**PRELIMINARY SCIENTIFIC PROGRAM
ADVANCE REGISTRATION DEADLINE:
FRIDAY, JULY 2, 2021**

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THE 37TH ANNUAL MEETING OF THE AANS/CNS SECTION ON DISORDERS OF THE SPINE AND PERIPHERAL NERVES

SPINE SUMMIT 2021

**COURAGE, RESILIENCE,
AND EXCELLENCE:
SETTING THE PATH**



Congress of
Neurological
Surgeons



American
Association of
Neurological
Surgeons

SPINE SUMMIT 2021 IS JOINTLY PROVIDED BY THE CONGRESS OF NEUROLOGICAL SURGEONS
AND THE AANS/CNS SECTION ON DISORDERS OF THE SPINE AND PERIPHERAL NERVES.

Learn more about Spine Summit 2021 at spinesection.org.

**Hilton San Diego Bayfront
San Diego, California
JULY 28-31, 2021**

COURAGE, RESILIENCE, AND EXCELLENCE: SETTING THE PATH

Dear Colleague:

We would like to invite you to join us for Spine Summit 2021, the 37th Annual Meeting of the Joint Section on Disorders of the Spine and Peripheral Nerves. The meeting will be held in person July 28–31, 2021, in sunny San Diego, California, at the gorgeous Hilton San Diego Bayfront. It may look and feel a bit different, but please know that we have your safety, health, and travel concerns as our top priority at this event. We are confident that attendees and industry leaders from around the world will be able to gather to discuss topics under our 2021 theme, Courage, Resilience, and Excellence: Setting the Path.

The first and most exciting spine meeting of the year will deliver “can’t miss” scientific sessions, relevant special courses, compelling breakouts, and spirited debates on controversial topics in our field. You’ll also have the opportunity to collaborate with spine and peripheral nerve surgeons at the forefront of the field, discover new

technology and innovations, and discuss strategies to find balance and direction in a time of rapid and meaningful change in health care.

This year, we are proud to honor Neurosurgery Honored Guest, **Gregory R. Trost**; Orthopedics Honored Guest, **Sigurd Berven**; Peripheral Nerve Honored Guest, **Eric L. Zager**; and Neurosurgery Meritorious Awardee, **Nicholas Theodore**. These outstanding leaders in the field will be sharing their knowledge throughout the program.

In addition to oral presentations showcasing the best ongoing research in our field, we continue to showcase residents’ scientific contributions with the Charlie Kuntz Scholarship Awards, the J.A.N.E. Award, the Mayfield Awards, and the Kline Peripheral Nerve Top Abstract Award. Special speaker **Richard H. Carmona**, M.D., M.P.H., FACS, 17th Surgeon General of the United States,

will discuss “Leading Through Crisis” in a special session.

Be sure to visit our cutting-edge Exhibit Hall to see the latest in technology, products, and services. As always, you’ll enjoy a lively Opening Reception and Young Neurosurgeons’ Reception and Dinner. Don’t forget to carve out time to visit the incredible San Diego restaurants, San Diego Zoo, museums, and other attractions!

The 37th Annual Meeting of the Joint Section on Disorders of the Spine and Peripheral Nerves provides you an unparalleled opportunity to stay on the cutting edge of spine and peripheral nerve surgery, while enjoying the world-class atmosphere and accommodations in San Diego!

Please make your travel arrangements and register today at spinesection.org.

Sincerely



Michael P. Steinmetz
Section Chair



Luis M. Tumialán
Annual Meeting Chair



Erica F. Bisson
Scientific Program Chair

Meeting Highlights

- 10 Special Courses
 - **NEW!** Innovations in Peripheral Nerve Surgery
 - **NEW!** Cervical Spinal Cord Injury: What Every Neurosurgeon Needs to Know
 - **NEW!** Pediatric Spinal Pathology for the Adult Spine Surgeon
 - **NEW!** Starting Your Career: Practical Tips for Success
 - **NEW!** Practical Matters: What Every APP/Surgeon Team Needs to Know
- Cahill Controversies Session
- Crossfire: Finesse or Brute Force (*Happy Hour Debates with Beer and Wine*)
- Dinner Seminar featuring our Honored Guests
- Oral Presentations, Charles Kuntz Scholars, Mayfield Awards, and J.A.N.E. Award
- APRN & PAs Seminar (*complimentary for PAs and RNs*)

Important Dates

JULY 2, 2021

Advance registration and housing deadline

JULY 12, 2021—Cancellation Deadline

Before July 12, a full registration refund will be issued less \$100 processing fee. Special courses, seminars, and social events will be refunded in full until this date.

Absolutely no refunds will be given after July 12, 2021, regardless of cause.

PROGRAM AT-A-GLANCE

WEDNESDAY JULY 28, 2021

11:00 am–5:30 pm
Registration

12:00–1:00 pm
Non-CME Pre-Meeting
Sponsored Lunch Symposia

1:30–5:30 pm
Special Course 1
Novel and Emerging
Technologies in Spine Surgery in
collaboration with SMISS

Special Course 2
Spinal Deformity: Applying
Current Deformity Concepts
to Your Practice, a Cased-based
Approach

Special Course 3
NEW! Innovations in Peripheral
Nerve Surgery
Special Course 4
Introduction to Spinal Coding:
From Decompression to
Deformity

1:30–4:30 pm
Special Course 5
NEW! Cervical Spinal
Cord Injury: What Every
Neurosurgeon Needs to Know

3:00–5:00 pm
Seminar for APRN and PAs

6:30–8:00 pm
Opening Reception

8:00–10:00 pm
Dinner Seminar
Spine Summit Honored Guest
Dinner Symposium: The Future
of Spine Surgery: Predictions
About Technology, Healthcare,
and the Evolution of Tomorrow's
Spine Surgeon

THURSDAY JULY 29, 2021

6:30 am–6:30 pm
Registration

6:30–7:30 am
Complimentary Breakfast

7:00–7:45 am
Challenging Cases 1
Oral Board-style Challenging
Cases: Cervical

7:45–8:00 am
Opening Remarks

8:00–9:30 am
Scientific Session 1
Resilience: 2020 Lessons
Learned

9:00 am–4:30 pm
Exhibit Hall Open

9:30–10:15 am
Beverage Break and *What's New*
Sessions in the Exhibit Hall

10:15 am–12:00 pm
Scientific Session 2
Courage: From Learner to
Learned (What My Mentors
Taught Me That Has Shaped My
Career and How that Translates
to How I Educate My Trainees)

12:00–1:00 pm
• Non-CME Sponsored Lunch
Symposia
• Lunch in the Exhibit Hall

1:00–2:30 pm
Scientific Session 3
Innovative Technology Special
Session: Operative Video Segments

2:30–3:15 pm
Beverage Break and *What's New*
Sessions in the Exhibit Hall

2:30–4:30 pm
Case-based Approaches to
Peripheral Nerve Trauma and
Other Conditions

3:15–4:25 pm
• Kuntz Scholar Abstracts
Concurrent Session 1
• Kuntz Scholar Abstracts
Concurrent Session 2
• Kuntz Scholar Abstracts
Concurrent Session 3
• Minimally Invasive/Motion
Preservation Abstract
Breakout Session

4:30–6:30 pm
Crossfire: Finesse or Brute Force
(Happy Hour Debates with Beer and
Wine)

FRIDAY JULY 30, 2021

6:30 am–4:30 pm
Registration

6:30–7:30 am
Complimentary Breakfast

7:00–8:00 am
Challenging Cases 2
Oral Board-style Challenging
Cases: Lumbar

8:00–9:30 am
Scientific Session 4
Excellence: Empowering Our
Discipline

9:00 am–1:15 pm
Exhibit Hall Open

9:30–10:15 am
Beverage Break and *What's New*
Sessions in the Exhibit Hall

10:15 am–12:15 pm
The Cahill Controversies

12:15–1:15 pm
• Non-CME Sponsored Lunch
Symposia
• Lunch in the Exhibit Hall

1:30–3:30 pm
Special Course 6
NEW! Pediatric Spinal Pathology
for the Adult Spine Surgeon

1:30–4:30 pm
Special Course 7
Treatment and Complication
Avoidance in the Management of
Spinal Tumors

Special Course 8
Spine Summit Grand Rounds:
Difficult Cases- The Decision-
Making Dilemma

Special Course 9
NEW! Starting Your Career:
Practical Tips for Success

Special Course 10
NEW! Practical Matters: What
every APP/Surgeon Team Needs
to Know

5:30–7:30 pm
Young Neurosurgeons'
Reception and Dinner

6:00–7:00 pm
WINS Reception

SATURDAY JULY 31, 2021

6:30 am–12:30 pm
Registration

6:30–7:30 am
Complimentary Breakfast

7:00–7:30 am
Challenging Cases 3
Oral Board-style Challenging
Cases: Peripheral Nerve

7:30–9:30 am
• General Spine Surgery 1/
Trauma/Spinal Cord Injury
Abstract Breakout Session
• General Spine Surgery 2/
Tumor/Opioids Abstract
Breakout Session
• General Spine Surgery 3/
Peripheral Nerve/Basic
Science Abstract Breakout
Session
• Spinal Deformity Abstract
Breakout Session

9:30–11:10 am
Scientific Session 5
Setting the Path: A View to the
Future

11:15 am–12:10 pm
Special Session: Business of
Neurosurgery in collaboration
with CSNS

12:10–12:30 pm
DSPN Business Meeting

12:30 pm
Meeting Adjourns

SPECIAL SPEAKER

Friday, July 30, 2021

8:36–9:25 am

Special Speaker: “Leading Through Crisis”

Richard H. Carmona, M.D., M.P.H., FACS

17th Surgeon General of the United States

Born to a poor immigrant family in New York City, Dr. Richard Carmona experienced homelessness, hunger, and health disparities during his youth. The experiences greatly sensitized him to the relationships among culture, health, education and economic status, and ultimately shaped his future.

