



IV Forum

Reducing Risk in Vascular Access



Guest Speakers

Special THANKS to

Helen Hayes – The Townsville Hospital

Tracey Patrick – Gold Coast Hospital

For Speaking at the 2014 Brisbane IV Forum

The Right Line > The Right Patient > The Right Time > The Right Securement



Vascular Access Outcomes

- Successfully complete infusion therapy
- Reduced VAD related complications
- Reduced number of venepunctures per patient
- Patient Satisfaction
- Optimizing talent

The Right Line > The Right Patient > The Right Time > The Right Securement



Current Trends in VA

- Compliance with National Standards
- Peripheral Cannulation
- Pressure indicated devices
- Midline Catheters
- Specialised Teams

The Right Line > The Right Patient > The Right Time > The Right Securement



National Safety and Quality Health Service Standards



Standard 3 – Preventing and Controlling Healthcare Associated Infections

The Right Line > The Right Patient > The Right Time > The Right Securement

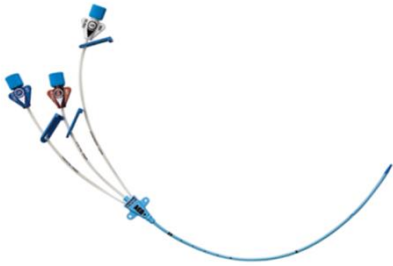
Central Line Associated Bloodstream Infection Issues

- **17%** of Australian ICU patients receive CVCs¹
- 3500 annual reported cases
- Clinicians do not comply with evidence-based infection control practice recommendations
 - compliance with the clinician bundle between 61% to 90% & with the patient bundle between 74.1% to 91.8%²
 - overall hand hygiene compliance in Australia is only **78.3%** (CI 95% 78.2-78.3)³
- Limited data regarding line management, securement, access and management

1. Halton, K. A., Cook, D. A., Whitby, M., Paterson, D. L., & Graves, N. (2009). Cost effectiveness of antimicrobial catheters in the intensive care unit: addressing uncertainty in the decision. *Critical care*, 13, R35.

2. McLaws, M. L., & Burrell, A. R. (2012). Zero risk for central line-associated bloodstream infection: are we there yet? *Critical care medicine*, 40, 388-393.

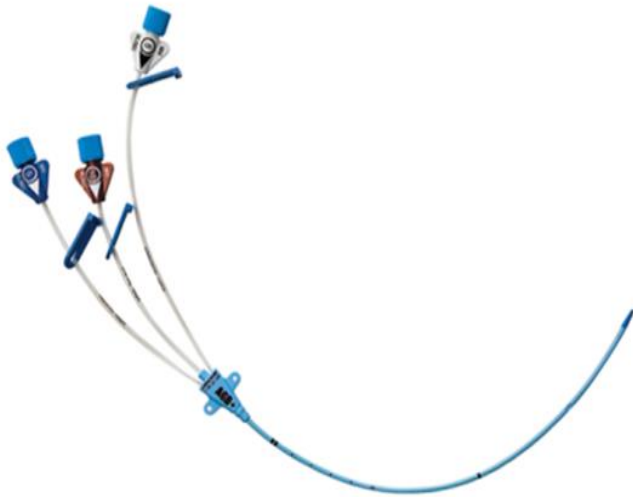
3. Hand Hygiene Australia, National Data Period Two, 2013 <http://www.hha.org.au/LatestNationalData.aspx> Accessed 06/10/2013



Source: Infect Med © 2004 Cliggett Publishing, Division of SCP Communications

Recommended Protection

Use a chlorhexidine /silver sulfadiazine or minocycline /rifampin impregnated CVCs in patients whose catheters are expected to be > 5 days (Category 1A)



Antiseptic



Antibiotic

Peripheral IV Access

- **72 hour change**
 - **Hand insertion**
 - **Unknown failure rate**
 - **Elimination of IV teams**
-

Routine versus clinically indicated replacement of peripheral intravenous catheters: a randomised controlled equivalence trial

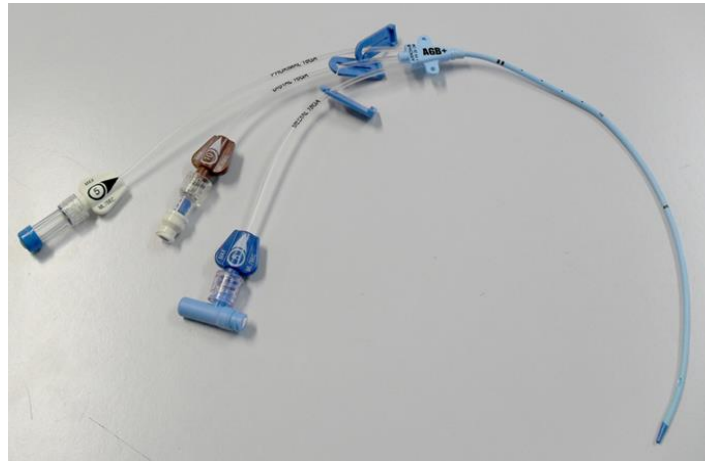
Claire M Rickard, Joan Webster, Marianne C Wallis, Nicole Marsh, Matthew R McGrail, Venessa French, Lynelle Foster, Peter Gallagher, John R Gowardman, Li Zhang, Alice McClymont, Michael Whitby

