DECREASING PAIN EXPERIENCED BY HOSPITALIZED PEDIATRIC PATIENTS BY INCREASING THE USE OF TOPICAL ANESTHETICS FOR PERIPHERAL INTRAVENOUS (PIV) LINE PLACEMENT

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Background Venous access is a common source of pain for hospitalized patients. Topical anesthetics are effective at decreasing needle pain, can improve success rate, and decrease procedure time. At our institution, there is inconsistent use of topical anesthetics for PIV placement.

Objectives The global aim was to reduce pain experienced by hospitalized pediatric patients. The SMART aim was to
Decreasing pain experienced by hospitalized pediatric patients by increasing the use of topical anesthetics prior to peripheral IV placement.

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Key Driver Diagram (KDD)

**Global Aim**
To reduce unnecessary pain experienced by pediatric patients admitted to the hospital

**SMART Aim**
To increase the use of topical anesthetics prior to peripheral IV placement from mean 11% to 40% for patients admitted to Med-Surg floors by June 2019

**Population**
Pediatric patients admitted to Medical Surgical Floors

**Key Drivers**
- Improved knowledge of benefits of topical anesthetics and how to best use them
- Provider and nurse buy-in
- Patient and family awareness and acceptance of the use of topical anesthetics
- Correct supplies, equipment, and personnel readily available
- Culture change in the hospital
- Standard process for PIV placement
- Accurate and complete documentation of PIV placement

**Interventions**
- Standard Nurse Education (LRP)
  - Core Curriculum Modules
  - Education Conferences
  - Scripting Education from child life
  - Standard Resident Education (LRP)
  - Provider Education
  - Live presentations
  - Evidence-based Topic Review at Resident Conference
- Standard Attendees/Advanced Practitioner Education (LRP)
  - Attending MOC Part 4 credit through JABP
  - Team communication of pain, responsibilities, and plan
  - Discuss access plan on Family-Centered Rounds
  - Get Well Network Modifications
- Standardized Ordering (LRP)
  - Utilize admission set standing orders for age-appropriate topical anesthetics (LMX, Pain Ease, success)
  - PIV order set
  - Nursing-led protocol
  - Reminders for use (LRP)
    - IV cart reminders and IV cart pathway reference
    - Notice in supply room by needles
    - Whiteboard with patient comfort plan
  - Standardized Care (LRP)
    - Implementation of Institutional Peripheral Venous Access Clinical Pathway
    - Updating the Institutional Policy to reflect the Pathway
  - Awareness of Performance (LRP)
    - Data review and feedback at floor DMS huddles weekly
    - Display on DMS boards
    - Individual nursing feedback
- Standardized Documentation (LRP) and R2
  - Education to complete WADOCs entirely (R1)
  - Epic build with hard stop for documentation in doc flow sheet (R2)

Abstract 10 Figure 1  Key driver diagram

**Comfort Measures Prior to PIV Placement**
*July 2018 thru September 2019*

Abstract 10 Figure 2  P-chart. Topical anesthetic use prior to PIV placement from June 2018 to September 2019 increased from a mean of 11% to 34%. A run of eight in a row on the same side of the centerline was used to determine 'out of control signals' to shift mean
Abstract 10 Figure 3  P-chart. The percentage of PIV placements with the number of attempts documented from July 2018 to September 2019 increased from a mean of 47% to 60%. A run of eight in a row on the same side of the centerline was used to determine ‘out of control signals’ to shift mean.

Abstract 10 Figure 4  P-chart. The percent of PIV placement procedures that utilized comfort measures from July 2018 to September 2019 increased from 6% to 13%. A run of eight in a row on the same side of the centerline was used to determine ‘out of control signals’ to shift mean.
increase topical anesthetic use for peripheral intravenous line (PIV) placement for hospitalized pediatric patients from a mean of 11% to 40% by June 2019.

**Methods** The project utilized the Model for Improvement. An institutional clinical pathway and PIV order set were developed. Pre-checked orders for anesthetics were added to order sets. Visual reminders for anesthetic and pathway use were placed on IV carts. Run charts were posted weekly on daily management system boards on each medical-surgical floor, and this data was shared at daily nursing huddles, to increase awareness of performance. Nurse managers provided individual feedback to nurses. Nursing scripting examples of how to discuss PIV placement and anesthetics with patients and families were placed on IV carts.

**Results** Topical anesthetic use for PIV placement increased from a mean of 11% to 34%. Comfort measures during PIV placement increased from a mean of 6% to 13%. PIV procedures with documentation of placement attempts increased from a mean of 47% to 60%.

**Conclusions** This project has highlighted the importance of pain prevention for needle procedures and initiated culture change. We have nearly reached our goal and PDSA cycles are ongoing to further increase topical anesthetic use.

**REFERENCES**

**IMPROVING INTERVENTION USE FOR OPIOID OVERDOSE THROUGH EMERGENCY DEPARTMENT ELECTRONIC MEDICAL RECORD WORK-AIDS**

Mary Funk, Marcus Kaplan, Jennifer Mando, Emily Sterrett, Stephanie Eucker. Duke University, USA

**Abstract 11**

**Background** Emergency Department (ED) visits for opioid overdose continue to rise. Our global aim is to implement evidence-based harm reduction practices in our large, academic ED, such as facilitating naloxone prescribing through the electronic medical record (EMR) and disseminating resources for outpatient treatment.

**Objectives** Increase the provision of naloxone prescriptions and community resources to patients at high-risk of opioid overdose upon ED discharge.

**Methods** To increase naloxone prescribing and provision of community resources to high-risk patients, a model for improvement methodology, a multi-disciplinary team, and prioritization of high-reliability interventions were used. Key drivers and interventions included: didactic lectures to providers, collation of community resources, real-time patient identification through a best practice advisory (BPA) in the EMR, prescriber order sets, and defaulting desired patient education materials (figure 1). Rates of naloxone prescribing and BPA-triggered order set use were tracked over time on statistical control charts (p-charts).

**Results** The average proportion of high-risk patients who received naloxone prescriptions increased from a baseline of 1.9% to 6.6% after didactic education sessions, and 21.7% after implementation of EMR-based interventions (8 points above centerline, respectively) (figure 2). Since its implementation, 16% of fired BPs resulted in naloxone order set activation (monthly range: 9–25%).

**Conclusions** Our findings support that some emergency department providers are willing to prescribe naloxone to patients at risk for opioid overdose, and that prescribing is influenced by highly reliable work-aids built into EMR systems. The spread of similar technology to other care settings may be key to wider provider engagement in mitigating morbidity from opioid overdose.