Poster 363:
A Multidisciplinary Approach to Addressing the Complex Medical Needs of a Paraplegic Pediatric Patient in the Setting of Caregiver Illiteracy: A Case Report

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Disclosures: Justin Schappell: I Have No Relevant Financial Relationships To Disclose
Case/Program Description: A 16-year-old female patient suffered from disseminated tuberculosis with meningoencephalitis, spinal involvement, and multiple brain infarctions resulting in cognitive dysfunction and paraplegia. The patient presented with infected bilateral calcaneal decubitus ulcers and concerns for medical neglect. The medical team later discovered her mother was illiterate, lacked formal education, and altogether held a rudimentary understanding of her daughter's complex medical needs. Given these findings and the fact the patient is completely dependent on her mother for all activities of daily living, hospital admission was indicated; it became the priority of the medical team to address this mother's health literacy deficits.
Setting: Tertiary Care Pediatric Hospital
Results: After multidisciplinary rounds, a family meeting was held to determine which elements of care the mother was unable to perform. Tasks discussed included wound care, urinary catheterization, and oral medication management. Due to her illiteracy, medication administration proved exceedingly difficult. Therefore, our team color-coded the medications with matching pictures on paper, and utilized a pictorial-based pillbox. Prior to discharge, the caregiver had to demonstrate complete proficiency with this system. Lastly, to ensure continuity of care for our patient and continuity of support for her caregiver we specifically scheduled patient follow up in a medical home setting. We believed this to be the optimal healthcare environment for ongoing caregiver assistance and reinforcement of the pillbox and paper system.
Discussion: Given the prevalence of low health literacy in the United States, standardized resources should be created to alleviate caregiver burden. This case highlights one way to assess competency and simplify medication administration for an illiterate caregiver.
Conclusions: This report is meant to serve as a conceptual framework for other medical professionals to utilize when faced with the challenge of providing resources for ill-equipped caregivers that are simultaneously cost effective, reproducible, and efficacious in the long-term care of their patients.
Level of Evidence: Level V

LATE-BREAKING ABSTRACTS

Friday, October 27, 2018
11:45 AM-12:30 PM
PM&R Pavilion — Learning Center

LATE-BREAKING RESEARCH PODIUM SESSION

CATEGORY: PAIN & SPINE MEDICINE
Poster 364:
Walking Distance and Opioid Consumption in Knee and Hip Replacement Patients in the Subacute Rehabilitation Setting: A Retrospective Trial

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Disclosures: Wyatt Kupperman: I Have No Relevant Financial Relationships To Disclose
Objective: To test hypotheses that multimodal pain management will increase functional outcomes on discharge and decrease morphine milligram equivalent (MME) consumption in the subacute rehabilitation setting for patients after unilateral hip or knee replacement surgery.

Design: Retrospective chart review.
Setting: Subacute Rehabilitation Hospital.
Participants: 164 subjects were identified by chart review over a 3-year period and retrospectively assigned to three groups: opioids only [O] (n=104), opioids and neuromodulators [NM] (n=40), and opioids and NSAIDs [NS] (n=20).
Interventions: Not applicable.
Main Outcome Measures: Change in walking distance and change in MMEs between first and last full day of rehabilitation.
Results: Data were entered into SPSS software and were used for data analysis with one-way ANOVA and post hoc analysis. There was a statistically significant difference between groups for walking distance at discharge as determined by one-way ANOVA ($P = .030$). A Tukey post-hoc test found that improvement in walking distance from admission to discharge was statistically significantly larger in the NM group ($.91 \pm 1.09$, $P = .032$) compared to the O group ($.51 \pm .79$, $P = .032$). On the last full day of rehabilitation, both multimodal pain management groups were using less than 50 MMEs: O group (mean 56.9 MMEs), NM group (mean 49.9 MMEs), NS group (mean 41.5 MMEs).
Conclusions: Patients who had multimodal pain management including neuromodulation, at least in this study, ambulated statistically greater distances than those treated with opioids only. This may have a profound impact not only on returning patients to household ambulation but may allow and encourage increased ambulation and activity in the community after discharge. Further, this study demonstrates that a nonspecific multimodal regimen can affect total MME consumption prior to discharge, which may assist patients in weaning off of opioids and decrease the risk of potential opioid misuse in the long-term.
Level of Evidence: Level III

