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Meeting Objectives

Attendees should come away with:

1. A clearer understanding of state of the art methodologies and practice of IONM from the neurophysiologists and surgeons perspective.
2. A clearer understanding of how IONM data can be used to advance the field of IONM.
3. A clearer understanding of the various practice models of IONM.
4. A clearer understanding of the evidence for IONM.

Session Description

Sessions will be covering information on electrical safety in the operating room, billing and coding, neuromonitoring during different procedures, evidence based discussions and much more. On Friday and Saturday, the course has been split into two tracks taking place simultaneously.

**Track I** will focus on the methodology for the practice of IONM from both the neurophysiologist as well as the surgeon. The track is designed to have paired lectures by a surgeon discussing the surgical procedures and their perspective on IONM and then having a neurophysiologist discuss the application of state of the art methods for IONM.

**Track II** will focus on three areas of IONM: (1) How can data be used to advance the practice of IONM; (2) What are the different practice models for IONM and how are they both complimentary and different; (3) Evidence based discussion of the various IONM procedures by surgical category.

Target Audience

Beginner and advanced IOM practitioners including technologists, neurophysiologists, physicians, and individuals involved in the business aspect of intraoperative neuromonitoring.

Planning Committee

Jay Shils, PhD, DABNM, FASNM, FACNS
Michael McCaffery, PhD
Brian S. Bailey, Executive Director, ASNM
Kelly Schild, CMP, Meeting Manager, ASNM
# Continuing Education

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The American Society of Neurophysiological Monitoring
2016 ASNM Annual Meeting Agenda

Thursday, May 12, 2016

8:00 AM - 5:00 PM
ASNM Board of Directors Meeting
Lincoln Room

6:00 PM - 8:00 PM
Registration Open
Grand Court Foyer

6:00 PM - 8:00 PM
ABNM Board Prep (additional charge)
Jeffrey R. Balzer, PhD, FASNM, DABNM
Riverfront Room

Friday, May 13, 2016

7:00 AM - 8:00 AM
Breakfast with Exhibitors
Promenade Ballroom

Track I
Spinal Surgery

8:00 AM - 8:15 AM
Introductions
Grand Ballroom A

8:15 AM - 9:05 AM
Spine Instrumentation: Methodology and Approaches
Ricardo B. V. Fontes, MD, PhD
Moderators
Faisal R. Jahangiri, MD, CNIM, DABNM, FASNM
Vedran Deletis, MD, PhD
Grand Ballroom A

9:05 AM - 10:00 AM
Spinal Tumor Surgery
John O’Toole, MD, MS
Moderators
Faisal R. Jahangiri, MD, CNIM, DABNM, FASNM
Vedran Deletis, MD, PhD
Grand Ballroom A

10:00 AM - 10:30 AM
Break with Exhibitors
Promenade Ballroom

Track II
The Value Proposition for IONM

8:00 AM - 8:15 AM
Introductions
Grand Ballroom B

8:15 AM - 9:05 AM
Moving New Devices to the Marketplace: The FDA Review Process - A Scientific Reviewer’s Perspective
Xiaorui Tang, PhD
Grand Ballroom B

9:05 AM - 10:00 AM
Quantification of IONM Benefits
John P. Ney, MD, MPH
Grand Ballroom B
Friday, May 13, 2016
(continued)

**Track I**
Spinal Surgery

**10:30 AM - 11:15 AM**
Neuromonitoring During Spine Instrumentation Procedures
Faisal R. Jahangiri, MD, CNIM, DABNM, FASNM
Moderator
Vedran Deletis, MD, PhD
*Grand Ballroom A*

**11:15 AM - 12:05 PM**
Neuromonitoring During Intradural Spinal Procedures
Vedran Deletis, MD, PhD
Moderator
Faisal R. Jahangiri, MD, CNIM, DABNM, FASNM
*Grand Ballroom A*

**12:05 PM - 12:45 PM**
e-Poster Abstracts
Moderators
Faisal R. Jahangiri, MD, CNIM, DABNM, FASNM
Vedran Deletis, MD, PhD
*Grand Ballroom A*