After dropping out of high school, Dr. Carmona enlisted in the U.S. Army in 1967 where he received a GED. By the time he left active duty, he was a Special Forces, combat-decorated Vietnam veteran. He then pursued a college degree and entered medical school at the University of California – San Francisco where he won the prestigious Gold Cane award as the top graduate.

Dr. Carmona became a surgeon with a subspecialty in trauma, burns, and critical care. He was recruited to Tucson to establish the first trauma system in southern Arizona, which he did successfully. Later, while working full time as a hospital and health system CEO, he earned a master’s degree in public health policy and administration at the University of Arizona.

Dr. Carmona has served for more than 34 years with the Pima County Sheriff’s Department in Tucson, including as deputy sheriff, detective, SWAT team leader and department surgeon. He is one of the most highly decorated police officers in Arizona, and his numerous awards include the National Top Cop Award, the National SWAT Officer of the Year, and the National Tactical EMS Award. Dr. Carmona is a nationally recognized SWAT expert and has published extensively on SWAT training and tactics, forensics, and tactical emergency medical support. Dr. Carmona has also served as a medical director of police and fire departments, and he is a fully qualified peace officer with expertise in special operations and emergency preparedness, including weapons of mass destruction.

In 2006 Vice Admiral Carmona successfully completed the statutory four-year term as Surgeon General and was named vice chairman of Canyon Ranch. He also served as CEO of the company’s health division and president of the Canyon Ranch Institute. Dr. Carmona continues his Canyon Ranch leadership role as the Chief of Health Innovations. He also serves on several public corporate boards and works with private equity and venture capital firms to identify emerging science and technology to translate to market for economic and public benefit.



Opening Reception

Wednesday, July 28, 2021

6:30–8:00 pm

Hilton San Diego Bayfront

Take in spectacular ocean views and watch the sunset while enjoying a lavish array of food and beverages as you network with friends and colleagues at the Opening Reception. Each medical attendee and spouse/guest registered for the meeting will receive one complimentary ticket. Please note this event is held outdoors. Resort casual attire is recommended.

MEETING AGENDA

WEDNESDAY | July 28, 2021

WEDNESDAY

11:00 am–5:30 pm

Registration

12:00–1:00 pm

Pre-meeting Non-CME Sponsored Lunch Symposia

Special Course 1

\$200

1:30–5:30 pm

**Novel and Emerging Technologies in Spine Surgery
In collaboration with SMISS**

Course Directors: *Paul Park, Juan S. Uribe*

Speakers: *Donald J. Blaskiewicz, Victor W. Chang, Dean Chou, J. Patrick Johnson, Ronald A. Lehman, Mark E. Oppenlander, Daniel M. Sciubba, John H. Shin, Khoi D. Than, Jay D. Turner, Michael Y. Wang*

Course Description: This course will cover the latest technological advances in the field of spinal surgery including surface technology, new biologics for fusion, expandable cages, new applications for navigation, robotics, among others. Many of these innovations have the potential to improve surgical efficiency, safety, and outcomes. Attendees will gain a better understanding of the basis for the technology, its applications clinically, evidence for the technology, outcomes and costs.

Learning Objectives: Upon completion of this course, participants will be able to:

- Identify current evidence supporting newer technologies such as expandable cages and surface technology
- Identify the role of robotics and its integration into spinal surgery
- Identify new applications for spinal navigation in minimally invasive and deformity surgery
- Evaluate the potential benefits of new imaging technology such as exoscopes

1:30–1:35 pm

Introduction

Paul Park, Juan S. Uribe

1:36–1:45 pm

Navigation-assisted Spinal Deformity Surgery

John H. Shin

1:46–1:55 pm

Navigation-assisted Lateral Surgery

Mark E. Oppenlander

1:56–2:05 pm

Pitfalls and Complication Avoidance with Navigation

J. Patrick Johnson

2:06–2:15 pm

Robot-assisted Interbody Fusion

Paul Park

2:16–2:25 pm

Robot-assisted Deformity Surgery

Ronald A. Lehman

2:26–2:35 pm

Cost Effectiveness of Navigation/Robotics

Dean Chou

2:36–2:45 pm

Radiation Reduction Technologies

Juan S. Uribe

2:46–2:49 pm

Questions and Discussion

2:50–3:19 pm

Hands-on Workshop (Navigation, AR, Robots)

3:20–3:40 pm

Break

3:41–3:50 pm

Expandable Cage Technology – Worth the Cost?

Victor W. Chang

3:51–4:00 pm

Surface Technology – Hype or Not?

Jay D. Turner

4:01–4:10 pm

Cellular Allograft – The Next BMP?

Khoi D. Than

4:11–4:20 pm

Novel Screw Technologies (One-step MIS Pedicle Screw, Fenestrated Screws, Etc.)

Michael Y. Wang

4:21–4:30 pm

Exoscopes and Virtual Reality: Moving Beyond Traditional Loupes and Microscopes

Daniel M. Sciubba

4:31–4:40 pm

Virtual Reality: Use in Training/Education and Impact on Learning Curve, Complications, Outcomes

Donald J. Blaskiewicz

4:41–4:50 pm

Questions and Discussion

4:51–5:30 pm

Hands-on Workshop (Robotics)

Special Course 2

\$200

1:30–5:30 pm

Spinal Deformity: Applying Current Deformity Concepts to Your Practice, a Case-based Approach

Course Directors: *Shay Bess, Kai-Ming G. Fu*

Speakers: *Sigurd Berven, Donald J. Blaskiewicz, Dean Chou, Serena Hu, Praveen V. Mummaneni, Gregory M. Mundis, Peter G. Passias, Themistocles Protopsaltis*

Continued on page 6

MEETING AGENDA

WEDNESDAY

Continued from page 5

Course Description: Through an interactive case-based format, this course will address deformity concerns commonly encountered by the practicing spine surgeon.

Learning Objectives: Upon completion of this course, participants will be able to:

- Identify deformity principles in regards to degenerative pathology
- Analyze the current state of less invasive techniques and deformity
- Identify the current operative options for managing deformity

1:30–1:35 pm

Welcome and Explanation of Course Format

Shay Bess, Kai-Ming G. Fu

1:36–2:00 pm

Applying Deformity Principles to Patients with Degenerative Cervical Disease

Gregory M. Mundis

2:01–2:25 pm

Indications for MIS Versus Open Deformity Surgery: MISDEF2 Algorithm

Dean Chou

2:26–2:50 pm

Multi-rod Solutions for Deformity: When to Consider?

Sigurd Berven

2:51–3:15 pm

Sacro-pelvic Considerations in Deformity Surgery

Serena Hu

3:16–3:30 pm

Break

3:31–3:55 pm

Using Navigation in Spinal Deformity

Peter G. Passias

3:56–4:20 pm

Minimally Invasive Approach Selection in Adult Deformity (Anterior, Lateral, and Posterior)

Praveen V. Mummaneni

4:21–4:45 pm

Complication Avoidance and Optimizing Long Term Outcomes in MIS Adult Deformity Surgery

Themistocles Protopsaltis

4:46–5:10 pm

Complication Management in Open Adult Deformity Surgery

Shay Bess

5:11–5:30 pm

Discussion and Participant Cases

Moderator: *Donald J. Blaskiewicz*

Special Course 3

\$200

1:30–5:30 pm

NEW! Innovations in Peripheral Nerve Surgery

Course Directors: *Holly Gilmer, Line G. Jacques*

Speakers: *Simon Archibald, Justin M. Brown, Allan D. Levi, Mark A. Mahan, Wilson Z. Ray, Konstantin V. Slavin, Ian Valerio*

Course Description: This new offering from the DSPN will highlight the newest and latest techniques in peripheral nerve surgery, from early diagnosis through optimal operative management.

