



# **An Evidence-based Practice Project to Improve Securement and Visualization of Peripheral Intravenous Catheters in Pediatric Patients**





# Presenters

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# EBP Team Members

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# Background

## Securing Peripheral Intravenous (PIV) sites:

- Common problem for pediatric nurses.
- Increased Infiltrations in children
- Lack of site visualization





# Triggers at CCMC

**Risk Management** data - ↑ # of infiltrations of higher harm category

**QI Audit** – nurses documenting (EMR) that “site looked good” then checking box “site not visualizable”.

**Nursing Directors** – concern about ↑harmful infiltrations

**Staff Nurses** – Frustration – not able to see IV site because of taping.





# Approach

- Opportunity to use an EBP approach to change practice on wider scale.
- Nursing had adopted the **Iowa Model of EBP (Titler et al, 2001)** as our EBP framework .
- Developed EBP question & team





# EBP PICO Question

**In Pediatric patients, what is the most effective method of securing PIVs in order to:**

- 1) maintain easy visualization of site
- 2) minimize infiltrations
- 3) maximize PIV durations
- 4) promote ease of use
- 5) be cost effective?





# Evidence Appraisal & Summary

- Over 30 research & non-research articles and guidelines appraised for key EBP:
  - 1) clear tape & dressings,
  - 2) catheter stabilization devices,
  - 3) IV protectors,
  - 4) labeling of dressing,
  - 5) hourly rounding to assess.







# Pilot Testing

- First step -conducted Base line data on 90 PIV (multiple Units)
- 40.42% sites were not visible
- 42% had clear dressings/tape
- 11% had IV Protectors
- 0% had IV Cath Securement Device





# Pilot Testing

- Developed & had manufactured for pilot - IV start kit to incorporate **EBP Bundle\***. Kit contained:

**Clear Dressing\***

**Cath Stabilization Device\***

**Clear Tape\*** – pre-cut chevron & small roll

Tourniquet, Cholorprep, 2X2, IV extension tubing

**IV Protection Device\*** –donated by manufacturer

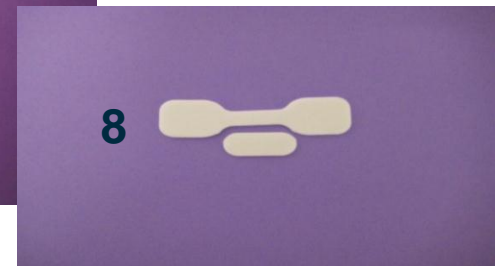




# Pilot Test IV Kit



1. Tourniquet
2. SorbaView
3. Chloraprep
4. Clear tape for chevron
5. Extension set
6. Additional clear tape for securing IV House
7. Gauze
8. HubGuard





# IV Site Protectors







# IV with EBPSecuring





# Pilot Outcomes - PIVs

- **Mean duration of IV access**

Pilot

51.4 hours

Control

38.2 hours

- **Infiltrations**

8 (12.5 %)

12 (18.2%)

- **Clotted**

3 (4.6%)

11 (16.7%)

Dislodgement & leaking rates identical





# Pilot Outcomes: Staff Ease of Use

- Staff evaluated:
  - IV site insertion site clearly or easily visible
  - Ease of use –clear dressing material, cath securement device, & IV protector
- Range of response – 92-100% easy or moderately easy to use





# EBP Next Steps

- Team Decision to move forward – staff informed of results.
- Modification of Kits
- IV Policy updated to include EBP changes.
- EMR Documentation changed.
- “ See Me –See My IV” Education roll-out developed and implemented







## **“See Me, See My IV”**



**Every time you look at me, look at my IV.**



**CookChildren's**<sup>SM</sup>



# PIV Outcomes Baseline to 12 months

Outcomes	Baseline 2008	6 months post 11/10	9 months post 2/11	12 months post 5/11
Site Clearly or Easily visible	<b>58.4%</b>	95%	94%	<b>94%</b>
Site Obscured	<b>40.4%</b>	6%	4%	<b>5%</b>
Use of Clear Dressing	<b>40%</b>	92%	93%	<b>92%</b>
Use of IV Protector	<b>11.7%</b>	81%	80%	<b>81%</b>
Use of Securment Device	<b>0%</b>	74%	75%	<b>76%</b>
Duration of PIV	<b>38.2hrs</b>	62.9 hrs	63 hrs	<b>62hrs</b>





# On-going Outcomes

- Cost Analysis (kits \$1.29 less than individual items estimated savings \$186,00/year)
- Now part of QI on-going audits
- Outcomes disseminated to multiple staff and committees in house, to Magnet Appraisers, at external conference, and developing publication





# ■ Questions??