Summary

Lancet 2012; 380: 1066-74 **Background** The millions of peripheral intravenous catheters used each year are recommended for 72-96 h

The Right Line > The Right Patient > The Right

Pressure Indicated Devices

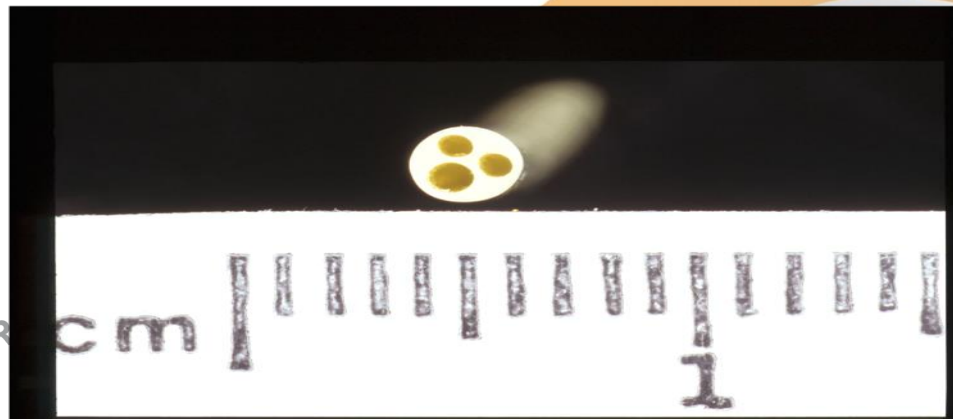


- 15psi

- 300psi



The Right Line > The Right Patient > The Right



Midline Catheters

The Use of Midline Catheters in the Adult Acute Care Setting – Clinical Implications and Recommendations for Practice

Evan Alexandrou, Lucie M. Ramjan, Tim Spencer, Steven A. Frost, Yenna Salamonson, Patricia M. Davidson, Ken M. Hillman

Abstract

The safety and efficacy of midlines compared to peripherally inserted central catheters for adult cystic fibrosis patients: A retrospective, observational study

Rebecca Sharp^{a,*}, Adrian Esterman^a, Helen McCutcheon^b, Neville Hearse^c, Melita Cummings^c

^a School of Nursing and Midwifery, University of South Australia, Adelaide, Australia

^b Florence Nightingale School of Nursing & Midwifery, King's College London, United Kingdom

^c Department of Radiology, Royal Adelaide Hospital, Adelaide, Australia

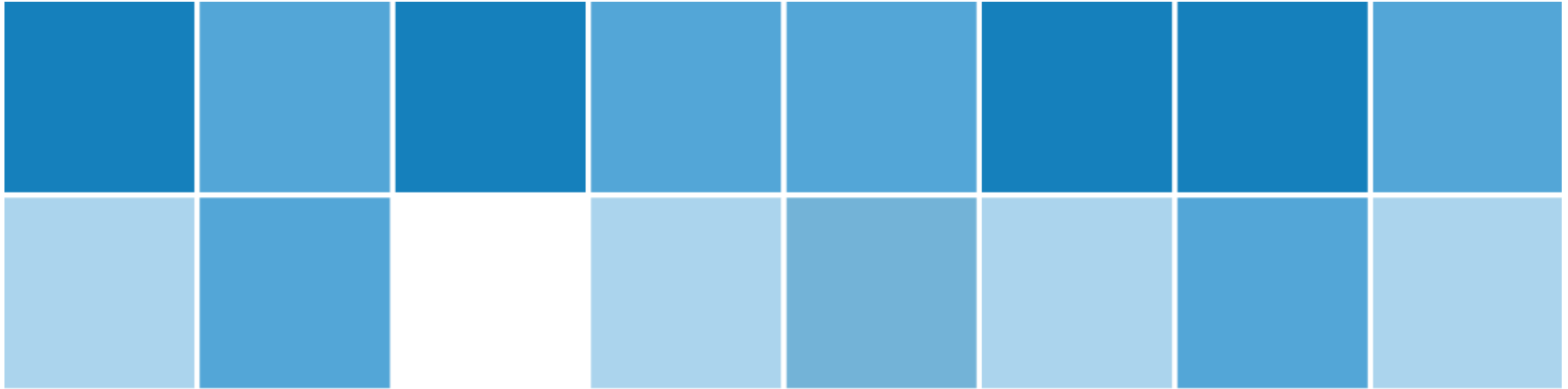
Specialised Teams

Central Venous Catheter Placement by Advanced Practice Nurses Demonstrates Low Procedural Complication and Infection Rates—A Report From 13 Years of Service