Learning Objectives: Upon completion of this course, participants will be able to:

- Describe the results of early clinical trials for nerve transfer following SCI
- Demonstrate understanding of novel diagnostic modalities to assist in surgical decision making for PN surgery
- Discuss options for neuromodulation in PN disease

1:30–1:39 pm

Introduction

Holly Gilmer, Line G. Jacques

1:40–2:00 pm

Nerve Transfers for Spinal Cord Injury: A Clinical Trial

Wilson Z. Ray

2:01–2:21 pm

Quantitative Electrodiagnostic Studies to Improve Nerve Transfers

Justin M. Brown

2:22–2:42 pm

Cell Based Therapies for Nerve Regeneration

Allan D. Levi

2:43–3:03 pm

Perfusion Based Imaging of Nerves

Mark A. Mahan

3:04–3:14 pm

Questions and Discussion

3:15–3:35 pm

Target Muscle Reinnervation and Machine Interface

Ian Valerio

3:36–3:56 pm

Next Generation Conduits for Nerve Repair (Non-CME)

Simon Archibald

3:57–4:17 pm

Novel Neuromodulation for Peripheral Nerve

Konstantin V. Slavin

4:18–4:28 pm

Questions

4:29–5:30 pm

Panel Discussion

MEETING AGENDA

Special Course 4 \$200

1:30–5:30 pm

Introduction to Spinal Coding: From Decompression to Deformity

Course Directors: *Mark E. Oppenlander, John K. Ratliff*

Speakers: *Owoicho Adogwa, Joseph S. Cheng, Kurt M. Eichholz, Kristopher T. Kimmell, Cheerag D. Upadhyaya, Anand Veeravagu*

Course Description: What every graduation resident, spine fellow or young attending needs to know about coding spinal procedures in the first few years of practice. Origins of CPT and RVU will be presented along with the fundamentals of spinal coding. The course then transitions to case-based coding. The entire spectrum of spine cases from simple decompression to complex deformity will be presented and the correct coding reviewed.

Learning Objectives: Upon completion of this course, participants will be able to:

- Identify the origins of CPT, RVU and the RUC process
- Demonstrate knowledge in the correct application of CPT codes for a variety of spinal procedures
- Identify elements of practice management with an emphasis on spine

1:30–1:35 pm

Introduction

Mark E. Oppenlander

1:36–1:50 pm

Medicare, RVUs, CPT: How We Got Here

John K. Ratliff

1:51–2:05 pm

Basic Spine Coding: Cervical

Mark E. Oppenlander

2:06–2:20 pm

Basic Spine Coding: Lumbar

Owoicho Adogwa

2:21–2:35 pm

Case-based Spinal Coding: Cervical 1. Single Level ACDF 2. Single Level Arthroplasty 3. Multiple Level ACDF 4. Posterior Cervical Foraminotomy

Anand Veeravagu

2:36–2:50 pm

Case-based Spinal Coding: Lumbar 1. Lumbar Microdiscectomy 2. Lumbar Laminectomy 3. Single Level Lumbar Fusion Posterior 4. Single Level Lumbar Fusion Anterior

Kurt M. Eichholz

2:51–3:05 pm

Case-based Spinal Coding: Complex Cervical 1. Anterior Posterior Cervical Surgery 2. Revision ACDF 3. Posterior Cervical Decompression and Fusion

Cheerag D. Upadhyaya

3:06–3:30 pm

Case-based Spinal Coding: Complex Lumbar 1. Anterior Posterior Lumbar Fusion L5-S1 2. Multiple Level Fusion 3. Deformity Case I 4. Deformity Case II

Joseph S. Cheng

3:31–3:45 pm

Break

3:46–4:00 pm

Case-based Spinal Deformity Coding

John K. Ratliff

4:01–4:20 pm

Case-based Cervical Trauma Coding

Anand Veeravagu

4:21–4:40 pm

Case-based Thoracolumbar Trauma Coding

Cheerag D. Upadhyaya

4:41–5:00 pm

Obtaining an Authorization for Surgery and the Peer to Peer Process

Kristopher T. Kimmell

5:01–5:30 pm

Questions and Conclusion

Special Course 5 \$200

1:30–4:30 pm

NEW! Cervical Spinal Cord Injury: What Every Neurosurgeon Needs to Know

Course Directors: *R. John Hurlbert, Eve C. Tsai*

Speakers: *Sanjay S. Dhall, Michael G. Fehlings, James S. Harrop, Allan D. Levi, Alpesh Patel*

Course Description: This course is targeted for the practicing spine surgeon at a trauma center. We will review current guidelines and strategies on treating spine trauma and spinal cord injury as well as discuss novel and future therapies for spinal cord injury.

Learning Objectives: Upon completion of this course, participants will be able to:

- Discuss the various scoring systems for spinal stability in trauma
- Describe optimal timing of surgery
- Discuss current spine clearance protocols
- Describe novel therapeutics for SCI

1:30–1:39 pm

Introduction

R. John Hurlbert, Eve C. Tsai

1:40–2:04 pm

What is the Best Scoring System for Cervical Spine Stability

Alpesh Patel

2:05–2:29 pm

Update on Cervical Spine Clearance Following Trauma

James S. Harrop

2:30–2:54 pm

Timing of Surgery in Traumatic SCI

Sanjay S. Dhall

2:55–3:15 pm

Break

MEETING AGENDA

WEDNESDAY

3:16–3:40 pm

Central Cord Syndrome

R. John Hurlbert

3:41–4:05 pm

Hypothermia for SCI

Allan D. Levi

4:06–4:30 pm

Future Therapies for SCI

Michael G. Fehlings

Seminar for APRN and PAs

3:00–5:00 pm

Complimentary for Registered Nurses & PAs

Course Director: *Eric A. Potts*

Speakers: *Robert Evans, Erin Harrison, Angela M. Jolivet, Sara M. McEvoy, Emma Schulte, Andrea L. Strayer, Eric Truumees*

Course Description: Neurosurgery Advanced Providers and Physician Assistants are the target audience for this course which will cover the preoperative evaluation, perioperative management and postoperative management of neurosurgical spine patients. Special emphasis will be on teamwork, non-narcotic pain control, communication and use of order sets.

Learning Objectives: Upon completion of this seminar, participants will be able to:

- Generate a differential diagnosis for leg and arm pain
- Identify the impact of comorbidities on patient outcomes
- Describe the impact of preoperative and postoperative patient communication and setting expectation
- Identify the impact preoperative opioid use on postoperative pain control

3:00–3:12 pm

Overview of MRI Imaging Basics in the Cervical, Thoracic and Lumbar Spine

Eric A. Potts

3:13–3:25 pm

Management of Medical Comorbidities (DM, Anticoagulation, Nutrition)

Sara M. McEvoy

3:26–3:38 pm

Advanced Perioperative Management: Support Staff, Patient Education

Emma Schulte

3:39–3:51 pm

Post-operative Pain Management

Erin Harrison

3:52–4:04 pm

Essential Surgical Spine Anatomy for Advanced Providers: How to be the Ideal Surgical Assistant

Robert Evans

4:05–4:17 pm

Pre-operative Optimization for Postoperative Success

Andrea L. Strayer

4:18–4:30 pm

Pre-operative Optimization for Postoperative Success

Angela M. Jolivet

4:31–4:43 pm

Triaging Spinal Cord Injuries and Injuries to the Vertebral Column

Eric Truumees

4:44 - 5:00 pm

Questions and Discussion

Opening Reception

6:30–8:00 pm

Hilton San Diego Bayfront

Take in spectacular ocean views and watch the sunset while enjoying a lavish array of food and beverages as you network with friends and colleagues at the Opening Reception. Get your groove on with live music that spans today's hits, Motown, 70s dance, and classic rock with the Kicks Band. Each medical attendee and spouse/guest registered for the meeting will receive one complimentary ticket. Please note this event is held outdoors. Resort casual attire is recommended.



Dinner Seminar (includes three-course dinner and beverages)

\$200

8:00–10:00 pm

Spine Summit Honored Guest Dinner Symposium: The Future of Spine Surgery: Predictions About Technology, Healthcare, and the Evolution of Tomorrow's Spine Surgeon

Moderator: *Michael P. Steinmetz*

Speakers: *Sigurd Berven, Thomas E. Mroz, Nicholas Theodore, Gregory R. Trost*

Seminar Description: An opportunity to interact with the 2021 Spine Summit Honored Guests, Gregory Trost, Sigurd Berven, as well as Meritorious Award Recipient Nicholas Theodore to learn their perspectives on the future of spine surgery. The DSPN Chair and his partner, Drs. Michael P. Steinmetz and Thomas E. Mroz, will present a perspective of the future of spine from a European perspective.

Learning Objectives: Upon completion of this symposium, participants will be able to:

- Identify the various trajectories that technology may lead the future of spinal surgery
- Identify how the future of healthcare will affect the practice of spinal surgery in years to come
- Identify those characteristics needed to remain relevant in the future world of spine care

MEETING AGENDA

THURSDAY | July 29, 2021

THURSDAY

6:30 am–6:30 pm

Registration

6:30–7:30 am

Complimentary Breakfast

Challenging Cases 1

7:00–7:45 am

Oral Board-style Challenging Cases: Cervical

Moderators: Yi Lu, Laura A. Snyder

7:45–8:00 am

Opening Remarks

7:45–7:54 am

Welcome

Erica F. Bisson

7:55–8:00 am

Introduction

Michael P. Steinmetz

Scientific Session 1

8:00–9:30 am

Scientific Session 1: Resilience: 2020 Lessons Learned

Moderators: Scott A. Meyer, Robert G. Whitmore

Speakers: Zoher Ghogawala, Daniel J. Hoh, Thomas E. Mroz, Praveen V. Mummaneni, Daniel M. Sciubba

Learning Objectives: Upon completion of this session, participants will be able to:

- Describe the impact of the global pandemic on spine surgery
- Demonstrate understanding of optimizing patients to improve and the role of artificial intelligence
- Analyze latest techniques for biologics and optimal treatment for CSM

8:00–8:10 am

The Impact of COVID-19 on Spine Surgery: Our Patients and Our Trainees

Praveen V. Mummaneni

8:11–8:16 am

Discussion

8:17–8:27 am

Preoperative Optimization for Spine Surgery (Prehab)

Daniel J. Hoh

8:28–8:33 am

Discussion

8:34–8:44 am

Lesson from CSM-S: Is Laminoplasty Superior?

