the 6MW (OR of 1.63), and at 14 weeks on the 8MW and the STS (OR of 2.0). *Conclusions:* PRF in MS patients appears to enhance the benefit of active enabled motor training and to better sustain it over the following 8 weeks.

Neurology (Neurocritical Care/Neuro Trauma)

P.044

Time to loss of neurological function after circulatory arrest: a scoping review

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Background: Donation after circulatory death (DCD) can reduce organ transplant waiting times. When defining death using circulatory criteria, brain function is usually not assessed. Residual brain function and the state of consciousness at the time of circulatory arrest is unknown. We have an ethical responsibility to ensure the donor is free of pain and psychological distress. *Methods:* We performed a scoping review of the literature to determine the time intervals associated with the loss brain function after circulatory arrest. *Results:* A total of 1133 articles were reviewed and 38 were included in the review. In humans, 8 studies showed loss of EEG activity under 30 seconds. Four studies revealed loss of EEG between 39.6 and 66 seconds. Clinically, loss of consciousness was shown to occur between 4 and 21 seconds. In animals, 13 studies also revealed loss of EEG under 30 seconds. In four other animal studies, EEG was lost between 37 and 120 seconds. *Conclusion:* The time required to lose brain function varied according to clinical context and method by which this function is measured. Existing literature is scarce and limited to observational studies and case reports.

P.045

NMDA-receptor encephalitis: An unsual case of refractory status epilepticus

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Objective: Case report of NMDA receptor encephalitis in a young man with early refractory status epilepticus and atypical radiological findings. *Background:* Anti-NMDA receptor encephalitis is an autoimmune disorder due to antibodies to the NR1-NR2B heterodimer of NMDA receptor. On imaging, it typically presents with T2 hyperintensities in mesio-temporal lobes, cerebral cortex and basal ganglia. We present a case with a dramatic clinical evolution and novel imaging findings. **Design**/*Methods:* Case report and review of imaging. *Results:* 29-year-old male presented with mood disturbance followed by partial-complex seizures, facial dyskinesia and choreoathetotic movements. Initial MRI showed subtle T2-hyperintensities in mesio-temporal lobes. Diagnosis of NMDA-receptor encephalitis was confirmed after CSF antibody detection. Prior to diagnostic confirmation, he developed refractory status epilepticus, and concomitant signs of herniation. A repeated MRI showed increased T2-hyperintensities of thalami and mesencephalon, with cerebellar involvement and transtentorial/foraminal herniation. Restricted diffusion was documented in the cerebellar cortex/thalami/putamina and caudate. IV corticosteroids and hypertonic fluid reversed herniation, and halted the seizures. *Conclusions:* To our knoweldge, we report the first case report of uncal and tonsillar herniation in NMDA-r encephalitis secondary to atypical, predominant cerebellar involvement. This case highlights life-threatening manifestation that physicians might encounter, and a possible role for high dose IV corticosteroids as an adjunct treatment for brain edema and seizures.

Neurology (Neuromuscular)

P.046

Disparate production of IL-27 in CSF and plasma of Guillain-Barré syndrome and other neurological disorders

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Background: IL-27 acts as a 'master regulator' in modulating inflammation and was responsible for a number of autoimmune diseases. However, the role of IL-27 was not addressed in Guillain-Barré syndrome (GBS). *Methods:* Sixty-five subjects including 19 with GBS, 7 with encephalitis or meningitis, 23 with multiple sclerosis or neuromyelitis optica as well as 11 with other non-inflammatory neurological disorders were enrolled. ELISA was used to detect the concentrations of IL-27 in paired samples of cerebrospinal fluid and plasma. *Results:* The mean concentration of IL-27 in GBS patients was significantly lower than in other neurological disorders both in CSF and in plasma (all $p < 0.05$). GBS patients with cranial involvement, decreased reflexes, hypaesthesia, autonomic nerve dysfunction, MRC score <30 are inclined to have a lower CSF IL-27 level than patients without these symptoms (182 pg/ml, 181 pg/ml, 185 pg/ml, 185 pg/ml, 194 pg/ml vs 211 pg/ml, 205 pg/ml, 202 pg/ml, 198 pg/ml, 199 pg/ml, respectively). Similar results were noted in plasma except for cranial involvement. *Conclusions:* Production of IL-27 was disparate between GBS and other neurological diseases and a significantly lower level of IL-27 was observed in GBS patients, indicative of an anti-inflammatory role of IL-27 in GBS.

P.047

Enteral nutrition in amyotrophic lateral sclerosis (ALS): Canadian practices

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Background: Dysphagia from ALS may be treated by enteral nutrition; however criteria for timing of feeding tube placement has not been well studied. The aim of this project was to better understand the practice of enteral nutrition management within Canadian ALS clinics. *Methods:* ALS clinics were asked if they had written guidelines for timing of PEG insertion and if not, what criteria they

use to make this decision. *Results:* Responses from 10 of 17 clinics were received. One clinic had written guidelines. Most used decline in respiratory function, dysphagia, weight loss or some combination of all three. Six clinics reported dropping FVC, ranging from 70% to 50% as prompting tube insertion. Five clinics reported weight loss as part of their criteria. Dysphagia was reported as the most important factor by 7 clinics. Psychological readiness for tube placement was a key factor in 3 clinics. Some clinics comment they place tubes in advance of dysphagia. *Conclusion:* Criteria for tube insertion varies between clinics. Practices generally reflect published recommendations, but vary on the emphasis of specific criteria. The lack of strong scientific evidence to guide decisions may contribute to management variability. Further study is needed to guide practice.

