



Pan American Movement Disorders Clinical Neurophysiology Course Toronto, Canada · May 1-3, 2025

DAY 1

| Session 1: Overview of Clinical Neurophysiology in Movement Disorders | | |
|--|---|---|
| 8:20 - 8:30 | Welcome from Course Directors | |
| 8:30 - 8:50 | Neurophysiology: An Extension of Clinical Assessment to Categorize Movement Disorders <i>Robert Chen</i> – Toronto, Canada | |
| 8:50 - 8:55 | Moderated Question and Answer | |
| 8:55 - 9:15 | Overview of Basic and Advanced Neurophysiological Techniques <i>Talyta Grippe</i> – Toronto, Canada | |
| 9:15 - 9:20 | Moderated Question and Answer | |
| 9:10 – 9:40 | First steps to set up a Movement Disorders Neurophysiology lab: Which equipment do I need and How to do initial signal processing? <i>Marcus Callister</i> – Toronto, Canada <i>Felipe Vial</i> – Santiago, Chile | |
| 9:50 - 10:00 | Moderated Question and Answer | |
| 10:00 – 10:30 | COFFEE BREAK | |
| Session 2: Jerky Movements | | |
| 10:30-10:50 | Clinical Neurophysiology to Differentiate Jerky Movements – Basic physiology <i>Robert Chen</i> – Toronto, Canada | |
| 10:50– 10:55 | Moderated Question and Answer | |
| 10:55-11:15 | Clinical Neurophysiology for Myoclonus: Different subtypes <i>Specific physiology for diagnosis of each subtype</i> <i>Shabbir Merchant</i> – Boston, USA | |
| 11:15 – 11:20 | Moderated Question and Answer | |
| 11:20 – 12:00 | Myoclonus: Clinical cases (interactive with the participants) <i>Christos Ganos</i> – Toronto, Canada <i>Nicolas Phielipp</i> – Irvine, USA | |
| 12:00 - 12:10 | Moderated Question and Answer | |
| 12:10 – 13:00 | LUNCH BREAK | |
| Break out Session: Jerky Movements <i>Participants divided into four groups of 10</i> | | |
| | Hands-on Session with Patients/Healthy participant demonstration <i>EMG + EEG – DATA COLLECTION</i> All Faculty | Workshop Back Averaging and ERD <i>(brief lecture with demonstration)</i> <i>Participant works on computer for data analysis</i> <i>COMPUTER WORK – DATA ANALYSIS</i> All Faculty |



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|---------------|--|--|---|
| 13:00 – 13:30 | Jerky movements – patient 1 Group A (9 th Floor) | Jerky movements – patient 2 Group B (12 th Floor) | Group C & Group D (9 th Floor – Conference room) |
| 13:30 – 14:00 | Jerky movements – patient 2 – Group A (12 th Floor) | Jerky movements – patient 1 Group B (9 th Floor) | |
| 14:00 – 14:30 | Jerky movements – healthy demonstration – Group A (9 th Floor) | Jerky movements – healthy demonstration - Group B (9 th Floor) | |
| 14:30 – 15:00 | TEA BREAK | | |
| | Hands-on Session with Patients All Faculty | | Workshop Back Averaging (brief lecture with demonstration) <i>Participant works on computer for data analysis</i> All Faculty |
| 15:00 – 15:30 | Jerky movements – patient 1 Group C (9 th Floor) | Jerky movements – patient 2 Group D (12 th Floor) | Group A & Group B (9 th Floor – Conference room) |
| 15:30 – 16:00 | Jerky movements – patient 2 – Group C (12 th Floor) | Jerky movements – patient 1 Group D (9 th Floor) | |
| 16:00 – 16:30 | Jerky movements – healthy demonstration – Group C (9 th Floor) | Jerky movements – healthy demonstration - Group D (9 th Floor) | |
| 16:30 – 16:45 | Closing Remarks | | |
| 18:00 – 21:00 | Dinner and Case presentation Venue: DoubleTree by Hilton Hotel Toronto Downtown (Victoria Ballroom) 108 Chestnut Street, Toronto, Ontario, M5G1R3, Canada | | |

