the acute floor were cardiac, respiratory and infection. Factors that predicted rehospitalization within 90 days of CIR: long hospital length of stay before CIR admission \( (p = .00, OR = 0.99, CI = 0.99 - 1.00) \), long CIR length of stay \( (p = .00, OR = 0.98, CI = 0.97 - 0.99) \), low admission FIM score \( (p = .00, OR = 1.01, CI = 1.01 - 1.02) \), low discharge FIM score \( (p = .00, OR = 1.01, CI = 1.01 - 1.02) \) and poor FIM efficiency \( (p = .00, OR = 1.12, CI = 1.08 - 1.16) \). As expected high CMG tiers were statistically significantly associated with rehospitalization. Age, gender and race were not.

Conclusions: Center for Medicare and Medicaid focus is to reduce avoidable rehospitalization. Understanding factors that predict or are associated with rehospitalization can further this goal. Discharge during CIR to an acute floor is significantly associated with rehospitalization within 90 days of CIR. Other factors associated with rehospitalization are identified. Awareness of this may help reduce avoidable rehospitalization after CIR.

**Poster 34**

Effect of End-Effect Robot-Assisted Therapy in Progressive Supranuclear Palsy Patients.

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Disclosures: P. Sale, No Disclosures: I Have Nothing To Disclose.

Objective: Progressive supranuclear palsy (PSP) is a rare neurologic disorder primarily presenting with motor disturbances (e.g., postural instability, Parkinsonism, slowing of vertical saccades) and is characterized by a progressive decline of locomotor abilities of lower limb so that gait rehabilitation. The aim of the study is to validate the efficacy of an end-effector robotic system specific for lower limb (G-EO robot) on gait recovery.

Design: Observational study.

Setting: Subjects underwent a lower limb rehabilitation consisting of a treatment cycle using the GE-O system device, according to individually tailored exercise scheduling. The practice included an add-on robot-assisted walking therapy at variable speeds for 45 min with a partial body weight support (BWS). Rehabilitation Treatment: twenty sessions of 45.

Participants: Diagnosis of PSP disease by the clinical criteria of the National Institute of Neurological Disorders and Stroke Society for PSP International Workshop, and an endurance sufficient to stand at least 20 minutes. Inclusion criteria: evidence of motor deficit in one lower limb, age between 18 and 79 years, capability to walk, unassisted or with minimal assistance, for 25 feet. Exclusion criteria: Association of neurological, orthopaedic or cardiopulmonary pathologies.

Interventions: If eligible, the patients were assigned to robot assisted therapy.

Main Outcome Measures: At the beginning of the treatment and after 20 sessions, Timed up and go test, 6 minutes walking test, 10 meters walking test, opto-cinematic analysis of gait and clinical specific scales (PSP rating scales) were delivered.

Results or Clinical Course: Five patients (mean age 67.50±9.48 mean) had an H&Y median score of 3.0. The ones treated with G-EO showed a significative changes of Timed Up and Go 4.67±18.55 sec at T0 e 38.83±18.12 sec at T1, 6MWT 177.50±58.61 m at T0 e 181.83±53.21m at T1, 10mWT 0.61±0.22 at T0 e 0.54±0.21 at T1. Also the gait spatio-temporal parameter, the Barthel Index and FIM scores showed an improvement at discharge compared to admittance with an improvement.

Conclusions: Our preliminary results show that G-EO system treatment is well tolerated by all patients with improvements in outcomes measures and performance.

**Poster 35**

Performance Enhancement: A Young Athlete’s Perspective.

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Disclosures: D. DeGiorgio, No Disclosures: I Have Nothing To Disclose.

Objective: To gain insight regarding the opinions of student athletes on how diet affects performance both academically and athletically.

Design: Survey questionnaire.

Setting: Concussion Management Clinic.

Participants: 41 athletes aged 12-18 (median age 15).

Interventions: None.

Main Outcome Measures: None.

Results or Clinical Course: Student athletes were asked which of the following products, if any, would enhance their performance either academically or athletically. The choices listed were chocolate, coffee, energy drinks, tea (iced/hot), soda, and protein supplements. The results for academic improvement were as follows: none 44%, tea 39%, coffee 17%, energy drink 12%, protein supplement 10%, chocolate 7%, soda 2%. The results for athletic performance were as follows: none 39%, protein supplement 32%, tea 24%, energy drink 22%, chocolate 5%, coffee 2%, soda 0%. When asked to explain the way in which the aforementioned items could boost performance, the overwhelming response (86%), referred to alertness and or increased energy as the mechanism. This was true regardless of the referenced product.

Conclusions: The majority of student athletes that we questioned agreed that dietary factors help performance in both academics and athletics. Interestingly, the need for “energy” seems to be the primary benefit they were seeking to enhance performance. As societal pressure increases on young athletes to perform at an elite level, it is important further studies are directed to determine which of these products are being consumed by high school age athletes, and the potential adverse effects of these products.

**Poster 36**

Usefulness of Permanent Tracheostoma in Chronic Brain Injured Patients: A Case Series.

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Disclosures: Y. Won, No Disclosures: I Have Nothing To Disclose.

Case Description: Three patients in our rehabilitation clinic were 63, 49, 57 years old, and their diagnosis was hypoxic brain damage due to sudden cardiac arrest, subacute subdural hemorrhage, hypoxic brain damage secondary to acute myocardial infarction, respectively. Two patients showed vegetative status and one patient showed minimal conscious status. Patients 2, 3 had a suprastoma granulation tissue and needed removal operation. Patients 1, 3 suffered spasticity increase elicited by tracheostomy.
tube irritation during daily activities such as suction, transfer. Patient 2 showed reflex cough and abnormal posturing due to tube irritation. They underwent granulation removal and stomaplasty for making permanent tracheostoma after 60, 22, 12 months of the first conventional tracheostomy.

