Implementation of an Integrated IV Catheter System: the Vancouver General Hospital Experience

Authors:
Erin Davidson RN, BSN CVAA(c), Tamsin Morgana RN, BSN, MA, France Harvey RN, CVAA (c), Ruth Nicol RN, BSN, Susan Fleming (BD)

Context

Peripheral IV Catheters
- Almost 90% of hospital in-patients receive an intravenous device
- Peripheral IV Catheter (PIV) is the most frequently used device
- Costs and clinical impact of PIVs are often underestimated.
- Every PIV may be handled hundreds of times, by a wide range of clinicians with varying skill levels.
- Complications, such as occlusions, infection, dislodgement, or phlebitis occur frequently and may be costly.
- Blood exposure for staff and patients poses a significant preventable risk.

Specific Aims

Vancouver General Hospital
- 1,500 acute beds and 86,000 annual discharges, vascular access is a critical function.
- The Vascular Access Team (VAT) was called up to 60 times a day to perform routine PIV insertions.
- Nurses were being exposed to blood during PIV insertion with the current products.
- Manipulation of catheter hubs to place extension sets was increasing the risk of complications.
- Policies concerning asepsis and best practice vein selection were not consistently being followed.

Approach

Milestone #1
- Baseline assessments
- Benchmark results with global and local best practice guidelines.
- Examine policies, practices, and products that are a part of vascular access at VGH.
- Perform 145 vascular site assessments, 62 observations

Milestone #2
Policies: Updated policy per guidelines to remove PIV when clinically indicated with PIV reassessment and site care/dressing change at 7 days.
Practices: How to train 5,500 nurses on the policies and best practices to achieve vascular access excellence?
- Identified hot spots where there was a high volume of PIV insertions and significant training needs.
- Extensive in-service training with assistance from BD.
- Shadowing of 400 nurses helped create a team of experts who could support their colleagues.
- On-line, training programs on PIV practices continue to provide support.
Products: The VAT Team partnered with the Professional Practice and Clinical Equipment and Supplies teams to conduct a cost analysis and make a business-case proposal to change to the BD Nexiva™ safety catheter.

Milestone #3
Ongoing Assessment to
- Drive clinician practices to be congruent with worldwide industry standards,
- Assured compliance to policy
- Standardize products and practices.

Outcomes

Vancouver General Hospital partnered with BD
Signature Solutions Vascular Access Management Program to achieve the following improvements.

- Dwell time up 30%
  (Dwell time up to 4 days from 3.1 days)
- First stick success up to 77% from 71%
- PIV removal documentation rate up to 79% from 39%
- Blood exposure decreased to 0% from 25%
- Symptomatic removal rate decreased to 11% from 21%
- Dislodgement rate decreased to 2%
- Calls to VAT team down 50%
  (Decreased to 30/day from 60/day)

References