opinion from public health nurses and infectious disease specialists. *Results:* There is currently little consensus about vaccination protocols for patients initiating immunosuppressive therapy. We integrated information from all of our sources to create a preliminary protocol for the vaccination of MS patients prior to initiation of immunosuppressive therapy. *Conclusions:* More work needs to be done to create standardized vaccination protocols for MS patients who will be undergoing immunosuppressive therapy. We have created a preliminary protocol in conjunction with public health to standardize the vaccinations that MS patients receive. We hope that this will streamline immunization of patients immediately after diagnosis of MS so that initiation of immunosuppressive therapy will not be delayed in the future.

P.070

Characteristics of patients presenting to a multiple sclerosis clinic in Hamilton, Ontario

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doi: 10.1017/cjn.2017.154

Background: Multiple sclerosis (MS) is a neurological disease which is highly prevalent in Canada. To date limited data exists on the characteristics of this population in Ontario. *Methods:* A retrospective chart review was conducted of initial patient presentations to a MS clinic in 2011. Initial and follow-up consult notes were reviewed. Patients with a previous MS diagnosis were excluded. *Results:* 81 patients presented to the clinic for the first time in 2011. 41 were given alternative diagnoses (non-MS). Of the remaining 40 patients (MS group), 9 had clinically or radiologically isolated syndrome and 8 were in a progressive phase of MS. The mean age of presentation was 22 (MS group) and 47 (non-MS group). The most common initial symptom in both groups was a sensory disturbance. The mean initial EDSS in the MS group was 1.75 (0-6.5). In the MS group only 35% were put on disease modifying treatments. The most common reasons for exclusion of treatment were progressive disease phase, clinically or radiologically isolated syndrome, and unclear diagnosis. In the non-MS group, the most common diagnoses were non-specific MRI findings, transverse myelitis and peripheral nerve or muscular diagnoses. *Conclusions:* This retrospective review has outlined the characteristics of a MS population in Ontario.

P.071

Multi-parametric MRI at 7 T enables differentiation of MS and age-related white matter lesions

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doi: 10.1017/cjn.2017.155

Background: MRI criteria are used to support multiple sclerosis diagnosis and evolution. However, normal age-related lesions (ARLs) can be cofounded with MS white matter lesion (MSL). *Methods:* Two Multiparametric 7T MRI scans 4 motnhs apart from 5 relapsing MS (RMS) patients were analyzed and compared to 5 matched healthy controls (HC) aiming to differentiate MSLs from ARLs. Six-echo GRE, FLAIR and MPRAGE sequences were acquired. *Results:* Average size of ARLs was 51 mm3 and of MSLs was 69 mm3 (p=0.27). Both have the same general appearance on FLAIR and MPRAGE contrasts, but different contrast on the R2* and QS maps. Inter-visit variation on MPRAGE was significantly higher in MSLs. Inter-visit signal change in the other contrasts (QSM, R2* and FLAIR) was not significant. *Conclusions:* R2*, QS maps and inter-visit variation using MPRAGE allowed differentiating MSLs from ARLs in 5 RMS with mean long term disease duration. This could improve correct early diagnosis and accurate lesion load accumulation evolution.

Neuromuscular Disease

P.072

Effects of self-directed exercise on strength in Charcot-Marie-Tooth disease subtypes

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doi: 10.1017/cjn.2017.156

Background: Preliminary studies have supported the utility of exercise as a treatment for Charcot-Marie-Tooth disease (CMT) patients. Despite being the most common inherited neuropathy, there remains a paucity of guidelines for CMT management. *Methods:* A retrospective chart review was performed on 297 CMT patients. Self-reported exercise and strength results from standardized dynamometer testing were obtained from adult patients' first visits. Values were converted and analyzed based on previously reported age and sex matched normative values. *Results:* Participants with CMT2 were stronger than CMT1 in hand grip, elbow flexion, and dorsiflexion ($p<0.05$). CMT1A participants were weaker than those with CMT1B/D. Participants with CMT1 and CMT2 who exercised were statistically significantly stronger in elbow flexion and dorsiflexion than those who did not exercise. *Conclusions:* These preliminary results suggest that self-directed exercise is associated with greater strength in patients with CMT. Furthermore, they support the evidence that the dysmyelinating process in CMT1 may lead to greater loss of strength compared to the axonal degeneration in CMT2, and that exercise may benefit both subtypes. Self-directed exercise may be a convenient, sustainable, and effective method of improving strength and decreasing disability in these individuals. Future research should explore the type of exercise prescription that best addresses the needs of the CMT population.

P.073

Factors associated with fatigue in children and adolescents with Duchenne muscular dystrophy: A Canada-wide cross-sectional survey

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doi: 10.1017/cjn.2017.157

Background: Fatigue is frequent and disabling in adults with neuromuscular disorders, but not well characterized in paediatric neuromuscular disorders. Recently, fatigue was reported to be associated with poor health-related quality of life in children with Duchenne muscular dystrophy (DMD). Determinants of fatigue—a