P.048

Auto-antibodies against gangliosides in patients with Charcot-Marie-Tooth disease

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Background: In Charcot-Marie Tooth (CMT), vital components of either the myelin sheath or axon are abnormal, slowing nerve conduction and causing functional disability. Recently, there has been speculation the CMT may have an autoimmune component resulting from abnormal protein expression. *Methods:* Custom autoimmune neuropathy-focused microarray panels were printed in-house using antigens from Sigma, Abnova, Fitzgerald and Matreya according to Cambridge Life Science instructions. Antigens including Myelin Protein Zero, Peripheral Myelin Protein 22, and 20 other well-known gangliosides were tested for IgM and IgG antibodies. Students T-Test and Bonferroni correction factor were used to determine statistical significance between groups and in post-hoc subgroup analysis. *Results:* Plasma was tested from 17 patients with CMT and 25 young healthy individuals. CMT population consisted of 9 CMT-1a, 1 CMT-1b, 4 CMT-2a, 2 CMT-2f and 2 undetermined CMT type 2 patients. No ganglioside reached statistical significance under a Bonferroni Correction factor ($p>0.01$) nor were any gangliosides notably raised compared to normal. Sub-group analysis did not reveal theorized peak auto-antibodies levels depending upon their CMT subtype compared to normal. *Conclusions:* Although previously shown to have increased auto-antibodies to myelin or axonal proteins, CMT individuals did not demonstrate increased autoantibody levels for the proteins tested at our centre.

P.049

Intravenous Immunoglobulins (IVIG) in Chronic Inflammatory Demyelinating Polyneuropathy (CIDP): time to maximal recovery

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Background: The response of Chronic Inflammatory Demyelinating Polyneuropathy (CIDP) to Intravenous Immunoglobulins (IVIG) treatment is well established. However, determination whether patients who do not respond to 2 IVIG treatments or those whose condition stabilizes (ICE Trial) would benefit from additional treatments remains unclear. We aim to identify time period required to reach maximal strength gains from IVIG treatment (plateau). Furthermore, we will assess nerve conduction studies (NCS) changes over time with IVIG treatment. This will help in establishing a time course for treatment of CIDP with IVIG to maximize recovery. *Methods:* We performed a retrospective chart review of 27 patients with CIDP, with diagnosis confirmed by European Federation of Neurological Societies/Peripheral Nerve Society Guidelines (EFNS/PNS). Each patient's strength response including: grip strength, knee extension, elbow flexion and dorsiflexion (using JAMAR Dynamometer) and NCS changes over time during IVIG treatment were analyzed. *The primary outcome* is duration of IVIG treatment, in months, required to reach a plateau in strength. *Secondary outcome* is NCS change including: Terminal Latencies, Conduction Velocities, Compound Sensory and Motor action potentials in nerves of upper and lower extremities over treatment time (emerging trends). *Results:* Pending (available by April 2015) *Conclusion:* Pending (available by April 2015)

P.050

Acute combined central and peripheral demyelination: a case report

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Aim/Background: We report a case of Acute Combined Central and Peripheral Demyelination (ACCPD). This rare disease presents with features of both peripheral and central demyelination. *Methods:* Case Report *Results:* A 24 year-old Iraqi female presented with acute onset of ascending paralysis, numbness and areflexia over the course of a few days. Systemic examination was negative. She responded to IVIG. She suffered two severe relapses over the next three months, which resolved rapidly with PLEX/corticosteroid. CSF was normal after first and second relapses. Brain and cord MRI revealed multiple T2/FLAIR hyperintensities consistent with multiple sclerosis. There were no longitudinally extensive cord lesions. Aquaporin 4 antibody assay is pending. ANA was strongly positive; anti-DSDNA and SS antibodies were negative; complement4 was low and serum cyroglobulins were positive. Hepatitis C was negative. Ganglioside antibody assay was negative. Anti-neurofascin is pending. Neurophysiology confirmed features of an acquired demyelinating neuropathy with profound secondary axonal denervation. *Conclusions:* The underlying etiology of ACCPD is presumed autoimmune likely secondary to auto-antibody targeting of central and peripheral myelin epitopes. Low complement component 4 and cryoglobulinemia in this patient supports an autoimmune pathogenesis. Neurofascin has been previously reported as one such auto-antibody in ACCPD.

P.051

Geographic distribution of Multiple Sclerosis (MS) mortality rates in Canada, 1975-2009

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Background: Our study examined whether there are differences in MS mortality rates across regions of Canada, which might