**12:45 PM - 2:00 PM**
Lunch on Own

**Cranial Surgery**

**2:00 PM - 2:45 PM**
Cortical Mapping in Glioma Surgery
Richard W. Byrne, MD
Moderators
W. Bryan Wilent, PhD, CNIM, DABNM
Isabel Fernández-Conejero, MD
*Grand Ballroom A*

**2:45 PM - 3:35 PM**
Neuromonitoring During Cranial Procedures
Andrea Szelényi, MD, PhD
Moderators
W. Bryan Wilent, PhD, CNIM, DABNM
Isabel Fernández-Conejero, MD
*Grand Ballroom A*

**The Value Proposition for IONM**

**10:30 AM - 11:15 AM**
Data Sources: Payor and Claims Data
David N. van der Goes, PhD
*Grand Ballroom B*

**11:25 AM - 12:05 PM**
Data Management: Plans, Metadata and Storage
Juliane Schneider, MSLIS
Reid Otsuji, MLIS
*Grand Ballroom B*

**12:20 PM - 12:45 PM**
e-Poster Abstracts
*Grand Ballroom B*

**2:00 PM - 2:35 PM**
Data Sources: IOM Registries and Data Sources
Matthew Eccher, MD, MS, FAAN, FACNS
Moderator
Gene Balzer, PhD
*Grand Ballroom B*

**2:45 PM - 3:40 PM**
Data Discussion Panel
Moderator
Gene Balzer, PhD
*Grand Ballroom B*

**3:35 PM - 4:15 PM**
Break with Exhibitors
*Promenade Ballroom*
Friday, May 13, 2016
(continued)

**Track I**
Cranial Surgery

**4:15 PM - 5:00 PM**
Neuromonitoring During Brainstem Surgical Procedures
Isabel Fernández-Conejero, MD
Moderator
W. Bryan Wilent, PhD, CNIM, DABNM
_Grand Ballroom A_

**4:15 PM - 4:35 PM**
The Academic Practice Model
Jeffrey R. Balzer, PhD, FASNM, DABNM
Moderator
Gene Balzer, PhD
_Grand Ballroom B_

**4:35 PM - 5:00 PM**
Practice Model: The Large Service Company
Arvydas Tamkus, MD, PhD, DABNM, CNIM
Moderator
Gene Balzer, PhD
_Grand Ballroom B_

**5:00 PM - 6:00 PM**
MEP and SSEP Alarm Criteria: Literature and Practice
H. Louis Journée, MD, PhD
Moderators
W. Bryan Wilent, PhD, CNIM, DABNM
Isabel Fernández-Conejero, MD
_Grand Ballroom A_

**5:00 PM - 5:20 PM**
Small Service Companies Service Model
Clare Gale, CNIM, R.EEG/EP T., FASNM, FASET
Moderator
Gene Balzer, PhD
_Grand Ballroom B_

**5:20 PM - 6:00 PM**
Panel Discussion
Moderator
Gene Balzer, PhD
_Grand Ballroom B_

**6:00 PM - 8:30 PM**
Networking Reception with Exhibitors
Promenade Ballroom

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Saturday, May 14, 2016

7:00 AM - 8:00 AM
Breakfast with Exhibitors
Promenade Ballroom

8:00 AM - 8:15 AM
Introductions
Grand Ballroom A

Track I
Functional Neurosurgery

8:15 AM - 9:00 AM
Functional Neurosurgery Methodology and Critical Events for the Neurophysiologist
Sepehr Sani, MD
Moderator
Richard Vogel, PhD, CNIM, DABNM
Grand Ballroom A

Track II

8:15 AM - 9:00 AM
Regulatory Matters
Neal D. Shah, JD, MPH
Moderator
George R. “Trey” Lee, III, MD, MS, FACNS
Grand Ballroom C

Track I
Functional Neurosurgery

9:00 AM - 9:50 AM
Movement Disorders for Physiologists and MER
Leonard Verhagen Metman, MD, PhD
Moderator
Richard Vogel, PhD, CNIM, DABNM
Grand Ballroom A

9:50 AM - 10:30 AM
Break with Exhibitors
Grand Ballroom A

10:30 AM - 11:15 AM
Interventional Pain Therapies
Matthew P. Jaycox, MD
Moderator
Richard Vogel, PhD, CNIM, DABNM
Grand Ballroom A