Evan Alexandrou, RN, MPH^{1,2,3,4,5,6}; Timothy R. Spencer, RN BHealth^{2,3,4}; Steven A. Frost, RN, MPH^{1,2,4,7,8}; Nicholas Mifflin, RN BNursing^{3,4}; Patricia M. Davidson, RN, PhD⁵; Ken M. Hillman, MD^{4,7,8}

Nurse-led central venous catheter insertion—Procedural characteristics and outcomes of three intensive care based catheter placement services

Evan Alexandrou^{a,c,d,g,h,i,*}, Margherita Murgob^b, Eda Calabria^b, Timothy R. Spencer^{c,d,g}, Hailey Carpen^e, Kathleen Brennan^{d,f}, Steven A. Frost^{a,g}, Patricia M. Davidson^h, Ken M. Hillman^{d,j}



Advancing the Scope of Vascular Access

Infusion Therapy PICC Service Gold Coast University Hospital

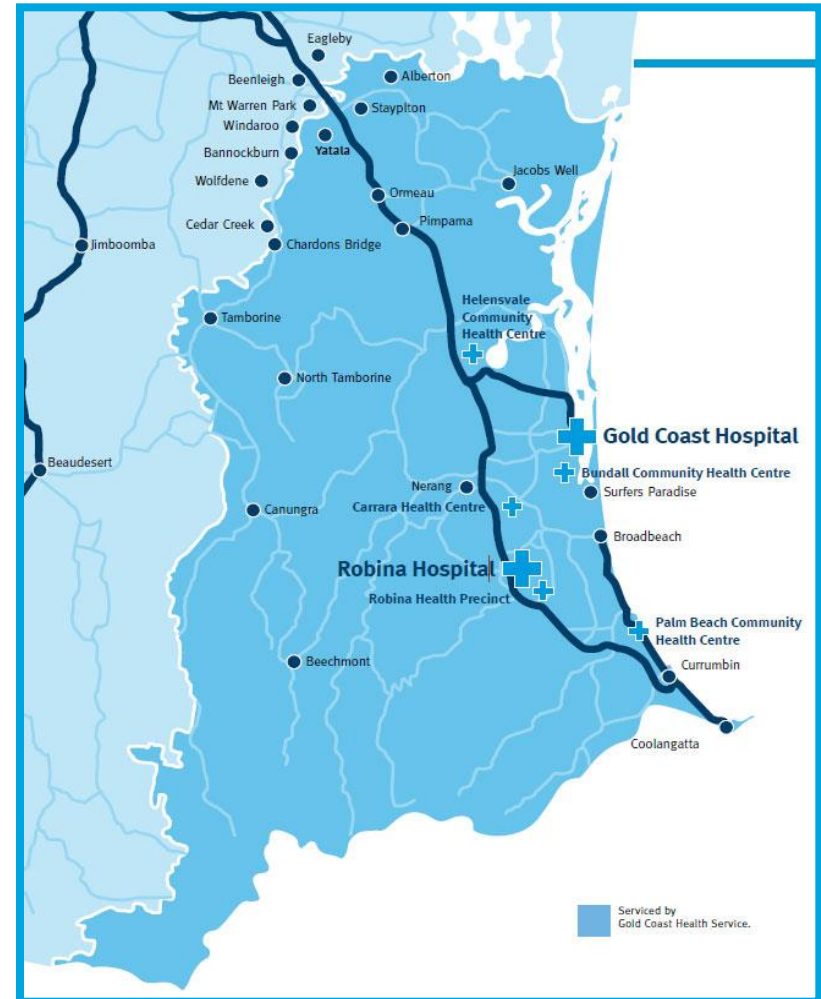
Tracey Patrick

Clinical Nurse Consultant PICC Insertion

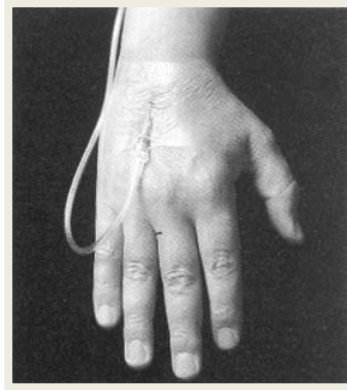
Demographics

- **GCHHS area**
- **GCUH- 750 bed**
- **Robina- 364 bed**
- **Carrara- 63 bed**

- **X3 Community Health Centres**



The Start of Our Journey



Moving Forward...

“If we could insert PICCs, we could run this procedure room so much more efficiently.”

Commencement of a Nurse Led PICC Insertion Service

- **Achieve Clinical competence**
 - **Medical mentors**
 - **Specialty training**
- **Service Delivery**
 - **Dedicated PICC insertion days**
 - **Staffing**

PICC CHICK's in action in the early days...



Establishing our Service



A small step into MID



Move to GCUH MID



...home sweet home...