Zoher Ghogawala

8:45–8:50 am

Discussion

8:51–9:01 am

The Integration of Machine Learning into Practice Algorithms

Daniel M. Sciubba

9:02–9:07 am

Discussion

9:08–9:18 am

Bone Science: Osteointegration, Fusion Biologics, Surface Science/Nanotechnology

Thomas E. Mroz

9:19–9:30 am

Discussion and Summary of the Session

9:30–10:15 am

Beverage Break and What's New Sessions in the Exhibit Hall

Scientific Session 2

10:15 am–12:00 pm

Courage: From Learner to Learned (What My Mentors Taught Me That Has Shaped My Career and How that Translates to How I Educate My Trainees)

Moderators: Erica F. Bisson, Luis M. Tumialán

Speakers: Zarina S. Ali, Edward C. Benzel, Sigurd Berven, Praveen V. Mummaneni, Michael P. Steinmetz, Gregory R. Trost, Eric L. Zager

Learning Objectives: Upon completion of this session, participants will be able to:

- Identify how spine surgery has been shaped through dedicated mentorship
- Recognize the benefit of a team-based (orthopedics and neurosurgery) approach to the complex spine patient
- Identify the role of PN surgery and how it has transformed over the last decade

10:15–10:18 am

Introduction of Neurosurgery Honored Guest

Michael P. Steinmetz

10:19–10:38 am

Neurosurgery Honored Guest Presentation

Gregory R. Trost

10:39–10:42 am

Introduction of Orthopedics Honored Guest

Praveen V. Mummaneni

10:43–11:03 am

Orthopedics Honored Guest Presentation

Sigurd Berven

11:04–11:07 am

Introduction of Peripheral Nerve Honored Guest

Zarina S. Ali

MEETING AGENDA

THURSDAY

11:08–11:28 am

Peripheral Nerve Honored Guest Presentation

Eric L. Zager

11:29–11:34 am

Introduction of DSPN Chair

Edward C. Benzel

11:35 am–12:00 pm

DSPN Chair's Address

Michael P. Steinmetz

12:00–1:00 pm

Lunch with Exhibitors or Attend a Non-CME Sponsored Lunch

Scientific Session 3

1:00–2:30 pm

Innovative Technology Special Session: Operative Video Segments

Moderators: *Regis W. Haid, Michele M. Johnson*

Speakers: *Paul C. McCormick, Themistocles Protopsaltis, Christopher I. Shaffrey, Jian Shen, Juan S. Uribe, Jean-Paul Wolinsky*

Learning Objectives: Upon completion of this session, participants will be able to:

- Identify a variety of surgical techniques for the management of the degenerating spine
- Identify patients who are ideal candidates for minimally invasive cervical and lumbar procedures
- Discuss limitations of deformity correction in a particular age group

1:00–1:08 pm

Endoscopic Spine Surgery

Jian Shen

1:09–1:14 pm

Discussion

1:15–1:23 pm

Single Position Lateral Surgery

Juan S. Uribe

1:24–1:29

Discussion

1:30–1:38 pm

Intradullary Tumor (Ependymoma or Astrocytoma), Nuances with Technique

Paul C. McCormick

1:39–1:44 pm

Discussion

1:45–1:53 pm

Correction of Chin on Chest Deformity: Nuances of Restoring Alignment (How Much is Enough)

Themistocles Protopsaltis

1:54–1:59 pm

Discussion

2:00–2:08 pm

Posterior-only En Bloc Spondylectomy in the T Spine

Jean-Paul Wolinsky

2:09–2:14 pm

Discussion

2:15–2:23 pm

PJK Prevention – Tethering, Vertebroplasty

Christopher I. Shaffrey

2:24–2:30 pm

Discussion and Summary of Session

2:30–3:15 pm

Beverage Break and What's New Sessions in the Exhibit Hall

Peripheral Nerve Session

2:30–4:30 pm

Case-based Approaches to Peripheral Nerve Trauma and Other Conditions

Course Directors: *Line G. Jacques, Robert J. Spinner*

Speakers: *Justin M. Brown, Allen J. Belzberg, Holly Gilmer, Amgad S. Hanna, Marie-Noelle Hebert-Blouin, Andrew Jack, Allan D. Levi, Mark A. Mahan, Rajiv Midha, Wilson Z. Ray, Elias B. Rizk, Gregory R. Trost, Thomas J. Wilson, Christopher J. Winfree, Eric L. Zager*

Course Description: This course will cover management of various peripheral nerve disorders. Using a case-based format, faculty will review indications, timing of intervention, and surgical approaches. Relevant anatomy, clinical presentation, and outcomes will be discussed. This course is an excellent review for oral board and maintenance of certification.

Learning Objectives: Upon completion of this session, participants will be able to:

- Describe a systematic approach to patients with a wide range of peripheral nerve disorders
- Develop a non-operative or operative management strategy for these conditions
- Discuss advantages and disadvantages and expected outcomes of various surgical approaches

2:30–2:37 pm

Localization of Peripheral Nerve Lesions

Robert J. Spinner

2:38–2:45 pm

Injury Types and Predicting Outcomes

Allan J. Belzberg

2:46–2:53 pm

Innovations for Nerve Regeneration

Rajiv Midha

MEETING AGENDA

2:54–3:01 pm

Principle of Nerve Repair: Techniques of Cooptations and Grafting

Allan D. Levi

3:02–3:09 pm

Principle of Nerve Repair: Techniques of Nerve Transfer

Wilson Z. Ray

3:10–3:39 pm

Case Based Discussion: Nerve Trauma

Justin M. Brown, Amgad S. Hanna, Allan D. Levi, Elias B. Rizk, Robert J. Spinner, Gregory R. Trost, Eric L. Zager

3:40–3:47 pm

Diagnosis and Treatment: UE Entrapment Syndromes

Eric L. Zager

3:48–3:53 pm

Diagnosis and Treatment: LE Entrapment Syndromes

Mark A. Mahan

3:54–3:59 pm

Principles of Management: Peripheral Nerve Tumors

Line G. Jacques

4:00–4:30 pm

Panel Discussion: Entrapments and Tumors

Allan J. Belzberg, Holly Gilmer, Marie-Noelle Hebert-Blouin, Andrew Jack, Rajiv Midha, Thomas J. Wilson, Christopher J. Winfree

3:15–4:30 pm

Oral Abstract Presentations

Learning Objectives: Upon completion of this session, participants will be able to:

- Analyze the findings of novel neurosurgical studies, critique the design and methodology of these studies
- List important areas for further knowledge development and research
- Discuss ongoing innovative clinical and basic science studies, and how they may impact current practice

Kuntz Scholar Oral Abstract Presentations Concurrent Session 1

Moderators: *Kai-Ming G. Fu, Karthik Madhavan*

Kuntz Scholar Oral Abstract Presentations Concurrent Session 2

Moderators: *Dani S. Bidros, John H. Shin*

Kuntz Scholar Oral Abstract Presentations Concurrent Session 3

Moderators: *Hoon Choi, Jeremy Steinberger*

Minimally Invasive/Motion Preservation Abstract Breakout Session

Moderators: *Kenneth M. Crandall, Anthony C. Lau*

Special Message and Discount for Spine Section Members

We recognize that the COVID pandemic has had an impact on our lives and practices. We would like to thank you for your support in these unprecedented times. As the nation recovers, we look forward to reconnecting in San Diego. The meeting may look and feel a bit different, but guidelines and safety measures will be in place.

In recognition of the hardship we all have endured, we would like to show support for our members. If you are an active member who was unable to pay 2020 membership dues, the Section will waive your 2020 membership dues if you register and attend this year's Annual Meeting at the member rate. If you have already paid your 2020 membership dues, the Section will provide a \$100 credit toward your already discounted member registration fee.

Register at spinesection.org by July 2, 2021, to save!

