

**Intraoperative Neurophysiology for Neurosurgeons: The Essentials**

**EANS Symposium**

**Verona, 14 - 16 June 2015**

**Prologue, 13 June 2015**

**18.30 Welcome and Introduction**

**18.45 Magistral Lecture**

**19.30 Welcome cocktail**

**Day 1 Introduction and Brain surgery**

8.00-8.15 Welcome

**Session I: An introduction to Intraoperative Neurophysiology**

8.15-8.45 Surgeon, Neurophysiologist, Anesthesiologist: Communication strategies in the operating room

8.45-9.15 Anesthesia for Intraoperative Neuromonitoring

9.15-9.45 Safety of IOM

9.45-10.00 Discussion

10.00-10.30 Coffee Break

**Session II Cortical Mapping in brain tumor surgery**

10.30-10.45 Identification of the central sulcus: Anatomy, Functional neuroimaging

10.45-11.00 Identification of the central sulcus: The SEP Phase Reversal technique

11.00-11.30 Cortical and subcortical mapping: Historical perspective and general principles in electrophysiology

11.30-12.00 Cortical Mapping for language and other cognitive functions in awake patients

12.00-12.30 Cortical mapping for motor function: short train vs. Penfield's technique

12.30-12.45 Electrocorticography

12.45-13.00 Discussion

13.00-14.30 Lunch

**Session III: Subcortical mapping and MEP monitoring in brain tumor surgery**

14.30-15.00 General principles of tractography and anatomy of subcortical pathways

15.00-15.30 Subcortical mapping for language and other cognitive functions in awake patients

15.30-16.00 Subcortical motor mapping

16.00-16.30 Motor evoked potential monitoring in brain tumor surgery: techniques, warning criteria and correlations with clinical outcome

16.30-16.45 Discussion

16.45-17.15 Coffee break

**Session IV: IOM in cerebrovascular surgery**

17.15-17.45 MEP and SEP monitoring in aneurysm and AVM surgery: Neurophysiological perspective

17.45-18.15 MEP and SEP monitoring in aneurysm and AVM surgery: Neurosurgical perspective

Free evening (Faculty Dinner)

**Day 2: Spinal Cord Surgery and Posterior Fossa Surgery (Part I)**

**7.45-8.45 Breakfast sessions on IOM in Brain Surgery: How I do it (“meet the experts”).**

a) Subcortical mapping in low grade gliomas

b) Cortical mapping of cognitive functions

c) Insular tumors

d) Aneurysms and AVMs

**Session V: Techniques in spinal cord monitoring**

8.45-9.15: SEP Monitoring and dorsal column mapping

9.15-9.45 Muscle MEP and D-wave monitoring

9.45-10.00 Monitoring of the bulbocavernosus reflex

10.00 10.15 Mapping of the cauda equina

10.15-10.45 Discussion

10.45-11.15 Coffee break

**Session VI: Spinal cord tumor and arteriovenous malformation**

11.15-11.45 Intramedullary spinal cord tumors

11.45-12.00 Intradural extramedullary tumors

12.00-12.30 Neuromonitoring during endovascular procedures for spinal AVMs

12.30-13.00 Instrumented spine surgery

13.00-13.15 Discussion

13.15-14.30 Lunch

**Session VII: Surgery of the conus-cauda region**

14.30-15.00 Tethered cord surgery (lipomas and other spinal dysraphisms)

15.00-15.30 Selective dorsal rhizotomy for spasticity

15.30-15.45 Discussion

15.45-16.15 Coffee break

**Session VIII: Techniques in posterior fossa monitoring**

16.15-16.45 Brainstem Auditory Evoked Potentials

16.45-17.15 Cranial nerve monitoring (free running EMG)

17.15-17.45 Cranial nerve monitoring (corticobulbar MEP)

17.45-18.15 Mapping of the floor of the fourth ventricle

18.15-18.30 Discussion and adjourn

**20.00 Social Dinner**

**Day 3: Posterior Fossa Surgery (Part II) and Controversies in Neuromonitoring**

**7.30-8.30 Breakfast sessions on IOM in Spinal Cord Surgery and Posterior Fossa Surgery: How I do it (“meet the experts”)**

- a) Spinal cord tumors
- b) Tethered cords
- c) Selective dorsal rhizotomy
- d) Brainstem tumors
- e) Vestibular schwannomas

**Session IX: IOM in posterior fossa surgery**

- 8.30-9.00 Vestibular schwannomas
- 9.00-9.15 Microvascular decompression for hemifacial spasm
- 9.15-9.45 Skull base tumors
- 9.45-10.15 Brainstem tumors
- 10.15-10.30 Discussion
- 10.30-11.00 Coffee break

**Session X: Present and Future of Neuromonitoring**

- 11.00-11.30 Evidence based medicine in neuromonitoring
- 11.30-12.00 Cost-effectiveness of neuromonitoring
- 12.00-12.30 Training and Credentials in neuromonitoring: Who is a neuromonitoring professional?
- 12.30-12.45 Medico legal aspects of neuromonitoring
- 12.45 Discussion and closure