

Description

This course provides you with a greater understanding of Electromyograms (EMGs) and Nerve Conduction Studies (NCS) and how they are used in neurodiagnostic medicine. We will study and review peripheral nerve anatomy and physiology, recording methods, and waveforms recognition with clinical correlations. You will emphasize the safety of the patient. In the lab you will learn the basics of nerve and muscle stimulation and recording, using surface electrodes.

Intended audience

Physicians and technologists who are already experienced in electrodiagnostic techniques and would like to further develop their skills. This is a combined lecture and hands-on course.



Date

April 16-18, 2025

Venue

Natus Schaumburg, IL USA 50 Commerce Dr., Suite 180 Schaumburg, IL 60173

Organization

This is a combined lecture and lab course. Topics are presented by the instructor with student skill-based learning and practice, an essential part of the course. There will also be small group activities.

Course objectives

- Demonstrate an understanding of peripheral nerve anatomy and physiology
- Describe the various measurements, calculations and test parameters vital in NCS testing
- Demonstrate the ability to record the most common studies of most labs
- Demonstrate the ability to record infrequently performed studies
- Describe the Needle EMG and the role of the technologist
- Demonstrate an understanding of diseases and disorders of the peripheral nervous system

Registration deadline

April 4th, 2025

Registration fee

\$400 USD

Continuing Education Units (CEUs)

17.0 CEUs approved by AAET



Speaker

Sanjeev D. Nandedkar, PhD
Senior Consultant
Natus Medical

Dr. Nandedkar has over 30 years' experience and is an award-winning author, editor and reviewer, researcher, instrument design engineer, teacher and clinical expert in the EMG field. He has delivered lectures, workshops and seminars in over 25 countries at universities, hospitals and EMG conferences. As an editor, Sanjeev started the "EMG on DVD" educational series. In collaboration with other clinicians, he developed Motor Unit Number Index (MUNIX) along with Multi-motor unit Analysis (MMA) and Turns & Amplitude (TA) methods available on Natus EMG systems. His primary research interest is an Automatic analysis of EMG signals, Modeling EMG signals and Technical aspects of EMG waveforms. Sanjeev is currently a Senior Consultant here at Natus Medical.

Day 1 – April 16

- 8:15 Introduction: Action potential & Volume conduction
- 9:00 Motor nerve conduction studies (MNCS)
- 9:45 Break
- 10:15 Demonstration: Upper limb MNCS (common nerves: Median - APB, Ulnar – ADM/FDI, Lumbrical/Interossei)
- 10:45 Practice: Upper limb MNCS (common nerve) MNCS
- 12:00 Lunch
- 1:00 Sensory nerve conduction studies (SNCS) & Instrumentation
- 1:45 Demonstration: SNCS - Median, Ulnar & Radial, CSI
- 2:30 Break
- 3:00 Practice: SNCS - Median, Ulnar & Radial, CSI
- 4:00 Uncommon MNCS of upper limb (Demonstration)
- 4:45 Q & A

Day 2 – April 17

- 8:15 F wave & H reflex
- 9:00 Demonstration: MNCS with F wave: Tibial and Fibular nerves
- 9:45 Break
- 10:15 Practice: MNCS with F wave in lower limb, Uncommon MNCS upper limb
- 12:00 Lunch
- 1:00 Demonstration: SNCS in Sural and superficial fibular nerves, H reflex
- 1:45 Practice: SNCS in Sural and superficial fibular nerves, H Reflex
- 3:00 Break
- 3:30 Uncommon SNCS Demonstration/practice: Plantar, saphenous, LAC, MAC
- 4:30 Q & A

Day 3 – April 18

- 8:15 Facial nerve: MNCS & Blink reflex (Talk & Demonstration)
- 9:00 Practice: Facial NCS
- 9:45 Break
- 10:15 Repetitive nerve stimulation (Talk & Demonstration)
- 11:15 Practice: Repetitive nerve stimulation (Trapezius, APB)
- 12:00 Lunch
- 1:00 Needle EMG : Spontaneous activity
- 1:45 Needle EMG : Volitional activity
- 2:30 Needle EMG demonstration: Making measurements of amplitude, duration, etc.
- 3:00 Break
- 3:30 Needle EMG: Waveform assessment (Interactive using pre-recorded signals)
- 4:15 Autonomic testing (Talk + Demonstration)
- 4:00 Uncommon MNCS of upper limb (Demonstration)
- 4:45 Q & A
- 5:00 Conclusion