**DAY 2**

| Session 1: Clinical Neurophysiology of Tremor | | | |
|---|--|---|--|
| 8:30-8:55 | Clinical Neurophysiology to Differentiate tremor physiology Basic physiology (peripheral vs. central) <i>Felipe Vial</i> – Santiago, Chile | | |
| 8:55 – 9:00 | Moderated Question and Answer | | |
| 9:00-9:25 | Clinical Neurophysiology to Differentiate different types of tremors <i>Specific physiology for diagnosis of each subtype</i> <i>Panagiotis Kassavetis</i> – Washington, USA | | |
| 9:25-9:30 | Moderated Question and Answer | | |
| 9:30– 10:10 | Tremor: Different subtypes and Clinical Cases (interactive with the participants) <i>Katherine Longardner</i> – San Diego, USA <i>Marcus Callister</i> – Toronto, Canada | | |
| 10:10-10:20 | Moderated Question and Answer | | |
| 10:20-10:40 | COFFEE BREAK | | |
| Session 2: Clinical Neurophysiology of other hyperkinetic disorders | | | |
| 10:40–11:10 | Clinical Neurophysiology of other hyperkinetic movement disorders <i>Karlo Lizarraga</i> – Rochester, USA | | |
| 11:10 – 11:15 | Moderated Question and Answer | | |
| 11:15 – 11:55 | Clinical Cases of other hyperkinetic disorders (interactive with the participants) <i>Christos Ganos</i> – Toronto, Canada <i>Talyta Grippe</i> – Toronto, Canada | | |
| 11:40-12:00 | Moderated Question and Answer | | |
| 12:00 – 13:00 | LUNCH BREAK | | |
| Break out Session: Tremor | | | |
| Participants divided into four groups of 10 | | | |
| | Hands-on Session with Patients <i>Data collection</i> All Faculty | | Workshop: Use of electrophysiology to study tremor <i>(brief lecture with demonstration)</i> <i>Participant works on computer for data analysis</i> All Faculty |
| 13:00 – 13:30 | Tremor – patient 1 Group A (9 th Floor) | Tremor – patient 2 Group B (12 th Floor) | Group C & Group D (9 th Floor – Conference room) |
| 13:30 – 14:00 | Tremor – patient 2 Group A (12 th Floor) | Tremor – patient 1 Group B (9 th Floor) | |
| 14:00 – 14:30 | Tremor – healthy demonstration Group A (9 th Floor) | Tremor – healthy demonstration Group B (9 th Floor) | |

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|---------------|--|--|---|
| 14:30 – 15:00 | TEA BREAK | | |
| | Hands-on Session with Patients All Faculty | | Workshop: Use of electrophysiology to study tremor (brief lecture with demonstration) Participant works on computer for data analysis All Faculty |
| 15:00 – 15:30 | Tremor – patient 1 Group C (9 th Floor) | Tremor – patient 2 Group D (12 th Floor) | Group A & Group B (9 th Floor – Conference room) |
| 15:30 – 16:00 | Tremor – patient 2 Group C (12 th Floor) | Tremor – patient 1 Group D (9 th Floor) | |
| 16:00 – 16:30 | Tremor – healthy demonstration Group C (9 th Floor) | Tremor – healthy demonstration Group D (9 th Floor) | |
| 16:20– 16:30 | Closing Remarks | | |

**DAY 3**

| Session: Advanced uses of neurophysiology studies in treatment: DBS and Botulinum toxin injections | |
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| 8:30 – 9:00 | Use of EMG and ultrasound for dystonia treatment <i>Shabbir Merchant</i> – Boston, USA <i>Talyta Grippe</i> – Toronto, Canada |
| 9:00 - 9:05 | Moderated Question and Answer |
| 9:05 - 9:35 | Patient demonstration – use of EMG for limb dystonia (2 cases – interactive with the participants) <i>Robert Chen</i> – Toronto, Canada <i>Marcus Callister</i> – Toronto, Canada |
| 9:35 – 9:45 | Moderated Question and Answer |
| 9:45 -10:00 | <i>COFFEE BREAK</i> |
| 10:00 – 10:30 | The Role of Neurophysiological Measurements in Clinical Practice: An Ally for Effective DBS Treatment <i>Alfonso Fasano</i> – Toronto, Canada |
| 10:30 – 11:00 | Challenges in Managing Dystonia: Case Discussions (2 cases) <i>Panagiotis Kassavetis</i> – Washington, USA <i>Karlo Lizarraga</i> – Rochester, USA |
| 11:00 -11:05 | Moderated Question and Answer |
| 11:05 - 11:55 | Patient demonstration – use of ultrasound for botulinum toxin injections (hands on with healthy participants) <i>Panagiotis Kassavetis</i> – Washington, USA <i>Shabbir Merchant</i> – Boston, USA |
| 11:55 - 12:05 | Moderated Question and Answer |
| 12:05 – 12:15 | Closing Remarks and Evaluation |