

COURSE AGENDA

Introduction to EMG, Nerve Conduction Studies, and Musculoskeletal Ultrasound Imaging

Live In-Person Program and Self-Paced Online Program

Successful completion of all required components provides 20.5 continuing education contact hours
20.5 CEU / 20.5 CME credits.

LIVE IN-PERSON PROGRAM

Day 1 - EMG, Nerve Conduction Studies, and Patient Management

Time	Session	Description
8:30 - 9:00 AM	Registration, Networking, and Course Orientation	Participant registration, introductions, review of course objectives, and orientation to the live clinical and laboratory sessions.
9:00 - 9:30 AM	Clinical Application of EMG and Nerve Conduction Studies	Focused application of EMG/NCS to lesion localization, differential diagnosis, prognosis, referral decisions, and patient management. Foundational theory is addressed in the online modules.
9:30 - 10:00 AM	Electrodiagnostic Equipment, Patient Preparation, and Technical Setup	Demonstration of equipment operation, electrode placement, stimulation and recording settings, patient positioning, safety, and technical quality control.
10:00 - 10:30 AM	Median Nerve and Carpal Tunnel Syndrome: Case-Based Review	Clinical anatomy, testing strategy, electrodiagnostic criteria, differential diagnosis, and management implications.
10:30 - 10:45 AM	Break	
10:45 - 11:30 AM	Laboratory: Median Motor and Sensory Nerve Conduction Studies	Faculty-guided practice in median motor and sensory testing, including electrode placement, stimulation, waveform acquisition, measurement, and troubleshooting.
11:30 AM - 12:00 PM	Tibial and Sural Nerve Testing: Case-Based Review	Clinical applications of tibial motor and sural sensory studies in lower-extremity neuropathies and generalized peripheral nerve disorders.
12:00 - 12:45 PM	Laboratory: Tibial Motor and Sural Sensory Nerve Conduction Studies	Faculty-guided testing with emphasis on technique, waveform recognition, measurement, and interpretation.
12:45 - 1:30 PM	Lunch	
1:30 - 2:00 PM	Needle Electromyography: Technique, Safety, and Clinical Strategy	Review of muscle selection, positioning, needle handling, insertional and spontaneous activity, motor-unit analysis, recruitment, and examination planning.
2:00 - 2:45 PM	Patient Management Using EMG/NCS and MSKUS Results	Framework for translating diagnostic findings into medical management, physical therapy treatment planning, referral decisions, prognosis, and follow-up strategy.
2:45 - 3:30 PM	Case Studies and Demonstrations: Medical and PT Management Pathways	How combined EMG/NCS and MSK ultrasound findings guide conservative care, rehabilitation planning, medical referral, injection or surgical consideration, and co-management in real cases.
3:30 - 3:45 PM	Break	

Time	Session	Description
3:45 - 4:30 PM	Integrated Diagnostic Case Conference	Interactive discussion of patient-management algorithms using EMG, NCS, and MSKUS findings across common upper- and lower-extremity clinical scenarios.
4:30 - 5:00 PM	Next Steps in Training, Credentialing, and Advanced Development	Overview of continuing education, advanced coursework, residency, fellowship, mentorship, and credentialing pathways in electrodiagnostics and musculoskeletal ultrasound.

Day 2 - Musculoskeletal Ultrasound and Neuro-Musculoskeletal Ultrasound

Time	Session	Description
8:30 - 9:00 AM	Introduction to Musculoskeletal Ultrasound Imaging	Foundational principles of ultrasound imaging, equipment operation, probe handling, image optimization, and clinical applications.
9:00 - 9:30 AM	Sonoanatomy and Neuro-MSK Correlation	Recognition of the normal sonographic appearance of nerves, muscles, tendons, fascia, joints, and surrounding soft tissues.
9:30 - 10:15 AM	Neuro-Musculoskeletal Ultrasound: Median Nerve and Carpal Tunnel	Live demonstration of the median nerve, carpal tunnel anatomy, nerve tracing, cross-sectional area measurement, dynamic assessment, and common entrapment findings.
10:15 - 10:55 AM	Peripheral Nerve Ultrasound Imaging Principles	Identification and tracking of peripheral nerves, fascicular patterns, nerve enlargement, compression, mobility, and correlation with electrodiagnostic findings.
10:55 - 11:15 AM	Coffee Break	
11:15 AM - 12:00 PM	Musculoskeletal Ultrasound: Shoulder	Live imaging of the rotator cuff, long head of the biceps tendon, subacromial region, and dynamic assessment techniques.
12:00 - 12:35 PM	Musculoskeletal Ultrasound: Knee	Live imaging of the knee joint, effusion, quadriceps tendon, patellar tendon, and common periarticular findings.
12:35 - 12:55 PM	Guided Ultrasound Scanning and Clinical Integration	Faculty-guided scanning practice involving the median nerve, shoulder, and knee, emphasizing probe positioning, image acquisition, and anatomical recognition.
12:55 - 1:00 PM	Course Summary and Completion Instructions	Review of assignment, examination, and continuing education completion requirements.

Day 2 concludes at 1:00 PM. No lunch is scheduled.

ONLINE SELF-PACED PROGRAM

The online portion contains seven foundational EMG/NCS modules. Participants may complete the modules at their own pace.

Module	Topic	Duration	Content
1	EMG/NCS - Introduction	29 min 49 sec	Introduction to electrodiagnostic testing, clinical applications, indications, and the role of EMG/NCS in diagnosis and patient management.
2	EMG/NCS - Basic Neuroanatomy	24 min 00 sec	Organization of the nervous system, nerve roots, plexuses, peripheral nerves, and principles of anatomical localization.
3	EMG/NCS - Basic Neurophysiology	27 min 02 sec	Resting membrane potential, action potentials, axonal conduction, neuromuscular-junction physiology, and muscle-fiber activation.
4	EMG/NCS - Basic Nerve Conduction	52 min 18 sec	Motor and sensory nerve conduction principles, electrode placement, stimulation, recording, latency, amplitude, conduction velocity, and technical considerations.
5	EMG/NCS - NCS Patterns of Pathology	21 min 23 sec	Axonal loss, demyelination, conduction block, temporal dispersion, entrapment neuropathy, and generalized peripheral neuropathy patterns.
6	EMG/NCS - Basic Electromyography	29 min 04 sec	Needle EMG principles, insertional activity, spontaneous activity, motor-unit analysis, recruitment, and examination strategy.
7	EMG/NCS - Pathology	57 min 52 sec	Electrodiagnostic findings associated with radiculopathy, plexopathy, mononeuropathy, polyneuropathy, and other neuromuscular disorders.

Additional Online Course Elements

- Introduction EMG/NCS presentation
- Slide presentation used with the course
- Supplementary study materials
- Course assignment
- Final course examination

Required Course Assignment

Integrated Diagnostic Patient-Management Case

Participants complete a written clinical case assignment integrating the patient history, examination findings, nerve conduction findings, needle EMG findings, diagnostic localization, differential diagnosis, patient-management recommendations, and medical referral or co-management decisions.

Course Completion Requirements: Complete all seven online modules, both live in-person course days, the required assignment, the final examination, and the course evaluation.