prophylactic FVO. In displaced hip group, MP was significantly increased by the follow-up duration (1.6% per year, \( p=0.001 \)). MP was significantly decreased by the concomitant Dega pelvic osteotomy in both stable hip (14.5%, \( p=0.001 \)) and displaced hip (18.9%, \( p=0.001 \)). HSA was not significantly increased by follow-up duration in stable hip group (\( p=0.451 \)), but significantly increased in displaced hip group (0.8 degree per year, \( p=0.039 \)). NSA was significantly increased by follow-up duration in both stable (0.9 degree per year, \( p=0.005 \)) and displaced hip group (1.9 degree per year, \( p=0.001 \)).

Conclusions/Significance: To our knowledge, this investigation was the first to evaluate the outcome after prophylactic FVO for stable hip in patients with CP. Prophylactic FVO in stable hip in patients with CP showed good surgical outcome without the risk of hip displacement by the follow-up duration, while displaced hip showed the change of increase of hip displacement after hip reconstructive surgery.

SP 33
A prospective study of pain pre- and post-intrathecal baclofen pump implant in children with cerebral palsy
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Background and Objective(s): Spasticity is reported in approximately 70% of those with Cerebral Palsy (CP) and, depending on severity, results in chronic pain and interferes with function. Intrathecal baclofen (ITB) is regarded as relatively effective in the reduction of spasticity associated with CP. Although most all studies to date report changes in tone, the evidence for other outcomes including pain reduction is typically anecdotal/retrospective. We conducted a prospective study assessing pain intensity, duration, frequency and interference pre/post ITB pump implant.

Study Design: Prospective cohort study.
Study Participants & Setting: CP patients scheduled for an initial ITB pump implant surgery at an independent specialty rehabilitation hospital were invited to participate in the study. Research procedures were completed on the same day, at the same facility as clinical appointments. Participants were 32 individuals with CP (mean age=12y, 8mo). The majority of participants had a CP diagnosis of quadriplegia (72%) or diplegia (22%) and relied on wheeled mobility (91%; GMFCS level IV-V).

Materials/Methods: For all participants, pain [Brief Pain Inventory (BPI); Dalhousie Pain Interview (DPI)] and spasticity [Multiple Sclerosis Spasticity Scale (MSSS)] assessments were completed by parent report. Data collection occurred on the day of surgery (pre) and on the day of a follow-up appointment approximately 3 months after initial implant (post).

Results: A repeated measures ANOVA demonstrated a significant overall effect for pain duration \( F(2,10)=4.467, \ p=0.041 \) with a significant decrease in pain duration from pre (\( M=60.04h, SD=90.06h \)) to post surgery (\( M=50h, SD=1.20h \); \( F(1,11)=7.946, \ p=0.017 \)). There was also a significant overall effect for spasticity \( F(1,7)=10.697, \ p=0.007 \) with a significant decrease in spasticity from pre (\( M=58.64, SD=12.78 \)) to post surgery (\( M=44.87, SD=12.12, F(1,8)=23.035, \ p=0.001 \)). The MSSS spasticity score correlated significantly with pain duration (\( r=0.35, \ p=0.005 \) and pain intensity (\( r=0.36, \ p=0.003 \)). Although not statistically significant, pain intensity, frequency and pain interference all decreased following ITB pump implant.

Conclusions/Significance: This initial analysis supports the anecdotal evidence that pain decreases along with decreases in spasticity related to ITB pump implant. The greatest impact appears to be on the duration of pain experience.

SP 34
Enhanced perioperative pain management in children with disabilities undergoing lower extremity orthopedic surgery: does the addition of steroids prolong the effectiveness of regional blocks?
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Background and Objective(s): Parental and patient feedback has brought attention to the anxiety and pain children experience while undergoing orthopedic surgery. This is particularly important to families and children with chronic musculoskeletal conditions that require multiple procedures. As a result, there is an increasing interest among orthopedic surgeons to provide safe and effective pain management and to do so in a cost-effective manner. Opioids carry the risk of oversedation and unwanted drug interaction. Regional blocks, while becoming increasingly popular, are limited by the duration of action of the agent, leading to the abrupt onset of significant pain. The addition of dexamethasone has been shown to potentiate the duration of blocks in the adult population but has not been reported in the pediatric population. We hypothesize that the addition of steroids can provide safe, effective overnight pain relief and decreased hospital expenses with high patient satisfaction.

Study Design: Utilizing an IRB-approved protocol, ultrasound-guided lower extremity single shot blocks were performed after the induction of general anesthesia. In the control group, the block consisted of bupivacaine 0.25% (2.5–4.0mg/kg). In the experimental group, bupivacaine 0.25% (2.5–4.0mg/kg) plus dexamethasone 2–8mg was injected.

