Rule Breaker
OVERCOMING VASCULAR ACCESS COMPLEXITIES
JENNIFER BOKOR, BSN, RN, VA-BC

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Jennifer Bokor has been a Registered Nurse for 15 years. She has been a vascular access nurse at St. Joseph's Hospital in Tampa, FL for the last 2 years. She places PICC lines as well as provides care and maintenance on central lines. Prior to becoming a vascular access nurse she spent the majority of her career as a charge nurse on a pediatric medical surgical unit with a complex patient population. Last year she was awarded the clinical nurse excellence award at her facility.

Financial Disclosure
1. Disclosure of relevant financial relationships
   • Clinical Education Specialist for Interrad Medical
   • Vascular Access Nurse, St. Joseph's Children's Hospital, Baycare

2. Disclosure of Off-Label and/or Investigative Uses
   • I will discuss the following off label use and/or investigational use in my presentation: The use of approved medical devices (BioFlo PICC, Angiodynamics and SecurAcath, Interrad Medical) in pediatric patients.
About our Hospital

St. Joseph’s Children’s Hospital (Tampa, FL)
- Pediatric hospital within adult hospital
- 186 Beds
- Level 2 trauma center
- Level 4 NICU
- 23 Critical Care Pediatric Beds
- 64 ICU beds

Vascular Access Team
- Monday-Friday 9am-9pm
- Weekend On-Call

Objectives

1. Identify indications and complications related to vascular access devices specifically in the pediatric population
2. Present solutions for securement alternatives and care practices in pediatric populations
3. Recognize key signs and complications related to MARSI and other adhesive related complications
4. Discuss ability to initiate a new process or add to a current process to improve vascular access outcomes for outside the box needs

Vascular Access in Pediatrics

Growing exponentially
Patients are living longer, therefore requiring longer treatment. This has resulted in frequent replacement of central lines due to complications, as well as growing out of lines.
Vascular Access Devices

- PIV
- Short-Term Central Catheter
- PICC
- Ports
- Umbilical Vein Catheter
- Tunneled Silicone Cuffed Catheter

Tunneled Cuffed Catheter

- Silicone material, with a Dacron cuff
- Usually placed for long-term infusions
- Lower risk of infection than other lines
- Tissue adhesion about 4 weeks after placement
- Once seeded risk of infection decreases.

Vascular Access Complications

About 25% incidence of failure before treatment in completed 6

- 50% decrease in central line-associated bloodstream infections (CLABSI) between 2008 and 2014
- Still a work in progress
- Reported mortality of 12%–25% each year

Lack of vein preservation
Vessel size

Vascular Access Complications
- Thrombus formation
- Catheter related complications
  - Break
  - Occlusion

Medical adhesive related skin injury (MARSI)
- An occurrence in which erythema and/or other manifestations of cutaneous abnormality (including, but not limited to, vesicle, bulla, erosion, or tear) persists 30 minutes or more after removal of the adhesive²

MARSIs
- Elderly and Neonatal population high risk
- 4 different Categories
Gastrochisis

- Gastrochisis is a birth defect of the abdominal wall. The baby's intestines are found outside of the baby's body, exiting through a hole beside the belly button. The hole can be small or large and sometimes other organs, such as the stomach and liver, can also be found outside of the baby's body.
- Necrotizing enterocolitis (NEC) is a common complication that occurs in approximately 20% of all infants with gastrochisis defects.
- Bowel resection and anastomosis are frequently required and this places the infant at risk for short bowel syndrome.
Mya's Story

- Short gut
- TPN dependent
- Tunneled Silicone Cuffed Catheter

Problems
- CLABSI
- Skin Irritation
- Adhesive allergy and sensitivity
- Multiple Replacement of Lines
- Fear of venous depletion

1st Admission
Surgeon’s Plans

1. Port
2. Short term CVL, then replacement of tunneled silicone line
3. PICC
Thinking outside of the box

Securement Options

How to we execute our plan
Rule Breaker

Manager
Director
Local Rep

Surgical Team
Vascular Access Team

The Result

Post Placement
Change in Practice
How many other patients could benefit from this securement device

- Adhesive allergies
- Developmentally delayed
- High risk of dislodgement
- Long-term use: home with PICC line

Rule Breaker                      Rule Follower
Took the product to the Value Analysis Committee and asked for a trial
Trialed the product
Team loved it
Took it back to the Value Analysis Committee with results of the trial

Try Something New?

Other Cases where Securement Device May Be Considered

- 19-year-old oncology patient
  - Needed a PICC line for a 28-day continuous infusion.

- 10-year-old severely Autistic child
  - Had PICCs in the past that she had pulled out.
  - Family feared she wouldn’t be able to complete her 6 weeks of IV antibiotics

- 2-year-old severe Eczema patient
  - Needed 2 weeks of IV antibiotics to treat staph infections
Challenges

Small Extremities  Education

References


It only takes one...