MEETING AGENDA

THURSDAY

4:30–6:30 pm

Crossfire: Finesse or Brute Force

Happy Hour Debates with Beer and Wine

Moderators: *Darrel S. Brodke, Gerald E. Rodts*

Neurosurgery Speakers: *Edward C. Benzel, Robert F. Heary, Praveen V. Mummaneni, Daniel M. Sciubba*

Orthopedic Speakers: *Sigurd Berven, Charles Fischer, K. Daniel Riew, Jason Savage*

Summary Speakers: *Wellington Hsu, Ilya Laufer, Catherine Miller-Simington, Alpesh Patel*

Learning Objectives: Upon completion of this session, participants will be able to:

- Analyze the impact of novel interbody technology
- Recognize optimal protocols for treatment of spine tumor patients
- Discuss treatment algorithms for cervical spine disease

4:30–4:59 pm

Topic 1: Interbody Surface Technology Materials

4:30–4:38 pm

PRO: Better Fusion with New Devices

Sigurd Berven

4:39–4:47 pm

CON: Just Another Expensive Cage

Praveen V. Mummaneni

4:48–4:53 pm

Summary of Points

Wellington Hsu

4:54–4:56 pm

Questions from the Audience

4:57–4:59 pm

Audience Vote

5:00–5:29 pm

Topic 2: ERAS for Spine Tumor Surgery

5:00–5:08 pm

PRO: Patients Don't Have Much Time to Live; Get Them Out of the Hospital ASAP. They are Perfect ERAS Candidates

Daniel M. Sciubba

5:09–5:17 pm

CON: These People Are Sick and Not Well. ERAS is Absolutely Ridiculous

Charles Fisher

5:18–5:23 pm

Summary of Points

Ilya Laufer

5:24–5:26 pm

Questions from the Audience

5:27–5:29 pm

Audience Vote

5:30–5:59 pm

Topic 3: Single Level Arthroplasty is Suitable for Patients with CSM

5:30–5:38 pm

PRO: Arthroplasty is Suitable

K. Daniel Riew

5:39–5:47 pm

CON: Single Level CSM is Best Treated with ACDF

Robert F. Heary

5:48–5:53 pm

Summary of Points

Alpesh Patel

5:54–5:56 pm

Questions from the Audience

5:57–5:59 pm

Audience Vote

6:00–6:30 pm

Topic 4: Cervical Lami/Fusion – Ok to Stop at C7?

6:00–6:08 pm

PRO: Sufficient to Stop at C7

Edward C. Benzel

6:09–6:17 pm

CON: Should Fuse Across CT Junction

Jason Savage

6:18–6:23 pm

Summary of Points

Catherine Miller-Simington

6:24–6:26 pm

Questions from the Audience

6:27–6:30 pm

Audience Vote and Session Conclusion

MEETING AGENDA

FRIDAY | July 30, 2021

6:30–4:30 pm

Registration

6:30–7:30 am

Complimentary Breakfast

Challenging Cases 2

7:00–8:00 am

Oral Board-style Challenging Cases: Lumbar Cases

Moderators: *Jay D. Turner, Anand Veeravagu*

Scientific Session 3

8:00–9:30 am

Excellence: Empowering Our Discipline

Moderators: *Zoher Ghogawala, R. John Hurlbert*

Speakers: *Adam S. Kanter, Michael P. Steinmetz, Luis M. Tumialán, Michael Y. Wang*

Learning Objectives: Upon completion of this session, participants will be able to:

- Recognize the role of mentorship in career development
- Identify how to define a career focus
- Identify steps to becoming a subspecialty focused lead

8:00–8:07 am

Lessons in Becoming an Innovator: A Tribute to Allan D. Levi

Michael Y. Wang

8:08–8:15 am

Lessons in Becoming a Global Expert: A Tribute to Christopher I. Shaffrey

Adam S. Kanter

8:16–8:23 am

Lessons in Becoming a Fierce Negotiator: A Tribute to Regis W. Haid, Jr.

Luis M. Tumialán

8:24–8:31 am

Lessons in Becoming an Educator: A Tribute to Edward C. Benzel

Michael P. Steinmetz

8:32–8:35 am

Introduction of Guest Speaker:
Vice Admiral Richard H. Carmona

Luis M. Tumialán

8:36–9:25 am

Guest Speaker Presentation:
Leading Through Crisis
Vice Admiral Richard H. Carmona



9:26–9:30 am

Session Summary

9:30–10:15 am

Beverage Break and What's New Sessions in the Exhibit Hall

10:15 am–12:15 pm

The Cahill Controversies

Moderators: *Mohamad Bydon, Domagoj Coric*

Speakers: *Mark H. Bilsky, Christopher M. Bonfield, Ziya L. Gokaslan, D. Kojo Hamilton, James S. Harrop, Kristen E. Jones, Adam S. Kanter, Gregory M. Mundis, Laurence D. Rhines, Gabriel C. Tender, Juan S. Uribe, Lynda Jun-San Yang*

Learning Objectives: Upon completion of this session, participants will be able to:

- Discuss the risks/benefits of options in lateral spine surgery
- Recognize options in nerve transfer surgery for SCI
- Analyze optimal treatment for primary tumor resection

10:15–10:44 am

Topic 1: Single Position Lateral Surgery

10:15–10:22 am

PRO: It's Beyond Efficient

Juan S. Uribe

10:23–10:30 am

CON: No Alignment Correction and Risk of Misplaced Hardware

Gregory M. Mundis

10:31–10:36 am

Summary of Points

Adam S. Kanter

10:37–10:41 am

Questions from the Audience

10:42–10:44 am

Audience Vote

Continued to page 14

MEETING AGENDA

FRIDAY

Continued from page 13

10:45–11:14 am

Topic 2: C5 Palsy: Watchful Waiting or Early Nerve Transfer

10:45–10:52 am

PRO: Early Nerve Transfer Results in Improved Function

Lynda Jun-San Yang

10:53–11:00 am

CON: Most Get Better With Time, Why Subject the Patient to a Morbid Surgery

James S. Harrop

11:01–11:06 am

Summary of Points

Gabriel C. Tender

11:07–11:11 am

Questions From the Audience

11:12–11:14 am

Audience Vote

11:15–11:44 am

Topic 3: Osteoporosis and ASD, Optimize Bone and Operate versus Not Surgical Candidates

11:15–11:22 am

PRO: Optimize with Medical Management

Kristen E. Jones

11:23–11:30 am

CON: Complication Too High, Don't Do Surgery

Christopher M. Bonfield

11:31–11:36 am

Summary of Points

D. Kojo Hamilton

11:37–11:41 am

Questions from the Audience

11:42–11:44 am

Audience Vote

11:45 am–12:15 pm

Topic 4: En Bloc Resection versus Separation Surgery for Chordoma

11:45–11:52 am

PRO: En Bloc Resection Provides Better Outcomes

Ziya L. Gokaslan

11:53 am–12:00 pm

CON: Separation Surgery is the Preferred Method

Mark H. Bilsky

12:01–12:06 pm

Summary of Points

Laurence D. Rhines

12:07–12:11 pm

Questions from the Audience

12:12–12:15 pm

Audience Vote and Session Conclusion

12:15–1:15 pm

Lunch with Exhibitors or Attend a Non-CME Sponsored Lunch

Special Course 6

\$150

1:30–3:30 pm

NEW! Pediatric Spinal Pathology for the Adult Spine Surgeon

Course Directors: *Christopher M. Bonfield, Vijay Ravindra*

Speakers: *Richard C. E. Anderson, David D. Gonda, Mari L. Groves, Andrew H. Jea, Christina M. Sayama, Andrew C. Vivas*

Course Description: From trauma to deformity: what every spine surgeon should know about treating pediatric patients will be covered in this new course for DSPN 2021.

Learning Objectives: Upon completion of this course, participants will be able to:

- Recognize different surgical options for stabilizing the craniocervical junction
- Discuss diagnostic evaluation and treatment options for craniocervical instability
- Identify the basics of pediatric deformity and when to intervene surgically

1:30–1:34 pm

Introduction

Christopher M. Bonfield, Vijay Ravindra

1:35–1:49 pm

Chiari–When to Fuse

Mari L. Groves

1:50–2:04 pm

Fusion Techniques for the Craniocervical Junction

Andrew H. Jea

2:05–2:19 pm

AOD: Diagnosis and Treatment Options

David D. Gonda

2:20–2:34 pm

C1-2 Instability: When We See It and What Do We Do

Richard C. E. Anderson

2:35–2:49 pm

Basics of Pediatric Deformity Correction

Christina M. Sayama

2:50–3:04 pm

What the Adult Neurosurgeon Needs to Know About Pediatric Conditions: Tethering, Split Cord Malformations, Myelomeningocele

Christopher M. Bonfield

3:05–3:19 pm

High Grade Spondylolisthesis: When to Operate and What Options for Constructs

Andrew C. Vivas

3:20–3:30 pm

Questions and Conclusion

MEETING AGENDA

Special Course 7 \$150

1:30–4:30 pm

Treatment and Complication Avoidance in the Management of Spinal Tumors

Course Directors: *John E. O'Toole, John H. Shin*

Speakers: *Mark H. Bilsky, Dean Chou, Nicolas Dea, Michael A. Galgano, Ziya L. Gokaslan, C. Rory Goodwin, Matthew Goodwin, Ilya Laufer, Ehud Mendel, Joseph H. Schwab, Daniel M. Sciubba, John H. Shin, Hesham M. Soliman, Claudio E. Tatsui*

Course Description: This course will review and highlight the multi-disciplinary management of spinal tumors for the practicing surgeon. Practical tips for managing common tumors and clinical scenarios with an emphasis on complications avoidance and surgical planning will be emphasized. Participants are encouraged to prepare and present cases for discussion.