World of Fluoroscopy



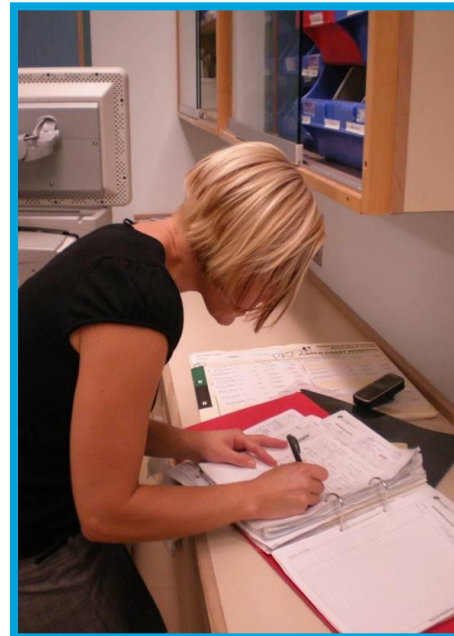
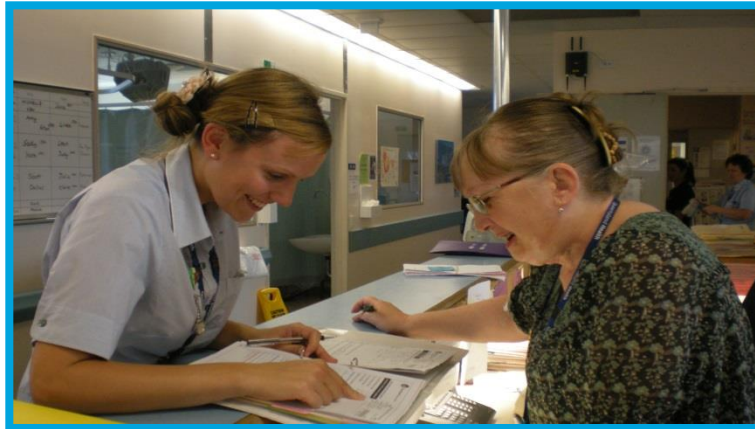


The ‘PICC CHICK’ Team Today

PICC Insertion Service



Monitoring & Surveillance



Data Collection

Patient Details

Firstname	Surname	UR	DOB	Age
Peter	Picc	345676	6/06/1966	

Ward	Diagnosis	Clinician	Complication
AMU	osteomyelitis L knee	T Patrick	confirmed Infection

Catheter Type	Where	Cath Ins Site	Date In	Date Out
PICC	ICU PR	L Bas	29/07/2010	27/08/10

Ward days	30	TPN start		<input checked="" type="checkbox"/> outpatient
ICU days	0	TPN end		Moved To
Total days		TPN Duration		REHAB

Comments: uneventful insert 5cm external tip low SVC

TipCulture:	Staph aureus (MRS)	
TipGrowth:	50-100 CFU	
B-C Collected:	peripheral	
BloodOrganism:	Staph aureus (MRS)	
BSI Confirmed:	<input checked="" type="radio"/> Yes <input type="radio"/> No	
BSI Notes:	Catheter Out Ward: HOMETEAM	
CRBSI confirmed with Microbiology & Infection Control		