Study Participants & Setting: 39 consecutive children with diverse chronic musculoskeletal conditions undergoing lower extremity orthopedic procedures were recruited. They included Cerebral Palsy (13), Myelodysplasia (8), Developmental Delay (3), Autistic Disorders (7), Amyoplasia (2), and Osteogenesis Imperfecta (6). 10 out of 13 patients with Cerebral Palsy were GMFCS ≤3. Children with Myelodysplasia had sensation to the surgical site.

Materials/Methods: Study patients underwent either tendon lengthening, bone osteotomies, fixation of fractures, or a
Materials/Methods: An institutional initiative, supported by an AACPDM transformative practice grant, aimed to improve chronic pain measurement in clinic by using the Holland Blorview Chronic Pain Assessment Toolbox for Children with Disabilities. For patients who were non-verbal, pain was assessed using the Paediatric Pain Profile (PPP) and for patients who could communicate verbally, the PROMIS pain assessment was completed (parent/pediatric version). Assessments were completed every three months or as needed; therefore, a portion of patients had their chronic pain assessed at multiple time points. Following IRB approval, data were obtained retrospectively from patient charts.

Results: On average, chronic pain assessment scores for patients assessed using the PPP (n=96; total scores range 0–60) were 10.99 (SD=8.34; range 0–41). Based on the cut-scores previously developed for the PPP, patients presented with little to no pain (52%), mild pain (34%), moderate pain (10%), severe pain (3%), and very severe pain (1%). Average scores on the PROMIS parent version (n=30; total scores range 0–32) were 10.43 (SD=10.85); range 0–32) and 6.59 (SD=7.28; range 0–24; n=32) on the pediatric version. Of note, the PROMIS was not scorable for 61/123 assessments because one or more items were marked as not applicable (i.e., mobility related items). Internal validity was calculated for all three scales, with Cronbach’s alpha=0.90, 0.96, and 0.91 for the PPP, PROMIS parent, and pediatric versions respectively.

Conclusions/Significance: This initial analysis suggests that a portion of individuals with CP with ITB pumps live with chronic pain. These findings suggest that systematic chronic pain assessment is an important clinical priority. The PROMIS pain interference scale was not appropriate for individuals with quadriplegic CP due to the mobility items. Further research should be conducted to better understand chronic pain in this population and to determine the efficacy of chronic pain treatment approaches.

Sp 35
Standardized clinical assessment of chronic pain in children and adults with intrathecal baclofen pumps

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Background and Objective(s): Pain is common for individuals with Cerebral Palsy (CP), especially those with spasticity. Intrathecal baclofen (ITB) is regarded as an effective treatment approach for the management of spasticity; however, little work has been done to quantify chronic pain in the growing number of people with CP who have ITB pumps. The current study implemented standardized chronic pain assessments into clinical practice for children and adults with cerebral palsy with ITB pumps.

Study Design: Retrospective cohort study.

Study Participants & Setting: Chronic pain was systematically assessed in 143 patients (54% male, mean age: 15y, 8 months, age range: 3–58y) who attended an intrathecal baclofen pump maintenance visit at an independent specialty rehabilitation hospital between January 2016 and January 2017. Participants had a CP diagnosis of quadriplegia (85%), diplegia (5%), triplegia (3%) or other (7%). On average, participants were returning to clinic 6.21 years (SD=4.62; range 27d – 18y) after their ITB pump had been placed.

Results: There were 21 males and 18 females with an average age of 11.8 years and average weight of 40.1kgs. 70.0% of the cases included a bony procedure. 35 out of 40 of the patients were discharged home from the recovery room. There were no readmissions for pain management or surgical complications. In the control group, the blocks lasted an average of 11.4 hours to the first pain medication versus 27.7 hours in the experimental group. Mann-Whitney analysis indicated p<0.005. Parental satisfaction was rated at 3.6/4.0 with decreased family disruption being noted a major factor. Anxiety over future procedures was rated at 1.1/4.0. Patients rated pain control satisfaction at 3.5/4.0 and anxiety over future procedures at 0.97/4.0.

Conclusions/Significance: The addition of dexamethasone ($0.71/vial) to lower extremity regional blocks provided safe, extended, and cost-effective pain management with high patient/family satisfaction. This allowed the majority of cases to be done on an outpatient basis, which minimized family disruption and eliminated an overnight hospital stay, thereby generating cost savings conservatively estimated at $1800/patient/day.

Sp 36
Use of a pain-coping tool to enhance understanding of pain in individuals with disabilities

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Background and Objective(s): Understanding the experience of pain in children and youth with disabilities has been identified as an important factor in predicting function later in life. Pain is often best evaluated by a ‘battery’ of tools to capture its multidimensional nature and identify which aspect has the greatest influence for a particular individual. As part of an institutional initiative to improve chronic pain measurement, a pain coping assessment was initiated to supplement current pain assessment for individuals undergoing 3-D gait analysis at tertiary care institution for children with disabilities. Many pain tools assess pain interference. Coping tools assess an individual’s ability to do things when they are in pain which is