Setting: Tertiary care hospital
Results or Clinical Course: For all three patients, no early and late complications occurred, and airway patency was well maintained. Frequency of suction, sudden spasticity increase, reflex cough were reduced, and airway hygiene was improved after the permanent tracheostomy. All three caregivers reported the reduced difficulty and anxiety and also their satisfaction after the procedure.

Discussion: Permanent tracheostoma establishes a short, skin-lined, noncollapsing, nonstenosing, self-sustaining passage between the trachea and the external environment, and is not supported by a tube, vent, or stent. The benefit of this tube-free, permanent tracheostoma is that the patients are free of risk for complication caused by tracheostomy tube itself, such as tube displacement, tube obstruction, granuloma, tracheal stenosis. This method is a useful alternative way to make long-term ventilatory bypass without tube-related complications in the chronic disease such as obstructive sleep apnea, bilateral vocal cord paralysis, laryngotracheal stenosis, chronic pulmonary disease, laryngeal cancer. It is the first report of successful permanent tracheostoma in chronic brain injured patients with long-term tracheostomy, who had cognitive deficit, and weakness of four extremities, and poor head and neck control due to their quadriplegic status.

Conclusions: Permanent tracheostoma can be considered a useful alternative way for chronic brain injured patients with long-term tracheostomy.

Poster 37
A Phase III, Randomized, Placebo-Controlled Study of the Efficacy and Safety of 10% Liquid Intravenous Immunoglobulin (IGIV) for the Treatment of Multifocal Motor Neuropathy (MMN).
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Disclosures: C. L. Koski, Consulting fees or other remuneration (payment): Baxter Healthcare.
Objective: To critically assess efficacy, safety and tolerability of 10% liquid IGIV in subjects with MMN
Design: Open-label IGIV 10% was administered for 12 weeks at study beginning and end for clinical stabilization, and between double-blinded periods to prevent a carry-over effect. ‘Accelerated switch’ to open-label IGIV 10% was allowed if grip strength decreased ≥50% in the more affected hand or functional deterioration occurred.
Setting: Seventeen medical centers in North America and Denmark
Participants: 44 adults with MMN were randomized 1:1 to alternate sequences of double-blinded cross-over treatment with IGIV or placebo for 12 weeks each. 41 completed the study
Interventions: 10% IGIV (Gammagard Liquid®/Kiovig®, Baxter Healthcare Corporation) vs. placebo (0.25% human albumin)

Main Outcome Measures: Efficacy Endpoints were: 1) mean grip strength in the more affected hand; 2) Guy’s Neurological Disability Score (GNDS) for the upper limbs; 3) % of subjects requiring accelerated switch; 4) % of subjects with a decline of ≥30% in grip strength in the more and less affected hands; 5) time required for the 9-hole peg board test, Safety Endpoints were: 1) serious adverse reactions; 2) non-serious adverse reactions.

Results or Clinical Course: Mean grip strength of the more affected hand declined by 31.38% during placebo but increased 3.75% during IGIV (p<.005). In 35.7% of participants, GNDS for the upper limb worsened during placebo but not during IGIV, whereas the converse was true in 11.9% of subjects (p=.021). Efficacy of IGIV 10% was also supported by secondary endpoints: 69.0% of subjects required ‘accelerated switch’ from placebo to open-label IGIV, and one subject (2.4%) switched prematurely to placebo during double-blinded IGIV (p < .001); a greater proportion of subjects had a decline of ≥30% in grip strength in the more affected hand (42.9% during placebo vs. 4.8% during IGIV, p<.001), and the less affected hand (31.0% during placebo vs. 0% during IGIV; p<.001); the mean time to complete 9-Hole-Peg Test increased by 16.73% after placebo vs. 1.16% after IGIV (p = .001). Throughout the study, one serious and 100 non-serious adverse reactions to IGIV 10% were reported (69 mild, 20 moderate and 11 severe)

Conclusions: IGIV 10% was an effective and safe treatment for MMN.

Poster 38
Lateral Spread Responses on Facial Motor Nucleus Suppression Using Intravenous Diazepam in Hemifacial Spasm.
Su in Choi (Incheon St. Mary’s Hospital. Catholic University of Korea, Incheon, Korea, Republic of); Dae-Hyun Jang, Assistant professor; Min Wook Kim, Professor; Joo Hye Park, Resident.

Disclosures: S. Choi, No Disclosures: I Have Nothing To Disclose.
Objective: There has been a controversy between two hypotheses for the pathophysiology of hemifacial spasm: ectopic excitation-ephotaptic transmission at the root entry zone, and increased excitability of the facial nucleus are two candidates. This study sought to investigate the pathophysiologic mechanism of hemifacial spasm.
Setting: A total of 6 patients with hemifacial spasm were recruited. Before experimental study, the patients performed facial motor nerve conduction study and blink reflex study. In experimental study, supraorbital nerve stimulation with orbicularis oris muscle recording study and lateral spread test were performed, then we applied intravenous diazepam 10mg to the patients for facial motor neuronal suppression. Two drug series were recorded, 10min and 20min after the subject had received 10mg of diazepam intravenously.

Results or Clinical Course: In all patients, orbicularis oris responses appeared on supraorbital nerve stimulation with orbicularis oris muscle recording study and late responses were seen on lateral spread test. After diazepam injection, on supraorbital nerve stimulation with orbicularis oris muscle recording study, there was no orbicularis oris response in one patient and latencies of orbicularis oris response were showed slowing tendency as time passes