Learning Objectives: Upon completion of this course, participants will be able to:

- Analyze various surgical treatment approaches to address spine tumor pathologies
- Identify applications of new technologies in spine tumor surgery
- Discuss complications avoidance strategies in tumor surge

1:30–1:33 pm

Introduction

John E. O'Toole, John H. Shin

1:34–1:45 pm

Management of Vertebral Column Tumor Metastasis

Joseph H. Schwab

1:46–1:57 pm

Tips for Treating Epidural Cord Compression (When You're Not at an AMC)

Nicolas Dea

1:58–2:09 pm

When Do Metastatic Spine Tumor Patients Require Stabilization

Hesham M. Soliman

2:10–2:21 pm

Integrating New Technologies in Surgery: LITT, Robotics, Carbon Fiber

Claudio E. Tatsui

2:22–2:33 pm

Complications and How I Deal With Them

C. Rory Goodwin

2:34–2:45 pm

Management of Primary Bone Tumors of the Mobile Spine

Dean Chou

2:46–2:57 pm

Surgical Considerations for Cervical Chordoma

Daniel M. Sciubba

2:58–3:09 pm

Quality of Life and Patient Satisfaction After En Bloc Resection

Matthew Goodwin

3:10–3:24 pm

Break

3:25–3:36 pm

High Sacral Tumors: Single versus Staged Approaches

Ziya L. Gokaslan

3:37–3:48 pm

Mid to Low Sacral Tumors: When is Reconstruction Needed

Ehud Mendel

3:49–4:00 pm

Management of Benign Bone Tumors in the Spine

Michael A. Galgano

4:01–4:12 pm

Technical Nuances of Intradural Cervical Tumor Surgery

Mark H. Bilsky

4:13–4:30 pm

Participant Case Discussions

Ilya Laufer

Special Course 8 \$150

1:30–4:30 pm

Spine Summit Grand Rounds: Difficult Cases – The Decision-Making Dilemma

Course Directors: *Ali A. Baaj, Langston T. Holly*

Discussants: *Victor W. Chang, Khoi D. Than*

Speakers: *Sigurd Berven, James S. Harrop, Gregory M. Mundis, Laurence D. Rhines*

Course Description: Spine Summit Grand Rounds is a course with the focus on member participation. The course is intended for audience members to bring difficult cases they have managed or are currently managing, where they would like to seek an opinion from the panel of experts. Attendees who submit a case that is accepted for the course will receive complimentary registration to this course. Submitted cases are reviewed by the course directors who make the final selection.

Learning Objectives: Upon completion of this course, participants will be able to:

- Describe a variety of decision-making approaches in the complex case
- Demonstrate knowledge base in complication management in cervical and lumbar operations
- Discuss complication avoidance strategies for management of complex lumbar and cervical conditions

1:30–1:35 pm

Introduction

Ali A. Baaj, Langston T. Holly

1:36–1:56 pm

The Difficult Anterior Cervical Case

James S. Harrop

MEETING AGENDA

FRIDAY

1:57–2:17 pm

The Difficult Thoracic Case

Gregory M. Mundis

2:18–2:38 pm

The Difficult Lumbar Case

Sigurd Berven

2:39–2:59 pm

The Difficult Tumor Case

Laurence D. Rhines

3:00–4:19 pm

Submitted Cases Review and Discussion

Victor W. Chang, Khoi D. Than

4:20–4:30 pm

Questions and Conclusion

Special Course 9

\$150

1:30–4:30 pm

NEW! Starting Your Career: Practical Tips for Success

Course Directors: *Owoicho Adogwa, Daniel Refai*

Speakers: *Edward C. Benzel, Domagoj Coric, Daniel C. Lu, David O. Okonkwo, Wilson Z. Ray, Daniel K. Resnick, Laura A. Snyder, Walavan Sivakumar, Marjorie C. Wang, Chester Yarbrough*

Course Description: This course addresses neurosurgery and neuroscience research across the continuum of scientific inquiry: clinical research, translational research, comparative effectiveness research, and bench/basic science research. In this comprehensive course, you will hear from scientific leaders in neurosurgery/neuroscience research, about surgeon- and institutional-level factors that enhance your success as an early career investigator. The course will be beneficial to neurosurgery residents and junior faculty interested in pursuing careers as surgeon-scientists/researcher.

Learning Objectives: Upon completion of this course, participants will be able to:

- Execute contract negotiation and your first job as a surgeon-researcher: key components that lead to increased likelihood of early career success
- Demonstrate knowledge of the different types of research methodologies and keys to success in each
- Identify the progression from hypothesis generation to a fundable project

1:30–1:39 pm

Introduction

Owoicho Adogwa, Daniel Refai

1:40–1:54 pm

Negotiating Your First Job: Components of Surgeon Scientist Contract

Daniel C. Lu

1:55–2:09 pm

Basic Science versus Translational Clinical versus Health Services/Population Science

David O. Okonkwo

2:10–2:24 pm

From Ideas to Fund-able Projects

Wilson Z. Ray

2:25–2:39 pm

Thinking Ahead – Structuring Your First 5 Years for Success

Daniel K. Resnick

2:40–2:54 pm

Publishing in a High Impact Journal

Edward C. Benzel

2:55–3:14 pm

Break

3:15–4:30 pm

Survival Guide for Your First Year in Practice: ABNS, Running Clinic, Scheduling Surgery, Life Balance

Moderator: *Marjorie C. Wang*

Discussants: *Domagoj Coric, Walavan Sivakumar, Laura A. Snyder, Chester Yarbrough*

Special Course 10

\$150

1:30–4:30 pm

NEW! Practical Matters: What Every APP/Surgeon Team Needs to Know

Course Directors: *Nicole M. LeFevre, Corinna C. Zygourakis*

Faculty: *Andrea Fox, Eric A. Potts, Nicholas Theodore, Anand Veeravagu*

Course Description: This new course will teach the must-have knowledge and skills to ensure success in the operating room for every Advanced Practice Provider.

Learning Objectives: Upon completion of this course, participants will be able to:

- Identify basic anatomy and screw placement from the occiput to the ilium
- Discuss procedure-specific patient positioning
- Demonstrate operative techniques including: suturing, drilling, and placing screws

1:30–1:34 pm

Introduction

Nicole M. LeFevre, Corinna C. Zygourakis

1:35–1:49 pm

Spine Surgery Anatomy

Andrea Fox

1:50–2:04 pm

Basics of Screw Placement

Corinna C. Zygourakis

MEETING AGENDA

2:05–2:14 pm

Pearls of Patient Positioning

Anand Veeravagu

2:15–2:29 pm

Suturing Tips and Tricks

Nicole M. LeFevre

2:30–3:29 pm

Hands-on Rotations

Eric A. Potts, Nicholas Theodore, Anand Veeravagu

3:30–4:30 pm

Course Social Hour (Non-CME)

Young Neurosurgeons' Reception and Dinner

5:30–7:30 pm

All residents, fellows, and young neurosurgeons are invited to enjoy a delicious dinner with 2021 Spine Summit Honored Guests: Sigurd Berven, Nicholas Theodore, Gregory R. Trost, Eric L. Zager. RSVP is required. Please email meetings@cns.org to attend.

Reception with WINS

6:00–7:00 pm

Join your colleagues from WINS for an hour of networking.

SATURDAY | July 31, 2021

6:30 am–12:30 pm

Registration

6:30–7:30 am

Complimentary Breakfast

Challenging Cases 3

7:00–7:30 am

Oral Board Style Challenging Cases: Peripheral Nerve

Moderators: *Line G. Jacques, Robert J. Spinner*

Abstract Breakout Sessions

7:30–9:30 am

Learning Objectives: Upon completion of this session, participants will be able to:

- Analyze the findings of novel neurosurgical studies, critique the design and methodology of these studies
- List important areas for further knowledge development and research
- Discuss ongoing innovative clinical and basic science studies, and how they may impact current practice

General Spine Surgery 1/Trauma/Spinal Cord Injury

Moderators: *Anthony M. DiGiorgio, Eve C. Tsai*

General Spine Surgery 2/Tumor/Opioids

Moderators: *Victor W. Chang, Alexandra Stratton*

General Spine Surgery 3/Peripheral Nerve/Basic Science

Moderators: *Allan J. Belzberg, Kristen E. Jones*

Spinal Deformity

Moderators: *Christoph P. Hofstetter, Lara W. Massie*

Scientific Session 5

9:30–11:15 am

Setting the Path: A View to the Future

Moderators: *Langston T. Holly, Wilson Z. Ray*

Speakers: *Charles L. Branch, Michael W. Groff, John J. Knightly, Tyler R. Koski, Camilo A. Molina, Daniel K. Resnick, Michael P. Steinmetz, Nicholas Theodore*

9:30–9:43 am

Recognition of Kuntz Scholars and Introduction of J.A.N.E., Mayfield, and new this year NREF/HYM Branch Fund Award Winners

Wilson Z. Ray

9:44–10:04 am

J.A.N.E. and Mayfield Award Presentations

10:05–10:07 am

Introduction to Future Directions in Spine Surgery

John J. Knightly

10:08–10:16 am

How to do Better the Next Time: Ahead of the Curve (COVID)

Daniel K. Resnick

10:17–10:25 am

Eye on the Ball: What Really Matters for ASD Patients (Coronal Alignment, Sag Alignment, Restoration of Balance/Gaze)

Tyler R. Koski

MEETING AGENDA

SATURDAY

10:26–10:34 am

Virtual Reality and Augmented Reality in Spine: Where Are We Going

Camilo A. Molina

10:35–10:37 am

Recognition of Neurosurgery Meritorious Award

Michael P. Steinmetz

10:38–10:52 am

Neurosurgery Meritorious Award Presentation – Half a Decade of the Robot: Has it Changed Our Practice or Are We Waiting for Something

Nicholas Theodore

10:53–11:01 am

Developing Competencies in Novel Techniques: The Learning Curve

Charles L. Branch

11:02–11:10 am

Educating our Trainees: Anticipating the Changing Landscape (Competency Based, Specialty Tracts, Etc.)