CATEGORY: GENERAL REHABILITATION

Poster 365:
Agreement Between Authors and Evidence Committee on Level of Evidence Assessment of Accepted Manuscripts to the *PM&R* Journal

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Disclosures: Joshua Startup: I Have No Relevant Financial Relationships To Disclose
Objective: To assess the inter-rater reliability of level of evidence (LOE) ratings of manuscripts accepted for publication to *PM&R* between authors and the American Academy of Physical Medicine and Rehabilitation Evidence Committee (EC), using Journal of Bone and Joint Surgery (JBJS) revised levels of evidence table.
Design: Observational cross-sectional study.
Setting: Non-clinical Setting.
Participants: 457 manuscripts that were accepted for publication by *PM&R* between October 2015 and March 2018 were identified. Authors were advised to self-rate LOE using a published table. The manuscripts were then independently reviewed by two members of the EC who rated the LOE based on the same published table. If there was a discrepancy between the LOE ratings of the EC members, a meeting was held to reach consensus. Manuscripts whose authors did not submit an LOE rating or manuscripts that did not meet criteria for LOE rating were excluded from data analysis, leaving a final count of 226 manuscripts for which the LOE ratings between the authors and EC were compared.
Interventions: Not applicable.
Main Outcome Measures: Cohen's kappa and weighted kappa were used with ratings of 0.0-0.20 slight agreement, 0.21-0.40 as fair agreement, 0.41-0.60 as moderate agreement, 0.61-0.80 as substantial agreement, and 0.81-1 as near perfect agreement.
Results: Cohen's kappa was 0.28 and weighted kappa was .50 correlating with fair and moderate agreement respectively between authors and EC LOE ratings.

Conclusions: There was fair to moderate agreement of LOE ratings of manuscripts accepted for publication in the *PM&R* journal between the authors and the EC. Continued education of authors in evidence-based medicine principles including LOE rating is needed.
Level of Evidence: Level III

CATEGORY: PRACTICE MANAGEMENT & LEADERSHIP

Poster 366:
Examination of Effects of AMPAC Scores on IRF Discharge Outcomes

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Disclosures: Kenton Hagan: I Have No Relevant Financial Relationships To Disclose
Objective: Determining successful rehabilitation candidates is a multifaceted and previously largely qualitative task. Increasing financial pressures and a new focus on efficient healthcare resource utilization makes allocation of scarce rehabilitation resources an important focus of the consulting physiatry team. Our study uses acute care hospital Activity Measure for Post-Acute Care (AMPAC) scores as a model for prediction of inpatient rehabilitation (IRF) outcomes.
Design: Retrospective chart review.
Setting: Urban academic rehabilitation hospital.
Participants: Review of all unique admissions to a free standing urban academic inpatient rehabilitation hospital (UA-IRF) from 3/1/17 through 2/28/18 was performed. AMPAC mobility scores, AMPAC ADL scores, and a total of these scores (AMPAC Total) were compared for patients who required readmission from UA-IRF back to ACH due to acute medical decompensation (Acute Out — AO) and patients who had a final discharge outcome to a skilled nursing facility (SNF) versus patients who had a final discharge outcome to home.
Interventions: Not applicable.
Main Outcome Measures: Inpatient rehabilitation discharge outcome.
Results: The acute care AMPAC score provides strong ROC AUC of 0.74, sensitivity (95.1%), PPV (75.2%), and NPV (75.6%), for predicting IRF home discharges. Patients with AMPAC Total scores of 12-23 account for 13.3% of admissions at UA-IRF in the study period, but 32.1% of all hospital readmissions and 31.8% of all SNF discharges. Patients with an AMPAC Total score of 23 or lower had a significantly lower chance (25.2%) of discharge to home compared with patients with an AMPAC Total score of 24 or higher (75.6%).
Conclusions: AMPAC scores potentially provide a powerful tool for the consulting physiatrist to predict future discharge outcomes from an IRF. This tool may allow a health system to reduce readmission rates and the costs related to those re-admissions. The major limitations are that certain diagnoses (total joint replacements and major orthopedic injuries) and socioeconomic support are not accurately predicted using this tool.
Level of Evidence: Level III

