

P.023**Utility of neurophysiological evaluation in movement disorders clinical practice***T Cortez Grippe (Toronto)*, R Chen (Toronto)*

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Background: Quantitative and objective neurophysiological assessment can help to define the predominant phenomenology and provide diagnoses with prognostic and therapeutic implications. We evaluated retrospectively the indications and final diagnoses of movement disorder neurophysiological evaluations in a specialized movement disorders centre. **Methods:** Reports from 2003 to 11/2021 were reviewed. The indications were classified according to predominant phenomenology, and the diagnosis of each study was categorized in subgroups of each phenomenology. **Results:** A total of 525 reports were evaluated. The mean age of patients was 51 years (range 5 – 89 years), and 50% were women. The most common indication was functional movement disorders (33%), followed by jerky movements (25%), tremor (20%), unsteadiness (6%), stiff person syndrome (4%), and other less common indications (12%). The most prevalent diagnoses were functional movement disorder (37%), followed by tremor (28%), comprising of essential (6%), dystonic (5%), cerebellar (4%), parkinsonian (3%) and other types of tremors (10%); and myoclonus (21%), including cortical (8%), subcortical (3%) and undefined (10%) types. **Conclusions:** This 17-year experience showed that neurophysiological testing can help in the diagnosis of movement disorders. More standardized techniques will encourage the widespread use of neurophysiology to evaluate movement disorders.

MS/NEUROINFLAMMATORY DISEASE**P.024****The influence of disease modifying therapies on short-term disease progression in a cohort of relapsing-remitting multiple sclerosis patients in Newfoundland and Labrador***ST Arsenault (St. John's)**

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Background: Multiple sclerosis (MS) is an immune-mediated demyelinating disease of the central nervous system accompanied by chronic inflammation and neurodegeneration. An unmet clinical need in the management of MS is how to select an initial disease modifying therapy (DMT). Real-world evidence suggests that early aggressive control with high-efficacy medications results in better long-term prognosis. **Methods:** This retrospective study was conducted at Memorial University using Relapsing Remitting MS (RRMS) patients enrolled in the HITMS study. Analysis included study participants aged 18+ with RRMS and three years of clinical visits. Disability progression was measured by the Expanded Disability Status Scale (EDSS) and defined as a change of ≥ 1.0 . Study subjects were categorized according to DMT at their initial visit. **Results:** In this cohort, 87 participants

met the inclusion criteria; 67 were stable and 20 had disability progression. There was no significant difference in disability progression based on DMT regimen, and age, sex, and disease duration did not affect disability progression. **Conclusions:** Despite evidence that all RRMS patients go on a DMT, our cohort demonstrated a significant proportion remain DMT naive. Furthermore, the selection of DMT in this cohort appears to be appropriate, as there were no obvious differences in disability progression regardless of DMT.

P.026**Autoimmune encephalitis: modifiable and non-modifiable predictors of relapse***M Hansen (Edmonton)*, C Hahn (Calgary)*

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Background: Approximately 25% of encephalitis cases in North America are immune mediated. For most forms of autoimmune encephalitis (AIE), risk of relapse is unclear and little evidence exists to guide which patients have the highest risk and whether standard treatments reduce this risk. Our objective was to determine the factors associated with AIE relapse. **Methods:** We performed a chart review consisting of patients with AIE presenting to the Calgary Neuro-Immunology Clinic and Tom Baker Cancer Centre between 2015 and 2020. Predictors of relapse were determined with use of t-test. **Results:** Outcome data was assessable in 39/40 patients, 17/39 (44%) patients relapsed. Seropositive patients and those with abnormal CSF were more likely to relapse, although neither reached statistical significance ($p=0.12$, 0.059). Patients with longer duration of steroid and steroid sparing treatment prior to relapse, and those on steroids at the time of relapse, had milder relapses ($p=0.024$, 0.026 , 0.047). There was no difference in steroid or steroid sparing treatment use at 3, 6, and 12 months between groups. **Conclusions:** Risk of relapse in AIE is high (44%), with most relapses occurring in the first 3 years. Continuous immunosuppression lessens the severity of relapse, although our study did not confirm it reduced the occurrence of relapse.

P.027**Multiple Sclerosis Self-reflective Treatment Evaluation Program (MS-STEP): alignment of current practices to the 2020 Canadian MS Working Group recommendations***V Bhan (Surrey) PS Giacomini (Montreal) C Lemieux (Mississauga), J Oh (Toronto)**

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Background: New Canadian treatment optimization recommendations (TOR) were released in 2020 to guide clinicians on the optimal use of disease modifying treatments (DMTs). The alignment of current practices to TOR was investigated to identify potential areas for improvement in patient care. **Methods:** From January–July 2021, a chart audit of 160 patients was conducted by a sample of Canadian neurologists. Patient selection criteria included adult patients with relapsing-remitting MS, who had been switched from an initial DMT. **Results:** In alignment with TOR, most patients received a platform therapy