11:15 AM - 12:30 PM
Presidential Lecture
Telehealth: Cost-Effective Healthcare Delivery Redesign
Kenneth J. Gaines, MD, MBA
Moderator
George R. “Trey” Lee, III, MD, MS, FACNS
Grand Ballroom A

12:30 PM - 2:00 PM
Business Lunch (ASNM Members Only)
Astor Room
Saturday, May 14, 2016
(continued)

Track I
Endovascular

2:00 PM - 2:50 PM
The Effects of Anesthetics on Neuromonitoring
Laura B. Hemmer, MD
Moderator
Andrea Szelényi, MD, PhD
Grand Ballroom A

2:50 PM - 3:40 PM
Neuromonitoring during Endovascular Procedures
Jeffrey R. Balzer, PhD, FASNM, DABNM
Moderator
Andrea Szelényi, MD, PhD
Grand Ballroom A

4:15 PM - 5:45 PM
e-Poster Abstracts
Moderator
Andrea Szelényi, MD, PhD
Grand Ballroom A

5:45 PM - 6:30 PM
Endovascular Procedures for Physiologists and with a Focus on the Critical Events
Demetrius K. Lopes, MD
Moderator
Andrea Szelényi, MD, PhD
Grand Ballroom A

Track II
Evidence Based Review of Literature
Class I, II, III, IV

2:00 PM - 2:30 PM
Evidence Based IONM: Spine Monitoring
Robert N. Holdefer, PhD
Grand Ballroom C

2:30 PM - 3:10 PM
Where’s The Evidence: The Role of IONM in Neurological Surgery
John J. McAuliffe, III, MD, MBA, DABNM, FAAP
Moderator
Robert N. Holdefer, PhD
Grand Ballroom C

3:10 PM - 3:40 PM
Cardiovascular Surgery IOM Cost-Benefit:2016
Harvey L. Edmonds, Jr., PhD, FASNM
Moderator
Robert N. Holdefer, PhD
Grand Ballroom C

4:15 PM - 5:20 PM
Evidence Based IONM: Anesthesia
Tod B. Sloan, MD, PhD, MBA
Moderator
Robert N. Holdefer, PhD
Grand Ballroom C

4:45 PM - 5:20 PM
Panel Discussion
Moderator
Robert N. Holdefer, PhD
Grand Ballroom C

3:35 PM - 4:15 PM
Break with Exhibitors
Promenade Ballroom

4:45 PM - 5:20 PM
Panel Discussion
Moderator
Robert N. Holdefer, PhD
Grand Ballroom C
Sunday, May 15, 2016

8:00 AM - 9:00 AM
Breakfast
Grand Court Foyer

9:00 AM - 9:15 AM
Introductions
Grand Ballroom A

9:15 AM - 10:00 AM
Cranial Nerve Mapping and Monitoring
Vedran Deletis, MD, PhD
Moderators
H. Louis Journée, MD, PhD
Brett Netherton, MS, CNIM, FASNM, FASET
Grand Ballroom A

10:00 AM - 10:30 AM
Electrocorticography
Travis Stoub, PhD
Moderators
H. Louis Journée, MD, PhD
Brett Netherton, MS, CNIM, FASNM, FASET
Grand Ballroom A

10:30 AM - 11:00 AM
Break
Grand Court Foyer

11:00 AM - 11:45 AM
Billing and Coding
Rebecca Clark-Bash, R.EEG\EP T., CNIM, CLTM, FASNM
Moderators
H. Louis Journée, MD, PhD
Brett Netherton, MS, CNIM, FASNM, FASET
Grand Ballroom A

11:45 AM - 12:30 PM
Recording and Safety Concepts to Improve Practice
Brett Netherton, MS, CNIM, FASNM, FASET
Moderator
H. Louis Journée, MD, PhD
Grand Ballroom A

12:30 PM - 1:00 PM
Closing
Grand Ballroom A
Jeffrey R. Balzer, PhD, FASNM, DABNM
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has disclosed no relevant financial relationships

Isabel Fernández-Conejero, MD
has disclosed no relevant financial relationships

Richard W. Byrne, MD
has disclosed income from Integra, consultant income in the area of cortical stimulation

Ricardo B. V. Fontes, MD, PhD
has disclosed income from Stryker, consultant income in the field of spine surgery