Check This if you want this record to be deleted

GCH Infusion Therapy XP


GCH CVC Database

Robina Campus v2.5 August 06, 2008

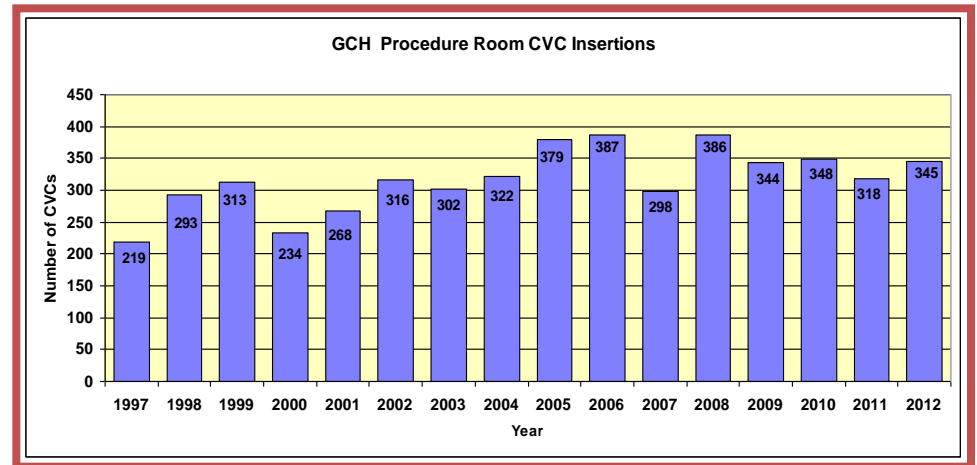
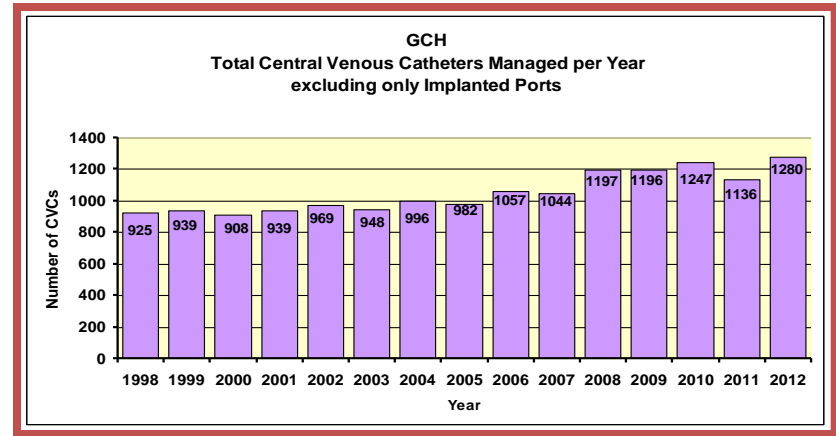
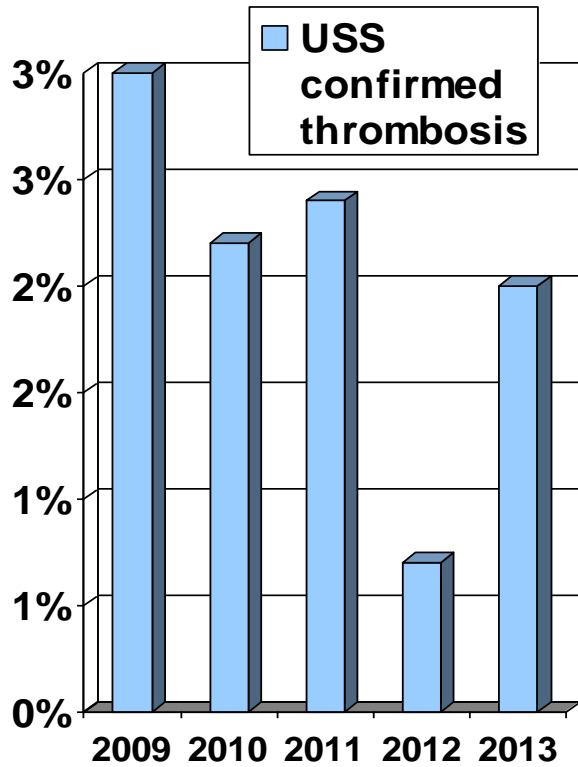
- Patients
- Multi-Episode View
- Reports
- Exit

Export To Excel

Delete Marked Records



STATS



Auditing

Gold Coast Infusion Therapy Department
 PICC/CVC Audit

Date: Ward: Auditor:

Bed	UR	Device Type	Site	Dressing Type	Dressing on Patient	Bungs Correct for Device	Patency correct for management	Appropriate Labels on Giving set	On Care Plan
		<input type="checkbox"/> PICC <input type="checkbox"/> PICC-D <input type="checkbox"/> CVC <input type="checkbox"/> CVC-T		<input type="checkbox"/> Teg.IV <input type="checkbox"/> Other Reason:	<input type="checkbox"/> Intact <input type="checkbox"/> Dated <input type="checkbox"/> Ext cath. Under Dx <input type="checkbox"/> Up & out on arm <input type="checkbox"/> Notch closed	<input type="checkbox"/> Yes <input type="checkbox"/> No	<u>Main Lumen</u> <input type="checkbox"/> Yes <input type="checkbox"/> No <u>Spare lumens</u> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Pump if IVT	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dated <input type="checkbox"/> N/A	<input type="checkbox"/> Dwell days <input type="checkbox"/> Dressing Due ? Day <input type="checkbox"/> Insertion details <input type="checkbox"/> Site inspect <input type="checkbox"/> 4/24 Temp
		<input type="checkbox"/> PICC <input type="checkbox"/> PICC-D <input type="checkbox"/> CVC <input type="checkbox"/> CVC-T		<input type="checkbox"/> Teg.IV <input type="checkbox"/> Other Reason::	<input type="checkbox"/> Intact <input type="checkbox"/> Dated <input type="checkbox"/> Ext cath. Under Dx <input type="checkbox"/> Up & out on arm <input type="checkbox"/> Notch closed	<input type="checkbox"/> Yes <input type="checkbox"/> No	<u>Main Lumen</u> <input type="checkbox"/> Yes <input type="checkbox"/> No <u>Spare lumens</u> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Pump if IVT	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dated <input type="checkbox"/> N/A	<input type="checkbox"/> Dwell days <input type="checkbox"/> Dressing Due ? Day <input type="checkbox"/> Insertion details <input type="checkbox"/> Site inspect <input type="checkbox"/> 4/24 Temp
		<input type="checkbox"/> PICC <input type="checkbox"/> PICC-D <input type="checkbox"/> CVC <input type="checkbox"/> CVC-T		<input type="checkbox"/> Teg.IV <input type="checkbox"/> Other Reason:	<input type="checkbox"/> Intact <input type="checkbox"/> Dated <input type="checkbox"/> Ext cath. Under Dx <input type="checkbox"/> Up & out on arm <input type="checkbox"/> Notch closed	<input type="checkbox"/> Yes <input type="checkbox"/> No	<u>Main Lumen</u> <input type="checkbox"/> Yes <input type="checkbox"/> No <u>Spare lumens</u> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Pump if IVT	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dated <input type="checkbox"/> N/A	<input type="checkbox"/> Dwell days <input type="checkbox"/> Dressing Due ? Day <input type="checkbox"/> Insertion details <input type="checkbox"/> Site inspect <input type="checkbox"/> 4/24 Temp
		<input type="checkbox"/> PICC <input type="checkbox"/> PICC-D <input type="checkbox"/> CVC <input type="checkbox"/> CVC-T		<input type="checkbox"/> Teg.IV <input type="checkbox"/> Other Reason:	<input type="checkbox"/> Intact <input type="checkbox"/> Dated <input type="checkbox"/> Ext cath. Under Dx <input type="checkbox"/> Up & out on arm <input type="checkbox"/> Notch closed	<input type="checkbox"/> Yes <input type="checkbox"/> No	<u>Main Lumen</u> <input type="checkbox"/> Yes <input type="checkbox"/> No <u>Spare lumens</u> <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Pump if IVT	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Dated <input type="checkbox"/> N/A	<input type="checkbox"/> Dwell days <input type="checkbox"/> Dressing Due ? Day <input type="checkbox"/> Insertion details <input type="checkbox"/> Site inspect <input type="checkbox"/> 4/24 Temp

