



6th NNI EEG-EMG-AFT & Neuromuscular Ultrasound Workshop

Interactive Teaching Course with Live Demonstrations and Hands-On Tutorials

WORKSHOP HIGHLIGHTS

A) EEG – Normal and Abnormal Patterns

B) Nerve Conduction Studies

- Instrumentation
- Basic Nerve Conduction Patterns
- Uncommon Nerves
- Late Responses and Blink Reflex
- Repetitive Nerve Stimulation
- Transcranial Magnetic Stimulation

C) Electromyography

- EMG Signal and Motor Unit Analysis

- Needle EMG Interpretation in Myopathy and Neurogenic Muscle Disease
- Single-Fibre EMG (Volitional and Stimulated)

D) Clinical Correlation

- Entrapment Neuropathies
- Brachial Plexopathy
- Approach to Numb Patient
- Approach to Weak Patient
- Peripheral Neuropathy
- Radiculopathy
- Myopathy
- Motor Neuron Disease

E) Autonomic Function Battery

- Sympathetic
- Parasympathetic Tests

F) Neuromuscular Ultrasound

- Upper Extremity
- Lower Extremity
- Diaphragm
- Muscle Ultrasound

G) Complex Electrophysiological Cases and Clinical Correlation

6 – 9
December 2018

Level 1, Theatrette,
Tan Tock Seng Hospital

11 Jalan Tan Tock Seng,
Singapore 308433

Programme and Registration

Scan the QR Code to find out
about the Workshop or visit
[https://www.nni.com.sg/education/
events/Pages/6thEMG.aspx](https://www.nni.com.sg/education/events/Pages/6thEMG.aspx)



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WELCOME MESSAGE

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Dear Friends and Colleagues

I am delighted to announce that the National Neuroscience Institute (NNI) will be organising the 6th NNI EEG-EMG-AFT & Neuromuscular Ultrasound Workshop from 6 – 9 December 2018 in Singapore. It is a four-day teaching course, focusing on the principles and practice of EEG, electromyography (EMG), autonomic function tests and neuromuscular ultrasound.

Workshop Description

The workshop will review the basic and advanced applications of the electrodiagnostic modalities and ultrasound with clinical correlation in neuromuscular disease. This year we will bring back the session on EEG along with a new topic on complex cases in EMG with a walk-through interactive approach for reaching the correct clinical diagnosis. All sessions will be interactive, giving participants ample opportunities to interact in real time with the tutors and patients. The learning experience will be enhanced by applying different neurophysiological tests in live patients and use of videos.

The course is designed for practicing adult and paediatric neurologists, neuromuscular specialists, physiatrists, neurology trainees and technologists interested in clinical EEG, EMG, AFT, ultrasound and neuromuscular disease. The course syllabus will be provided as a printed copy and participants will be given an access to online reading materials.

Learning Objectives

At the end of the workshop, the attendees should be able to:

- 1) Develop an understanding of standard electrodiagnostic tests and their application based on clinical symptomatology.
- 2) Learn the techniques, identifying pitfalls associated with NCS and needle EMG, understand the strategies to minimise the technical artifacts.
- 3) Recognise the morphology of the NCS waveforms in different nerves and pattern recognition of the spontaneous and volitional activity in the needle EMG signal with interpretation in normal and disease patterns.
- 4) Learn the basic methodology and interpretation of autonomic function battery.
- 5) Recognise the use and findings in ultrasound as an adjunct tool to diagnose neuromuscular disease.
- 6) Recognise and interpret normal and abnormal EEG patterns in the case based teaching and interactive quiz format.

Our invited faculty members comprise local and international experts in the respective fields to enhance your learning experience I hope you would find this workshop useful to your practice and look forward to your participation.

