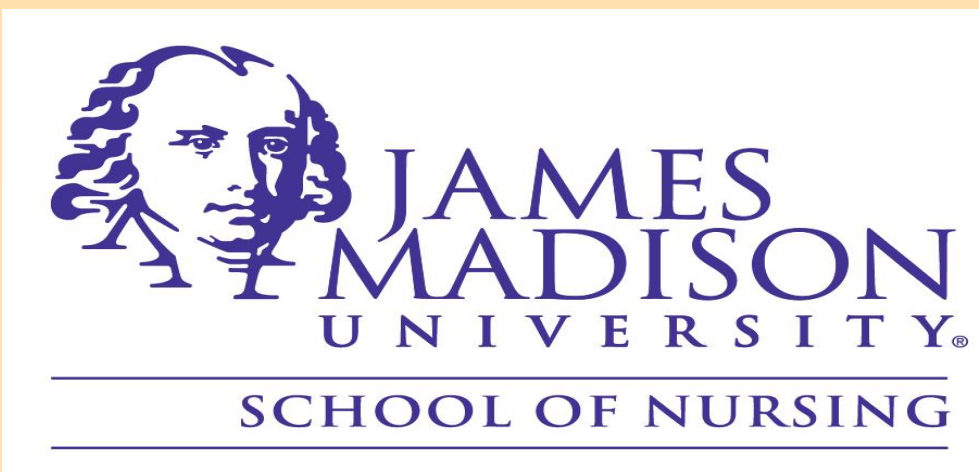




Pilot of a Randomized Trial Comparing Outcomes of Three Types of Peripheral Intravenous Catheters (PIVC): Utilizing the Plan, Do, Study, Act (PDSA) Cycle

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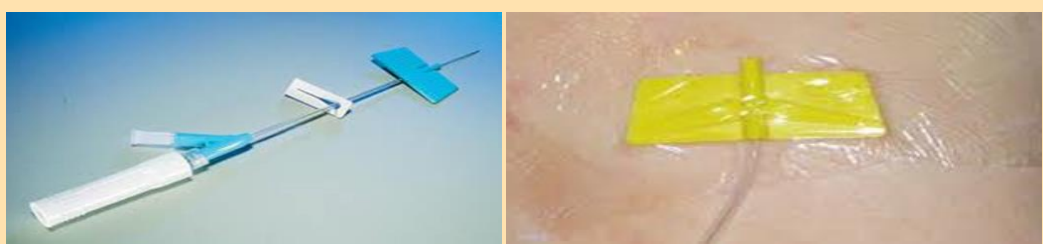
sentara nurse



INTRODUCTION & BACKGROUND

On June 16, 2015 Sentara RMH Medical Center (SRMH) changed peripheral intravenous catheters (PIVCs), for purposes of standardization across a healthcare system.

Previous Product
BD Saf-T-Intima®



The **Saf-T-Intima®** is an all in one closed-system device.

Standardized Product
BD Insyte Autoguard®



The **Bd Insyte Autoguard®** is an open-system device.

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LITERATURE REVIEW

***Phlebitis** (González et al, 2013)

***Infection** (González et al, 2013)

Blood Exposure

(Richardson et al, 2011; Delisio, 2012)

***Unplanned Reinsertions**

(Tamura et al, 2014)

***Complications**

(Bausone-Gazda et al, 2010)

***Dwell Time**

(González et al, 2013)

*Studied with an integrated closed system with stabilization platform

Open-System



Closed-System



PROBLEM STATEMENT

Currently there is no clinical trial evaluating the current standard of practice, an open system PIVC, to two closed system PIVCs, particularly in terms of **patient satisfaction, complications of care, or cost**; making it difficult to ascertain which of the three PIVC systems are best for patients.

PILOT DESIGN

GUIDING MODEL (PDSA CYCLE)	
SETTING	- Cancer Center - Treatment Center - Emergency Department (ED) - Inpatient
ENROLLMENT	- Inclusion/Exclusion Criteria - Consent - Randomization
RESOURCES	- Inserting Clinicians - Inserting Clinicians - PIVC Workgroup
INSTRUMENTS	- BD Saf-T Intima® - BD Insyte Autoguard® - BD Nexiva®
DATA COLLECTION	- Patient Questionnaire - Clinician Questionnaire - Electronic Health Record
DATA ANALYSIS	- Content Analysis % Compliance - Response Rate - Initial Costs

RESULTS

Table 1. PIVC Pilot demographics	
Inserting Clinicians (n=9)	Subject Enrollment (n=36)
ED (n=3)	Unsuccessful Insert (n=2)
Cancer Center (n=2)	Saf-T Intima® (n=9)
Treatment Center (n=2)	Nexiva® (n=20)
Inpatient (n=2)	Insyte Autoguard® (n=7)
Consenting Clinicians (n=7)	Subjects Declining (n=4)
ED (n=1)	Prior to Consent (n=3)
Cancer Center (n=2)	During Consent (n=1)
Treatment Center (n=1)	
Inpatient (n=1)	
Other (n=2)	
Missing data points from PIVC Pilot (n=20)	
Electronic Health Record (EHR) data points (n=6)	
Clinician Questionnaire data points (Paper) (n=4)	
Patient Questionnaire Forms (n=10)	

CONTENT ANALYSIS

Theme	Categories	
Saf-T Intima® Experience	Insertion 5 Hurts Less 4 Comfort 3	Device Design 3 Prefers PIVC 2
Nexiva® Experience	Reinsertion 6 Hurts Less 6 Device Design 6 Easy Insertion 6 More Comfortable 2	Prefers PIVC 2 Difficult Insertion 1 Does not Prefer 1 Easier to Move 1 Difficult to Move 1
Insyte Autoguard® Experience	Bleeding 4 Reinsertion 4 Does not Prefer 3	Hurts More 2 Prefers PIVC 1 No Bleeding 1
Enrollment	Difficulty During Consent 9 Insufficient Numbers 7	
Clinician Role	Staff Knowledge 12 Staff Availability 4 Clinician Training 5 Staffing Issues 6 Staff Professionalism 2	

LESSONS LEARNED

- Obtaining consent was a challenge
- Enrollment was slower than anticipated
- Enrollment in the Emergency Department was not feasible
- Technology development was a barrier to data collection

CLINICAL IMPLICATIONS

- Engage leadership for resource allocation
- Know your resources; engage early
- If possible, avoid areas where patient throughput is critical
- Consider literacy of enrollment population

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