Education



Future...



THANK YOU

Acknowledgements

Tanya Clark

Rhonda Wright

Sheila Sams

Lynelle Foster

MID GCUH

Mayohealthcare

The Townsville Hospital Nurse led PICC Journey



- Helen Hayes
- Medical Imaging Department 2002



History

- July 2002
- 5 nurses
- Limited US guided interventions



- Arm ready to go !



Today



- 60 PICC's month
- 12 PICC nurses

- Very high success rate
- Very enthusiastic group



- Screen used in D.S.A



- **Medical Imaging PICC Team / PICC Insertion** **Date:** / /
- Explanation given & consent obtained
- PICC Type: Arrow / Arrow CT Power PICC / Bard
- Gauge: 3fr 4fr 5F Dual 1% lignocaine _____mls
- Inserted into: L R _____ vein
- Catheter Length: _____ Catheter Exposed: _____
- Good blood return Easy to flush
- Post-insertion x-ray Tip Position: SVC
- Statlock applied Sterile technique
- Positive Displacement Bung Saline Flush
- Biopatch & Dressing **LOT NO** _____
- **LINE CAN BE ACCESSED NOW**
- PICC Inserter: _____ Signed _____
- **Any problems please contact the Medical Imaging PICC Team:**
- **BUSINESS HOURS ONLY. Mon - Fri on 3616**
- After hours contact your Doctor on call

- **PICC LINE CARE**

- **Use aseptic, non-touch technique for all PICC line care**

-

- Biopatch & Tegaderm dressing change weekly (**more often if soiled, lifting or moist**).

- Change Positive Displacement Bung & Statlock securing device weekly.

- Where possible keep IV fluids infusing through PICC

- Don't regularly disconnect & reconnect line for patient convenience.

- **Flush the PICC** line after use with Normal Saline **10ml syringe or larger only**.
PICC flush to be repeated every day when not in use and **flush immediately** when an **infusion is finished**.

- Avoid taking blood pressures on arm with PICC line insitu.