Dr Kamal K Verma
Chairman, Organising Committee
6th NNI EEG-EMG-AFT & Neuromuscular Ultrasound Workshop

GUEST FACULTY

Andrea J. BOON
Professor
Department of Physical Medicine
& Rehabilitation
Department of Neurology
Mayo Clinic, USA

Sanjeev NANDEKAR
Senior Clinical Consultant
Natus Neurology, USA

LOCAL FACULTY

Josiah CHAI
Department of Neurology
National Neuroscience Institute

LO Yew Long
Department of Neurology
National Neuroscience Institute

TAN Yee-Leng
Department of Neurology
National Neuroscience Institute

Kamal K VERMA
Department of Neurology
National Neuroscience Institute

Tushar GOSAVI
Department of Neurology
National Neuroscience Institute

NG Peng Soon
Department of Neurology
National Neuroscience Institute

Ankit Anil TANDON
Department of Diagnostic
Radiology
Tan Tock Seng Hospital

KOH Pei Xuan
Department of Neurology
National Neuroscience Institute

Kalpna PRASAD
Department of Neurology
National Neuroscience Institute

Umapathi N THIRUGNANAM
Department of Neurology
National Neuroscience Institute

VENUE INFORMATION

Level 1, Theatre, Tan Tock Seng Hospital
11 Jalan Tan Tock Seng, Singapore 308433
(Nearest MRT Station: Novena MRT)

PROGRAMME

Day 1 - 6th December 2018, Thursday

TIME	TOPIC/ACTIVITY	SPEAKER
0730 – 0810	Registration	
0810 – 0815	Welcome Address	Kamal K Verma
0815 – 0900	EEG Primer	Koh Pei Xuan
0900 – 0930	EEG Quiz	Tan Yee Leng / Koh Pei Xuan
0930 – 1015	EEG Case Vignettes	Tushar Gosavi
1015 – 1035	Tea Break	
1035 – 1105	EEG Quiz Answers	Tan Yee Leng / Koh Pei Xuan
1105 – 1300	AFT Demo And Case Vignettes	Umapathi N Thirugnanam / Ng Peng Soon
1300 – 1400	Lunch	
1400 – 1430	EMG Quiz	Kalpana Prasad / Ng Peng Soon
1430 – 1515	Basic Nerve Conduction Studies (NCS) Patterns	Umapathi N Thirugnanam
1515 – 1600	Pitfalls In NCS	Kamal K Verma
1600 – 1620	Tea Break	
1620 – 1720	NCS (Uncommon Nerves)	Ng Peng Soon

Day 2 - 7th December 2018, Friday

TIME	TOPIC/ACTIVITY	SPEAKER
0730 – 0800	Registration	
0800 – 0915	Common Entrapment Neuropathies	Kalpana Prasad
0915 – 1000	Abnormal NCS Patterns	Umapathi N Thirugnanam
1000 – 1020	Tea Break	
1020 – 1130	Hands-On Session 1 - Normal And Entrapment Neuropathies	All
1130 – 1230	Approach to Peripheral Neuropathy	Ng Peng Soon
1230 – 1330	Lunch	
1330 – 1350	EMG Signal in Primary Muscle Disease	Umapathi N Thirugnanam
1350 – 1445	Approach to Myopathy	Josiah Chai
1445 – 1515	EMG Signal in Neurogenic Muscle Disease	Umapathi N Thirugnanam
1515 – 1615	Approach to Neurogenic Muscle Disease, Spinal Muscular Atrophy (SMA), Amyotrophic Lateral Sclerosis (ALS) and Radiculopathy	Josiah Chai
1615 – 1635	Tea Break	
1635 – 1800	Hands-On Session 2 - Weak and Numb Patient	All

PROGRAMME

Day 3 - 8th December 2018, Saturday		
TIME	TOPIC/ACTIVITY	SPEAKER
0815 – 0900	NCS Instrumentation	Sanjeev Nandedkar
0900 – 0945	US Guidance in the Needle EMG of Challenging Muscles	Andrea J Boon
0945 – 1015	Repetitive Nerve Stimulation (RNS)	Kalpana Prasad
1015 – 1035	Tea Break	
1035 – 1130	EMG Signal	Sanjeev Nandedkar
1130 – 1300	Small Group Demonstrations (SFEMG-volitional & Stimulated, TMS, H Reflex, Blink Reflex, EMG Signal)	All
1300 – 1400	Lunch	
1400 – 1445	Brachial Plexopathy	Umapathi N Thirugnanam
1445 – 1545	Complex NCS Cases Interpretation	Kamal K Verma & Others
1545 – 1610	Tea Break	
1610 – 1700	Pediatric NCS/EMG	TBC
1700 – 1730	EMG Quiz Results	Kalpana Prasad
1830 – 2000	Social Programme for Delegates	