Daniel K. Resnick

11:11–11:15 am

Discussion and Session Conclusion

Michael W. Groff

Special Session

11:15 am–12:10 pm

Business of Neurosurgery in Collaboration with CSNS

Moderators: *Joseph S. Cheng, Jeremy T. Phelps*

Speakers: *Owoicho Adogwa, Kurt M. Eichholz, Luis M. Tumialán, Cheerag D. Upadhyaya*

Learning Objectives: Upon completion of this session, participants will be able to:

- Identify the changes in coding and reimbursement that impacts a neurosurgery spine practice
- Identify documentation requirements to facilitate authorization of imaging and surgeries
- Discuss the variables used by hospital systems to identify the financial impact of a spinal neurosurgeon
- Demonstrate an understanding of the variables associated with contracts for a successful neurosurgery position

11:15–11:16 am

Introduction

Joseph S. Cheng, Jeremy T. Phelps

11:17–11:24 am

Coding Updates 2021 for Spine

Luis M. Tumialán

11:25–11:32 am

New E&M Coding: What Neurosurgeons Need to Know

Owoicho Adogwa

11:33–11:40 am

Navigating Pre-authorization

Jeremy T. Phelps

11:41–11:48 am

Neurosurgeons Worth to a Hospital: Contribution Margins

Joseph S. Cheng

11:49–11:56 am

Key Points in Neurosurgical Contracts

Cheerag D. Upadhyaya

11:57 am–12:04 pm

Pearls for a Successful ASC

Kurt M. Eichholz

12:05–12:10 pm

Panel Discussion and Session Conclusion

DSPN Business Meeting

12:10–12:30 pm

Moderators: *Erica F. Bisson, Luis M. Tumialán*

Speakers: *Zoher Ghogawala, Brian L. Hoh, Eric A. Potts, Michael P. Steinmetz, Luis M. Tumialán, John A. Wilson, Christopher E. Wolfla*

12:10–12:12 pm

Chair's Report

Michael P. Steinmetz

12:13–12:15 pm

Treasurer's Report

Eric A. Potts

12:16–12:18 pm

Secretary's Report

Luis M. Tumialán

12:19–12:21 pm

Nominating Committee Report

Zoher Ghogawala

12:22–12:24 pm

CNS Board Report

Brian L. Hoh

12:25–12:27 pm

AANS Board Report

John A. Wilson

12:28–12:30 pm

Future Sites Committee Report

Christopher E. Wolfla

12:30 pm

Meeting Adjourns

**All speakers and topics are subject to change*

ACCREDITATION

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of Congress of Neurological Surgeons and the Section on Disorders of the Spine and Peripheral Nerves. The Congress of Neurological Surgeons is accredited by the ACCME to provide continuing medical education for physicians.

AMA Credit Designation Statement

The CNS designates this live activity for a maximum of **28 AMA PRA Category 1 Credits™**. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

CME Credit

*A maximum of **19.50 AMA PRA Category 1 Credits™** may be earned for Scientific Sessions only.

Additional CME Credits can be earned by attending the following:

Special Courses

Attendees will receive a maximum of **3.75 AMA PRA Category 1 Credits™** for an eligible half-day Wednesday Special Course. Attendees will earn an additional **2 AMA PRA Category 1 Credits™** for attending the Wednesday evening Dinner Seminar. Attendees will receive a maximum of **2.75 AMA PRA Category 1 Credits™** for an eligible Friday afternoon Special Course. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Nursing Credit

The American Board of Neuroscience Nursing (ABNN) accepts attendance at educational activities approved for CME credit for CNRN or SCRN recertification. The educational activity must be specific to neuroscience or stroke and a course agenda may be required for any sessions that do not explicitly indicate neuroscience content. One CME credit hour equals one(1) CE hour.

For more information regarding recertification requirements, please contact the ABNN directly at 847-375-4733. Check the following websites for additional requirements: [CNRN](#) and [SCRN](#).

Physician's Assistant Credit

The American Academy of Physicians Assistants (AAPA) and The National Commission on Certification of Physician Assistant (NCCPA) accepts attendance at educational activities from an ACCME accredited provider. One CME credit hour equals one(1) AAPA Category 1 CME credit. Education credits can be submitted by logging into the online submission system for both organizations.

For more information regarding recertification requirements, please contact the organizations directly:

The National Commission on Certification of Physician Assistant- 678-417-8100 or [nccpa.net](#). The American Academy of Physicians Assistants (AAPA) -703-836-2272 or [cme@aapa.org](#)

Join us at Spine Summit 2021 to celebrate our Honored Guests and Meritorious Awardee!

Neurosurgery
Honored Guest



Gregory R. Trost
University of Wisconsin

Orthopedics
Honored Guest



Sigurd Berven
University of California,
San Francisco

Peripheral Nerve
Honored Guest



Eric L. Zager
University of Pennsylvania

Neurosurgery
Meritorious
Awardee



Nicholas Theodore
John Hopkins University

GENERAL INFORMATION



Who Should Attend

Educational sessions are geared toward neurosurgeons, orthopedic surgeons, spine care specialists, fellows, residents, physician assistants/physician extenders, and nurse clinicians and are applicable to the practice of spine and peripheral nerve surgery.

Meeting Purpose

The purpose of the 2021 Section on Disorders of the Spine & Peripheral Nerves Annual Meeting is to provide continuing medical education to neurosurgeons, orthopedic surgeons, spine care specialists, fellows, residents, physician extenders and nurse clinicians involved in the practice of spine and peripheral nerve surgery. Education is provided in the form of didactic lectures, special courses demonstrating neurosurgical techniques, exhibits presenting the newest instruments and information, and oral presentations providing the latest information regarding clinical advances in neurological surgery.

Health/Safety

We are working closely with the Hilton San Diego Bayfront to provide a healthy, safe environment for attendees. We will comply with guidelines and social distancing requirements.

Airline Discounts

The Section on Disorders of the Spine & Peripheral Nerves is pleased to offer discounts with the below airlines. Discount codes can only be used when booking directly through the airline website.

Discount Codes

American Airlines
Dates: July 25–August 3
Code: 1971EJ

Delta
Dates: July 23–August 5, 2021
Code: NMUMJ

United Airlines
Dates: July 25–August 3, 2021
Code: ZJU4675187

Area Attractions



The Hilton San Diego Bayfront is conveniently located across from the bustling Gaslamp Quarter. A lively downtown neighborhood known for its nightlife, enjoy a variety of clubs, dive bars, and cocktail lounges, or take in a show at the local theatre. There is also a mix of chain and

independent restaurants, with many global options. Enjoy stunning bay and city views, relaxing leisure facilities, and unique dining venues.

San Diego is home to a wealth of family-friendly attractions, including Sea World, the San Diego Zoo, and the Birch Aquarium. Take a trip on the San Diego Trolley to Little Italy, Old Town, Fashion Valley, and even the US/Mexico Border. If you would rather stay close, ride the ferry over to Coronado Island, take in a Padres game at Petco Park, or take a walk through seaport village, which has more than 50 diverse shops and 17 eateries.

The Hilton San Diego Bayfront hotel concierge can also provide information on local tours, museums, and restaurants. This hotel does not offer childcare services, however, you may contact the concierge for childcare options. Call 619-564-3333 to be connected to the concierge.

Evaluations

The evaluation process is a key component in providing cutting-edge programming at the Section on Disorders of the Spine and Peripheral Nerves Annual Meeting. Your feedback on the quality and diversity of the program helps to determine future Annual Meeting programming. Your voice is important and your opinions are valued!

No-Smoking Policy

Smoking is not permitted at any official Section on Disorders of the Spine and Peripheral Nerve Annual Meeting event. Smoking is allowed at the Hilton San Diego Bayfront in designated areas only.

Speaker Ready Room

The Speaker Ready Room will be available Wednesday, July 28, through Saturday, July 31, 2021. All speakers and abstract presenters should visit the Speaker Ready Room at least one hour prior to their presentations.

HOUSING & TRAVEL INFORMATION

Housing Deadline – July 2, 2021



Hotel Accommodations

The Hilton San Diego Bayfront offers newly renovated luxury accommodations and amenities your whole family is sure to enjoy, from fine dining to a host of recreational activities. Smoking is allowed in designated outdoor areas only.

Resort Amenities

- Luxurious on-site spa
- Bayfront Swimming Pool
- Pedestrian Skybridge to the Gaslamp Quarter

Hotel Room Rates*

	Single	Double	Triple	Quad
Standard Room	\$291.98	\$291.98	\$314.48	\$336.98

* Above rates include applicable state and local taxes. A portion of the room rate will be utilized to cover the cost of registration and housing services. Additional guests: \$20 additional per guest 18 years and older over two guests in the room up to the maximum occupancy for the room type booked

These special rates are only available until the July 2, 2021 cut-off date. The Section on Disorders of the Spine and Peripheral Nerves cannot guarantee the availability of this rate after the cut-off date. Rates are based on availability three days prior to and three days after the official meeting dates of July 28-31, 2021. Confirmation for dates other than official meeting dates, made prior to the cut-off date, will be based on availability.