- **Contact Medical Imaging PICC Team if the patient has:**

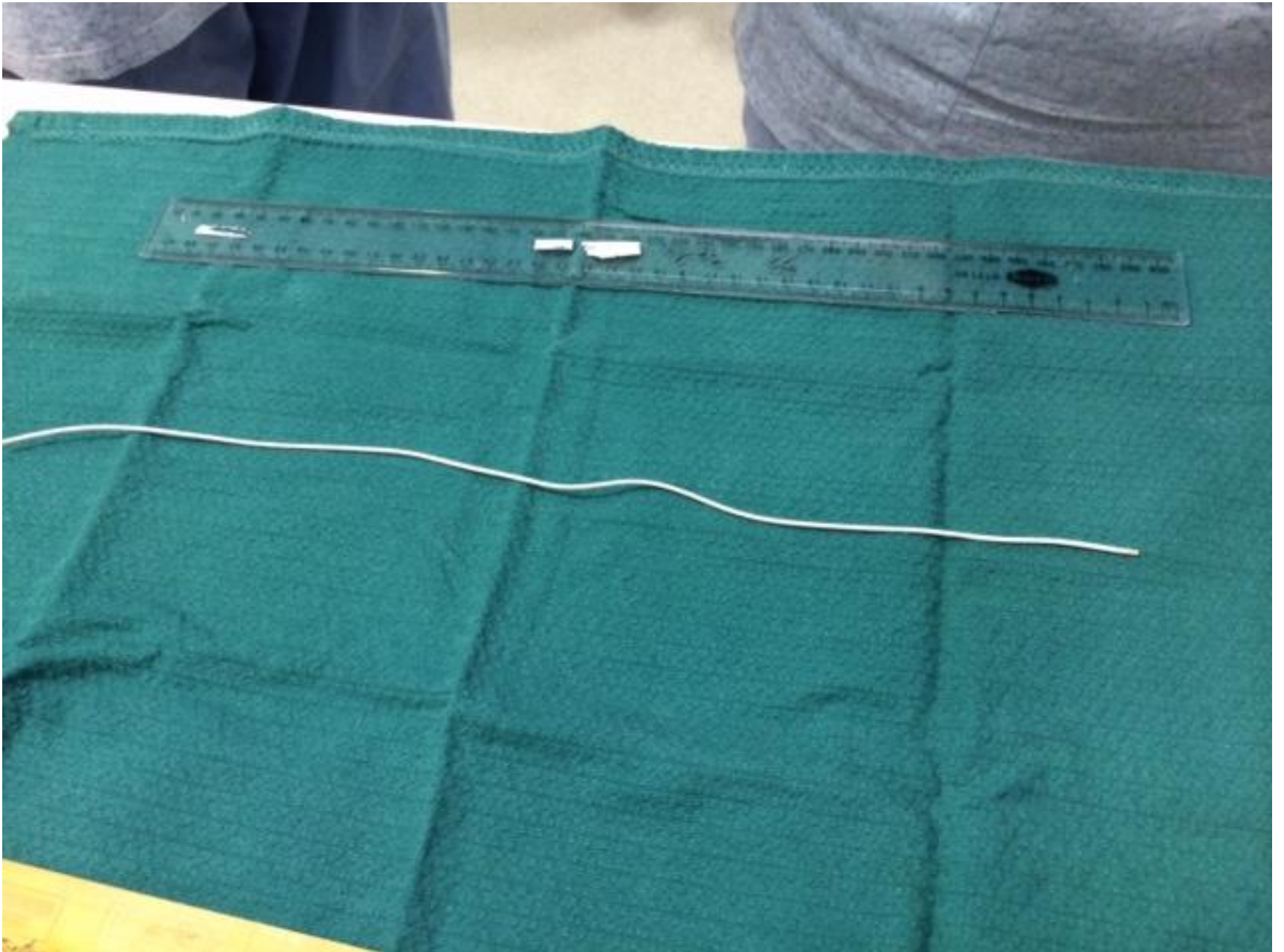
- **Partially dislodged PICC, Blocked or damaged/leaking PICC line as this may be reversible, repaired or exchanged.**

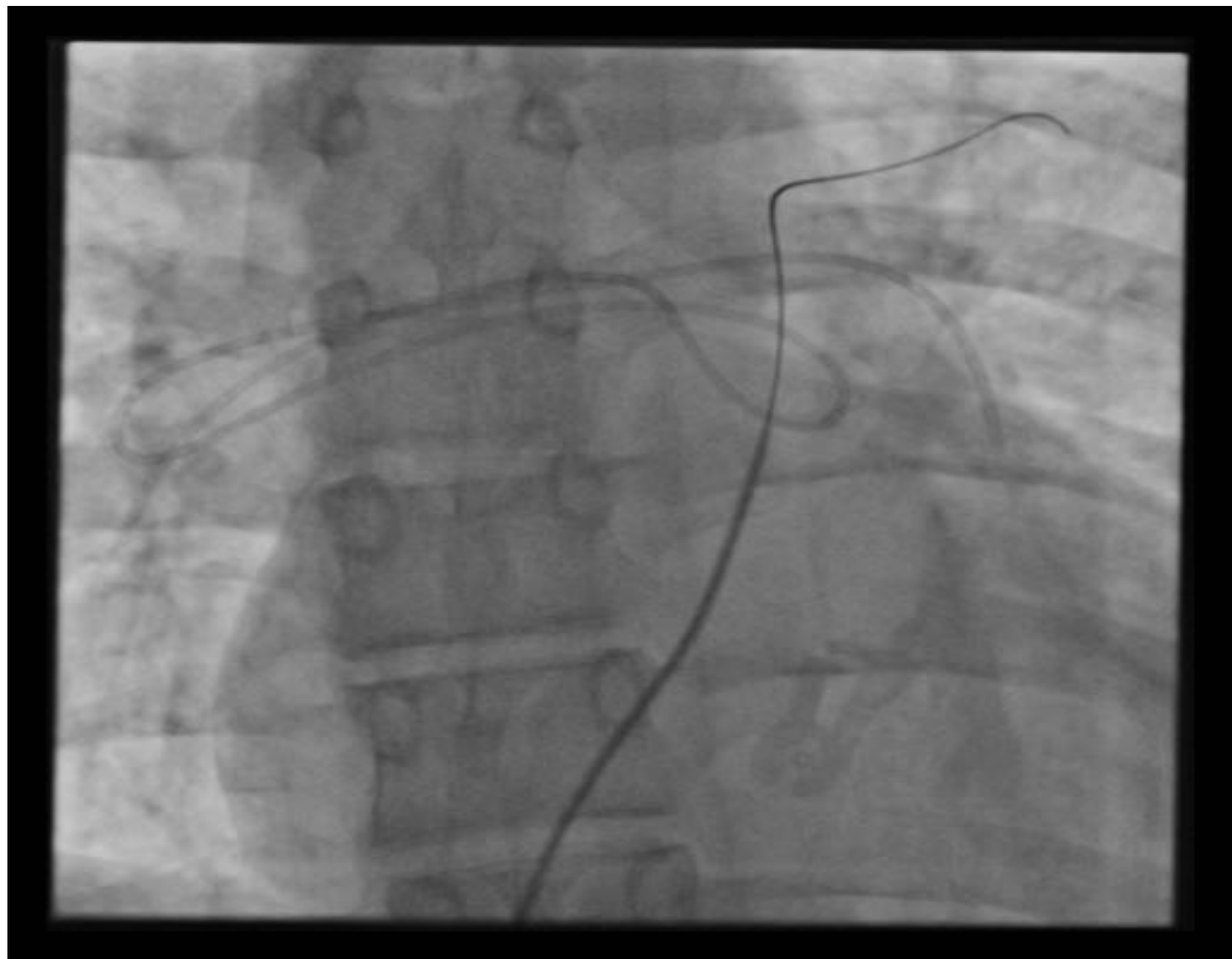
- **PICC Team BUSINESS HOURS ONLY. Mon – Fri 3616**