Day 4 - 9th December 2018, Sunday		
TIME	TOPIC/ACTIVITY	SPEAKER
0800 – 0845	The Role of Neuromuscular Ultrasound in the Diagnosis of Neuromuscular Disease	Andrea J Boon
0845 – 0930	MR Neurography	Ankit Anil Tandon
0930 – 1010	Ultrasound - Carpal Tunnel Syndrome (CTS) and Ulnar Neuropathy at the Elbow (UNE)	Kamal K Verma
1010 – 1030	Tea Break	
1030 – 1100	Ultrasound – Lower Extremity Nerves	Andrea J Boon
1100 – 1130	Muscle and Diaphragm Ultrasound	Andrea J Boon
1130 – 1300	Hands-On Ultrasound	Kamal K Verma, Lo Yew Long, Andrea J Boon, Technicians

Programme subject to change without prior notice.

IMPORTANT INFORMATION

How to Register

Online Registration: Submit your completed registration per participant and the corresponding payment in Singapore Dollar currency by the given deadlines. Registration confirmation is subject to payment being received. Once payment is received, an email confirmation will be sent to participant. For Group Registration, please visit www.nni.com.sg/education/events/Pages/6thEMG.aspx for submission instruction.

Trainee/Student Registration Fee

Trainee/Student identification or proof of qualifying trainee/student status MUST accompany the registration form to qualify for Trainee/Students fees. A letter from the head of department confirming the applicant's trainee status must accompany the "Trainee" registration form. Proof of status is also required when registering on-site.

Confirmation of Registration

Confirmation of registration will be issued upon receipt of completed Registration Form with relevant supporting documents and full payment. Please bring this confirmation to the Registration Desk at the Workshop as proof of your registration.

Cancellation and Refund Policy

Notification of cancellation must be sent in writing to the NNI Secretariat. Registration fees are non-refundable.

Liability and Disclaimer

The registered delegate acknowledges that he/she has no rights to lodge any claims against the 6th NNI EEG-EMG-AFT & Neuromuscular Ultrasound Workshop Organiser should the Workshop be hindered or prevented to occur by any unexpected political, economic or pandemic events, or generally by force majeure, or by the non-appearance of scheduled speakers or other reasons that necessitate programme changes. With registration, the delegate accepts this provision.

Every attempt will be made to present the programme as printed. However, the 6th NNI EEG-EMG-AFT & Neuromuscular Ultrasound Workshop Organiser reserves the right to modify, or cancel, without prior notice, any of the arrangements, programmes or other items relating directly or indirectly, for any cause beyond its reasonable control. The Organiser is not liable for any loss or inconvenience caused as a result of such alteration. In the event of cancellation of 6th NNI EEG-EMG-AFT & Neuromuscular Ultrasound Workshop, all pre-paid fees will be refunded in full. However, the Organiser is not liable for any loss or inconvenience caused as a result of such cancellation.

Insurance

The Organising Committee is not liable for any personal accidents, loss/damage of private properties of registered participants during the conference. Participants should make their own arrangements with respect to personal insurance.

Letter of Invitation

Applicants requiring an official letter of invitation for the purpose of obtaining a visa or permission to attend the 6th NNI EEG-EMG-AFT & Neuromuscular Ultrasound Workshop may submit the request to the Secretariat. The letter of invitation is not a commitment from the Organiser to provide any kind of financial support, hosting arrangement, nor does it guarantee an entry visa will be issued. The letter will be issued to the requesting delegate only after the registration fee has been paid in full. Expenses incurred are the sole responsibility of the applicant.

The Secretariat may require 2 – 3 weeks to process the request. We recommend that you apply at least 2 months in advance.