CATEGORY: PAIN & SPINE MEDICINE

Poster 367:
Lumbar Epidural Steroid Injection Methylprednisolone Dosage for Radicular Pain: A Retrospective Cohort Study for Efficacy in Pain Relief

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Disclosures: Nadia Zaman: I Have No Relevant Financial Relationships To Disclose
Objective: To determine the lowest effective dose of methylprednisolone in an interlaminar epidural steroid injection (LESI) that can be used for maximal pain relief without exposing patients to risks of adverse events caused by steroid use.
Design: Retrospective Chart Review.
Setting: Outpatient Interventional Pain Clinic in an Academic Center.
Participants: Adults patients (N=133), aged 18-85, with low back pain and radicular symptoms treated with LESI. Patients who received prior cervical epidural steroid injections were excluded.
Interventions: LESI with methylprednisolone, doses were 40, 60, 80 or 120 mg.
Main Outcome Measures: Primary outcome measures were change in pain score using a visual analog scale (VAS) scored 0 to 10 (0=no pain, 10=excruciating pain), and patient's self-reported reduction in pain (percentage), pre- and post-procedure. Both differences in absolute number and percent pain reduction were compared across groups. Adverse effects experienced by patients were recorded. The proportion of patients who required a second injection for continued pain, defined as any patient who did not experience at least 50% pain relief, was also compared across groups.
Results: The number of patients who received each dose of LESI varied: N=88 received 120 mg, N=30 received 80 mg, N=2 received 60 mg, and N=13 received 40 mg. The VAS pain scores pre- and post-procedure for 120 mg were 8.89±1.32 and 4.08±3.74, (mean ± standard deviation), respectively; for 80 mg: 9.06±1.00 and 3.75±4.00; and for 40 mg: 9.00±1.00 and 4.00±0.00. The number of patients reporting at least 50% pain reduction with 120 mg, 80 mg, and 40 mg were N=51, 17, and 4, respectively. N=4 experienced adverse effects, all of whom received the 120-mg dose.
Conclusions: All three dosage groups had similar efficacy in pain relief, but only patients who received 120 mg experienced adverse effects. This demonstrates that lower dosages can be used for effective pain relief with less potential harm to the patient.
Level of Evidence: Level III

CATEGORY: QUALITY IMPROVEMENT

Poster 368:
Reduction in Acute Care Transfer (ReACT) Project: A Targeted Approach to Reducing Acute Care Transfers from an Inpatient Stroke Unit

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Disclosures: Melissa Burns: I Have No Relevant Financial Relationships To Disclose
Objective: To decrease emergent acute care transfers (ACTs) by developing a tool to identify the factors that are most responsible for ACTs, and establishing a process by which these patients can be identified and monitored more closely.
Design: A retrospective study was completed examining the factors involved in ACTs, and from this data a screening tool was developed based on those predictors. Sensitivity and specificity measures were calculated and a cut off score for high risk patients was determined. Once a patient was determined to be high risk, additional resources were allocated to these patients including interdisciplinary rounding, pharmacy rounding with the physician, nursing neurologic checks every shift, and afternoon huddles with the physician and nursing reviewing a tool assessing the patient's status.
Setting: Free-Standing Acute Inpatient Rehabilitation Hospital.
Participants: Stroke medical director, on-service residents, program coordinator, nursing manager, floor nurses, pharmacists, therapists, neurologist, hospital administration.
Interventions: Literature search and retrospective study to establish the "high risk" patient profile. Developed the ReACT Screening tool.