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Medtronic, speakers bureau income in the field of neuromodulation

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has disclosed no relevant financial relationships

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John O’Toole, MD, MS
has disclosed income from Globas Medical, consultant income in the field of spine surgery. RTI Surgical, consultant income in the field of spine surgery. Theracell, investment income in the area of bone healing

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Kate Nisbet, Director, Health Systems Education, IPMA
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A Vertebral Column Resection (VCR) for Kyphoscoliosis: An Intraoperative Neurophysiological Monitoring (IONM) Alert  [Saturday, 5:15 PM - Grand Ballroom A]
Faisal R. Jahangiri, MD, CNIM, DABNM, FASNM; Sami Al Eissa, MD; Samir Al Sayegh, MD; Fahad Al Helal, MD; Shmoukh A. M. Al-Sharif; Monerah M. Annaim; Tanweer Aziz, MD

Alternative SSEP Alert Criteria  [Saturday, 4:29 PM - Grand Ballroom A]
Arvydas A. Tamkus, MD, PhD, DABNM

Benefit of Combined Motor and Somatosensory Evoked Potentials and Electromyography Monitoring in Surgeries of Intramedullary Spinal Cord Tumor  [Friday, 12:05 PM - Grand Ballroom A]
Seong Rae Jo, MD; Dong Gun Kim, MD; Yong Shik Park, MD; Kyung Seok Park, MD

Critical Intraoperative Neurophysiologic Monitoring Change During Surgical Exposure in Pediatric Thoracic Scoliosis  [Friday, 12:27 PM - Grand Ballroom B]
E. Matthew Hoffman, DO, PhD

EEG and SSEP Changes Identify Faulty Cooling Equipment  [Saturday, 4:36 PM - Grand Ballroom A]
Thomas McGee, CNIM

Effect of Severe Intravenous Infiltration on Intraoperative Neuromonitoring  [Saturday, 5:00 PM - Grand Ballroom A]
Kent Rice, MS, REPT, CNIM, DABNM, FASNM

Electrophysiologic Monitoring with Provocation Testing in the Treatment of Spinal AV Fistula  [Friday, 12:40 PM - Grand Ballroom A]
Ferenc Rabai, MD; William Stetler, MD; Adam Polifka, MD; Nelson Algarra, MD; Christoph Seubert, MD, PhD; Steven Robicsek, MD, PhD

Gang Wu, PhD, CNIM; Eva K. Ritzl, MD, FRCP

Implantation and Testing of Wireless Multichannel Stimulators in Macaque Cortex  [Saturday, 4:22 PM - Grand Ballroom A]
Philip R. Troyk; David M. Frim; Ben Roitberg; Sungjae Suh; Martin Bak; Sam Bredeson; Zhe Hu; Vernon L. Towle

Intra Operative Neurophysiological Monitoring Team’s Communiqué with Anesthesia Professionals to Improve Safety in the Operating Room  [Friday, 12:20 PM - Grand Ballroom B]
Anurag Tewari; Lisa Francis; Ravi Samy; Dean Kurth; Joshua Castle; Mohamed Mahmoud

Irreversible Electroporation-Induced Sciatic Neuropathy Observed with Intraoperative Somatosensory Evoked Potential Monitoring  [Saturday, 5:29 PM - Grand Ballroom A]
Jennifer Chu, MD; Masanori Nagata; Xi Chen, MD; Stephen B. Solomon, MD; Adrian Gonzalez-Aguirre, MD; Julio E. Garcia-Aguilar, MD; Constantinos T. Sofocleous, MD, PhD

Midline Focal Seizure After Cross Clamp During a Carotid Endarterectomy (CEA)  [Friday, 12:26 PM - Grand Ballroom A]
Irene Hart, BS, R.EEG; Susan Hollander, DO; W. Bryan Wilent, PhD, DABNM
Li G. Huang, PhD, DABNM; Kaushik Das, MD; Jennifer Ronecker, MD; Craig Shannon, MD

Neurophysiologic Detection of Spinal Cord Ischemia During Vertebral Body Tethering  [Saturday, 4:50 PM - Grand Ballroom A]
J.P. Clark, III, PhD, CNIM; Mohammad Diab, MD