Entry Visa Application and Validity of Passport

The registered delegate should have a valid passport, onward/return tickets, onward facilities (e.g. visas, entry permits, etc.) to their next destination and sufficient funds for stay in Singapore. National passport holders of most countries are permitted to stay in Singapore for up to 14 days without visas. However, visas may be required for visitors from some other countries and participants are requested to clarify these before travelling to Singapore. We recommend applying at least 3 months in advance. Please visit the Singapore Immigration & Checkpoints Authority website for more information on entry visas: <http://www.ica.gov.sg>.

Personal Data Protection Act (PDPA)

By submitting the registration, the registered delegate give consent to the use of his/her data in accordance with the PDPA. The registered delegate agree and consent that NNI, SingHealth and its related entities may communicate with the delegate with regards to: a) continuing medical education; and b) healthcare educational conferences/ congresses via text message, voice calls, electronic mail or other means which NNI, SingHealth and its related entities (as the case may be) may deem appropriate at the contact details set out in the application.

REGISTRATION FEES

Registration Category	Early Registration Registration AND Payment must be made before 15 October 2018	Normal Registration Registration AND Payment receive after 26 November 2018 will be considered as On-Site Registration
Doctor	S\$550.00	S\$600.00
Trainee	S\$300.00	S\$350.00
Technician	S\$225.00	S\$275.00
Group Registration (minimum 5 delegates)		
Doctor	S\$475	S\$525

(Amount payable in Singapore Dollars and inclusive of GST)

Note:

- All prices quoted are in Singapore Dollars (SGD) and are inclusive of GST.
- This workshop is for healthcare professionals only.
- Senior Consultants, Consultants, Associate Consultants and Researchers are classified as Doctor. Others will be considered as Trainee.
- Trainee/Student identification or proof of qualifying trainee/student status **MUST** accompany the registration form to qualify for Trainee/Student fees. Proof of status is also required when registering on-site.

REGISTRATION INSTRUCTION

For individual, registration can only be done online via www.nni.com.sg/education/events/Pages/6thEMG.aspx.
For Group Registration, please visit the website for submission instruction.
Scan the QR code to find out more about the Workshop.



HOTEL ACCOMMODATION AND RATES

The 6th NNI EEG-EMG-AFT & Neuromuscular Ultrasound Workshop Organising Committee has secured special room rates during the workshop period for the delegates. Please contact our Official Travel Agent for enquiries and hotel bookings.

JTB Pte Ltd

Event Support & Travel Management
Attention : Ms Marjorie Chua
Email : Marjorie_C.SG@jtbap.com
events_ota.sg@jtbap.com
Tel : (65) 6595 9918 / 9900

Days Hotel Singapore at Zhongshan Park
1 Jalan Rajah, Singapore 329133
City View Room – S\$145++

OASIA Hotel Novena
8 Sinaran Drive, Singapore 307470
Standard Room – S\$210++

Ramada Singapore at Zhongshan Park
16 Ah Hood Rd, Singapore 329982
City View Room – S\$175++

Courtyard by Marriott® Singapore Novena
99 Irrawaddy Road, Singapore 329568
Deluxe Room – S\$185++

Terms and Conditions:

- The above rates quoted are in Singapore dollars and applicable for single and double occupancy.
- Rates are subject to 10% service charge and 7% prevailing Goods and Service tax (GST).
- Includes one breakfast and complimentary in room internet access.
- One-night deposit is required for each room upon reservation.
- Rates are subject to room availability and changes. Book early to enjoy the special room rates.
- The hotel reserves the right to impose a charge on the remaining room nights for any early departure from the original dates.

ENQUIRY AND SECRETARIAT

The 6th NNI EEG-EMG-AFT & Neuromuscular Ultrasound Workshop Secretariat
c/o National Neuroscience Institute, 11 Jalan Tan Tock Seng, Singapore 308433
Tel: (+65) 6357 7152 / (+65) 6357 7640 Email: nni_secretariat@nni.com.sg Website: www.nni.com.sg