Hotel Reservation Information and Deadlines

Hotel reservations are only available to registered Section on Disorders of the Spine and Peripheral Nerves attendees. You must first register for the Spine Summit before making your hotel arrangements. Rooms are subject to availability. Reserve your room by July 2, 2021. Visit spinesection.org to register and make your reservation today!

Deposit

A deposit equal to one night's room and tax is required to hold each guest's reservation. This payment must be submitted with your registration fees. Credit cards will be charged in mid-June. Please make checks payable to the DSPN Housing Center and mail checks to: DSPN Registration and Housing Center, 6100 W. Plano Parkway, Suite 3500, Plano, TX 75093. All rooms are subject to applicable state and local taxes. Hotel reservations requested without deposit will not be accepted.

Hotel Confirmations, Cancellations, or Changes

Through July 2, 2021

- All changes and cancellations must be made through the Section on Disorders of the Spine and Peripheral Nerves Registration and Housing Center.
- Rooms are not transferable.
- Refunds for deposits will be issued by the Section on Disorders of the Spine and Peripheral Nerves Registration and Housing Center if registration is cancelled.

Beginning July 3, 2021

- All changes and cancellations must be made directly with the hotel.
- If cancellation notice is not received according to the hotel policy, the deposit may be forfeited.
- Check your hotel confirmation and contact the hotel directly for information.

Support the Section on Disorders of the Spine and Peripheral Nerves by booking your hotel room for the Annual Meeting through the DSPN Housing Center. In order to obtain the necessary meeting and exhibit space at the hotel, the Section on Disorders of the Spine and Peripheral Nerves must commit to a minimum number of guest rooms. If that commitment is not fulfilled, the Section will incur significant financial penalties and have difficulty obtaining sufficient meeting space in the future. Unfortunately, this can have a major impact on the member services and programs that the Section is able to offer in the future. We appreciate your commitment to the Section by staying at the Hilton San Diego Bayfront.

Transportation to the Hotel

The Hilton San Diego Bayfront is conveniently located just three miles, approximately 10 minutes, from San Diego International Airport.

- \$15 - \$20 average costs for Uber or Lyft
- \$18 approximate taxi fare each way



Register today at spinesection.org

REGISTRATION INFORMATION

ADVANCE REGISTRATION DEADLINE: JULY 2, 2021

REGISTER TODAY USING ONE OF THESE TWO METHODS:

ONLINE:
SPINESECTION.ORG

PHONE:
800-931-9543 or 972-349-5539 US & Canada

Allow five business days for Registration and Housing Confirmation. The DSPN Registration and Housing Center is not responsible for e-mails not received due to circumstances beyond their control.

Credit Card Payments

- US dollars and drawn on a US bank
- Visa/MasterCard/American Express

Included in Registration

Medical registration includes:

- Complimentary Breakfast
- Beverage Breaks
- Scientific Sessions
- Entrance to the Exhibit Hall
- One ticket to Wednesday Opening Reception
- Thursday and Friday Lunch with Exhibitors

Spouse/guest registration includes:

- Complimentary Breakfast
- Scientific Sessions
- Entrance to the Exhibit Hall
- Wednesday Opening Reception

Child Registration

Although there is no registration fee, children under 18 years of age should register for the 2021 Spine Summit to receive a badge, which includes access to:

- Wednesday Opening Reception
- Daily Continental Breakfast

Special Note: Children under the age of 18 are not allowed on the exhibit hall floor.

Speaker Registration

Complimentary registration will not be provided for one-day speakers. All speakers must register at the applicable registration rate.

Special Discount for Spine Section Members

The Section will waive your 2020 membership dues if you register and attend this year's Annual Meeting at the member rate. If you have already paid your 2020 membership

dues, you will receive an additional \$100 off your already discounted member registration fee or a \$100 credit.

Onsite Registration Hours

Wednesday, July 28 11:00 am–5:30 pm	Friday, July 30 6:30 am–4:30 pm
Thursday, July 29 6:30 am–6:30 pm	Saturday, July 31 6:30 am–12:30 pm

Registration Cancellation/Refund Policy

All refund requests must be received in writing by July 12, 2021.

Requests accepted via:

E-mail: dspn@mcievents.com

Fax: (972) 349-7715

Before July 12, 2021

Registration: Full Refund less \$100 processing fee. Special Courses, Symposia and Events will be refunded in full until this date.

After July 12 and No Shows

Absolutely no refunds will be issued after this date for Registration, Special Courses, Dinner Seminar, and Events regardless of cause.

Americans with Disabilities Act/Special Needs and Requests

The Section on Disorders of the Spine and Peripheral Nerves wishes to take the necessary steps to ensure that no individual with a disability is excluded, denied services, segregated or otherwise treated differently than other individuals because of the absence of auxiliary aids and services. Please let us know if, under the ADA, you require special accommodations or services in order to attend the Section on Disorders of the Spine and Peripheral Nerves Annual Meeting.

Your requirements should be sent directly to the DSPN Housing and Registration Center by emailing dspn@mcievents.com or calling 800-931-5539. Please provide any requests at least 30 days prior to the Spine Summit to guarantee accommodation. Scooter/wheelchair rentals are available by contacting ScootAround at 888-441-7575 or www.scootaround.com.

Meeting Registration Fees

Registration Category	Received on or Before July 2, 2021	Received After July 2, 2021
Registration Category	Advance Rates	Post Advance Rates
Spine Section Member	\$600	\$800
Orthopedic Surgeon/ACOS*	\$600	\$800
NASS / SRS / SMISS / ISASS Members	\$600	\$800
AO Spine / CSRS / ACSR Members	\$600	\$800
Non-member / Non-physician, Non-member	\$750	\$950
Resident / Medical Student	\$50	\$100
Resident Non-Member	\$75	\$125
Nurse/Physician Assistant	\$250	\$400
Spouse/Guest	\$100	\$130
Child	\$0	\$0

*Orthopedic Surgeon/ACOS Member Registration includes one-year complimentary adjunct membership.

EXHIBIT PRODUCTS & SERVICES

Find the latest spine and peripheral nerve technology in the Exhibit Hall. Take time to explore the hall and enjoy one-on-one discussions and demonstrations with our exhibitors. Learn about the devices and new technologies that can advance your practice.

Exhibit Hall Features

- Discover state-of-the-art equipment, products, and services.
- Enjoy complimentary lunch in the exhibit hall or a corporate-sponsored lunch. Corporate partners present the latest cutting-edge technology while providing lunch.
- Participate in *What's New* sessions. Join your peers during daily beverage breaks on Thursday and Friday, as speakers share the latest in cutting-edge research and technology.

Exhibit Hours

Thursday, July 29	9:00 am–4:30 pm
Friday, July 30	9:00 am–1:15 pm

What's New Sessions and Beverage Break Schedule

	Morning	Afternoon
Thursday, July 29	9:30–10:15 am	2:30–3:15 pm
Friday, July 30	9:30–10:15 am	

Corporate-sponsored Lunch Schedule

Wednesday, July 28	12:00–1:00 pm
Thursday, July 29	12:00–1:00 pm
Friday, July 30	12:15–1:15 pm

2020 EXHIBITORS

4WEB Medical

7D Surgical

Aesculap

American Spine Registry

Amplify Surgical

ATEC Spine

Augmedics

Benvenue Medical

Biedermann Motech

Biologica Technologies

Bioventus

Camber Spine

Carbofix in Orthopedics

Cerapedics, Inc.

ControlRad Inc.

DePuy Synthes

DJO Global

Gauthier Biomedical

Globus Medical

Integrity Implants

Intrinsic Therapeutics

Joimax

Kuros Biosciences

Life Instrument Corporation

Medical Education & Research
Institute (MERI)

Medtronic

North American Spine Society

NuVasive

Olympus America

Orthofix

RIWO Spine - a Richard Wolf Co.

RTI Surgical

SeaSpine

SI-BONE

Simplify Medical

Spinal Elements

SpineCraft

Spine Wave

Stryker

SurGenTec

Surgeons Capital Management

Synaptive Medical

TeDan Surgical Innovations

Tobra Medical

TrackX Technology

Zimmer Biomet

Joint Section on Disorders of the Spine and Peripheral Nerves
10 N. Martingale Road, Suite 190
Schaumburg, IL 60173-2294

JOIN US!

Hilton San Diego Bayfront
San Diego, California
JULY 28-31, 2021

**ADVANCE
REGISTRATION
DEADLINE:
FRIDAY,
JULY 2, 2021**

**REGISTER
TODAY AT
spinesection.org**



THE 37TH ANNUAL MEETING OF THE AANS/CNS SECTION ON DISORDERS OF THE SPINE AND PERIPHERAL NERVES

SPINE SUMMIT 2021

**COURAGE, RESILIENCE,
AND EXCELLENCE:
SETTING THE PATH**