Prognostic Value of Intra- and Extra-Operative Lateral Spread Responses in Microvascular Decompression Surgery of Hemifacial Spasm  [Saturday, 5:22 PM - Grand Ballroom A]
Seong Rae Jo, MD; Dong Gun Kim, MD; Yong Shik Park, MD; Kyung Seok Park, MD

Recording Dermatomal Somatosensory Evoked Potentials with a Subdural or Epidural Strip in Spinal Surgery  [Friday, 12:33 PM - Grand Ballroom A]
Tsui-Fen Yang; Hsin-Hung Chen; Muh-Li Liang; Chi-Kuang Feng; Jan-wei Chiu; Jia-Chi Wang; Kwong-Kum Liao; Rai-Chi Chan

TcMEPs and Pregnancy  [Friday, 12:12 PM - Grand Ballroom A]
Sarah E. Baran, PhD, CNIM; Jeffrey Cohen, MD, PhD; Anthony K. Sestokas, PhD, DABNM; Herman Mendez, MD, DABNM, CNIM; Samuel Weinstein, MD, MBA

Unilateral Single Channel Cortical SSEP Amplitude Decrease During ALIF: Evidence of Cortical Dipole Directional Change?  [Friday, 12:40 PM - Grand Ballroom B]
Derek Wills, BA

Using Spinal Epidural Stimulation to Record Muscle Response as an Adjunct to Monitor Nerve Root Function during Sagittal Plane Deformity Correction with Lumbar Pedicle Subtraction Osteotomies, Technique with Case Illustrations  [Saturday, 5:07 PM - Grand Ballroom A]
Lanjun Guo, MD, MSc, DABNM

Utility of Somatosensory Evoked Potentials Monitoring During Clipping Aneurysm Surgeries  [Saturday, 4:15 PM - Grand Ballroom A]
Seong Rae Jo, MD; Dong Gun Kim, MD; Yong Shik Park, MD; Kyung Seok Park, MD

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Rhythmlink International is a medical device manufacturing company specializing in devices that help connect patients to machines to record or elicit physiologic information. Rhythmlink designs, manufactures and distributes a variety of medical devices for intraoperative neuromonitoring, electroencephalography, evoked potentials, polysomnography, long-term monitoring epilepsy and critical care units. Founded by neurodiagnostic technicians and engineers in 2002, Rhythmlink enhances patient care worldwide by transforming medical device technology that links patients to equipment. Rhythmlink also offers custom packaging, custom products, private labeling and contract manufacturing services. www.rhythmlink.com
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The North American Spine Society (NASS) is a multidisciplinary medical organization representing over 8,000 members dedicated to fostering the highest quality, evidence-based, ethical spine care by promoting education, research, and advocacy. With members from multiple specialties worldwide, NASS is your link to health care professionals invested in advancing spine care. [www.spine.org](http://www.spine.org)
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Variables in Pedicle Screw Monitoring

Lawrence R. Wierzbowski, AuD, DABNM, FASNM
Neurophysiologist, Neurological Monitoring Services

Wednesday, June 1, 2016 @ 7:00 PM EST
Applied for (1) hour of ASNM-CEUs and AMA PRA Category 1 Credit™

Cost
Members: Complimentary
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It is important to take anatomical, neurophysiological, surgical technique, surgical instrument conductivity and many other variables into consideration when recording triggered and free running electromyographic (EMG) signals in the operating room during spinal fusion with pedicle screw instrumentation. During the electrical evaluation of either the pedicle hole or the subsequent pedicle screw a “threshold” stimulation is commonly employed using the minimum amount of current to provoke an observable and repeatable compound muscle action potential (CMAP). Interpretation and alarm criteria for pedicle screw integrity using stimulated electromyography is usually based on the several published guidelines but are there “other” factors that we need to consider as well? Join ASNM’s Webinar Series on June 1, 2016 as Lawrence R. Wierzbowski, AuD DABNM FASNM investigates “Variables in Pedicle Screw Monitoring.”

www.ASNM.org/Education/WebinarSeries
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September 10-11, 2016
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2017 Winter Symposium
February 25-26, 2017
The US Grant Hotel
San Diego, California

2017 Annual Conference
May 4-7, 2017
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