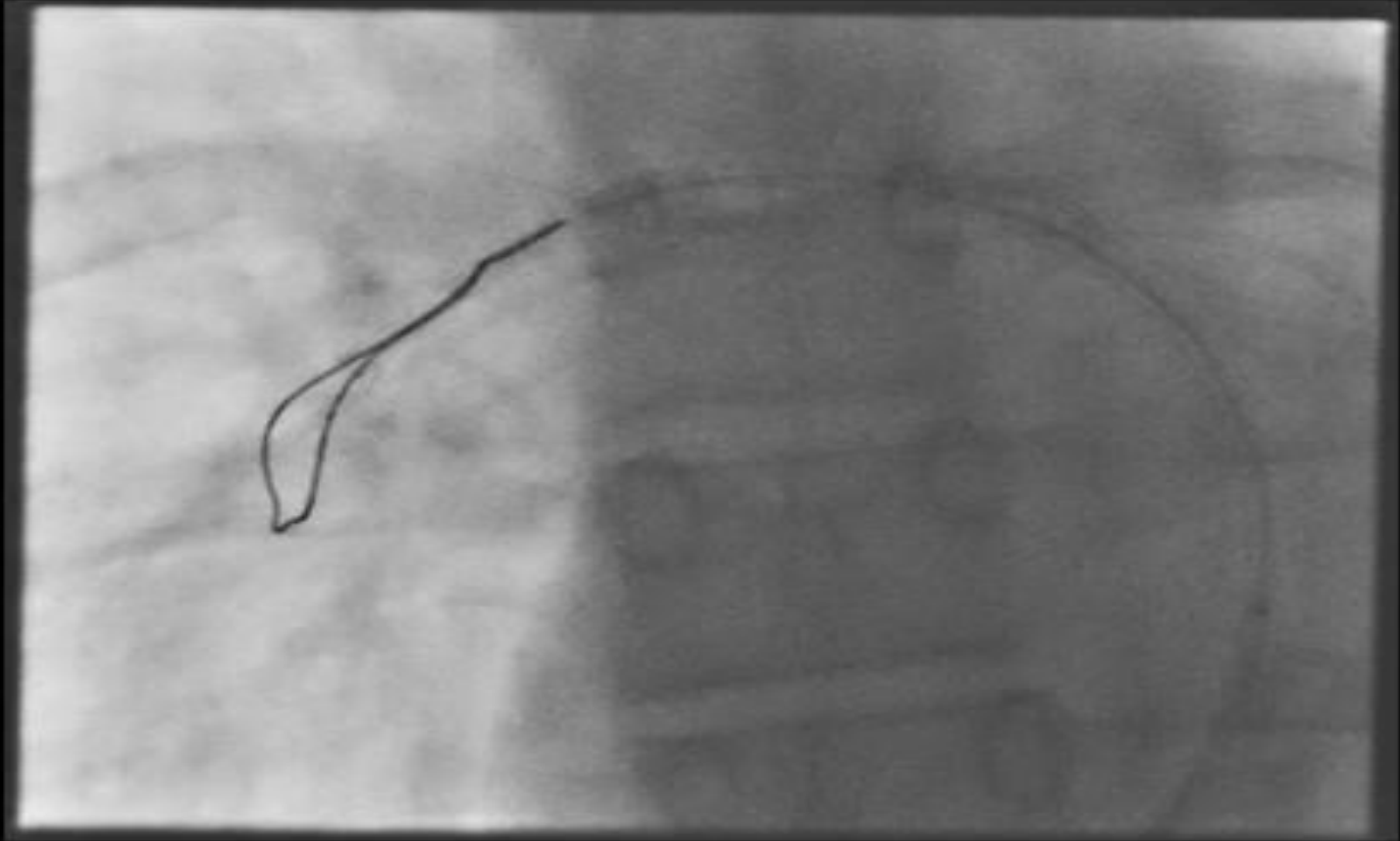
- After hours contact your Doctor on call

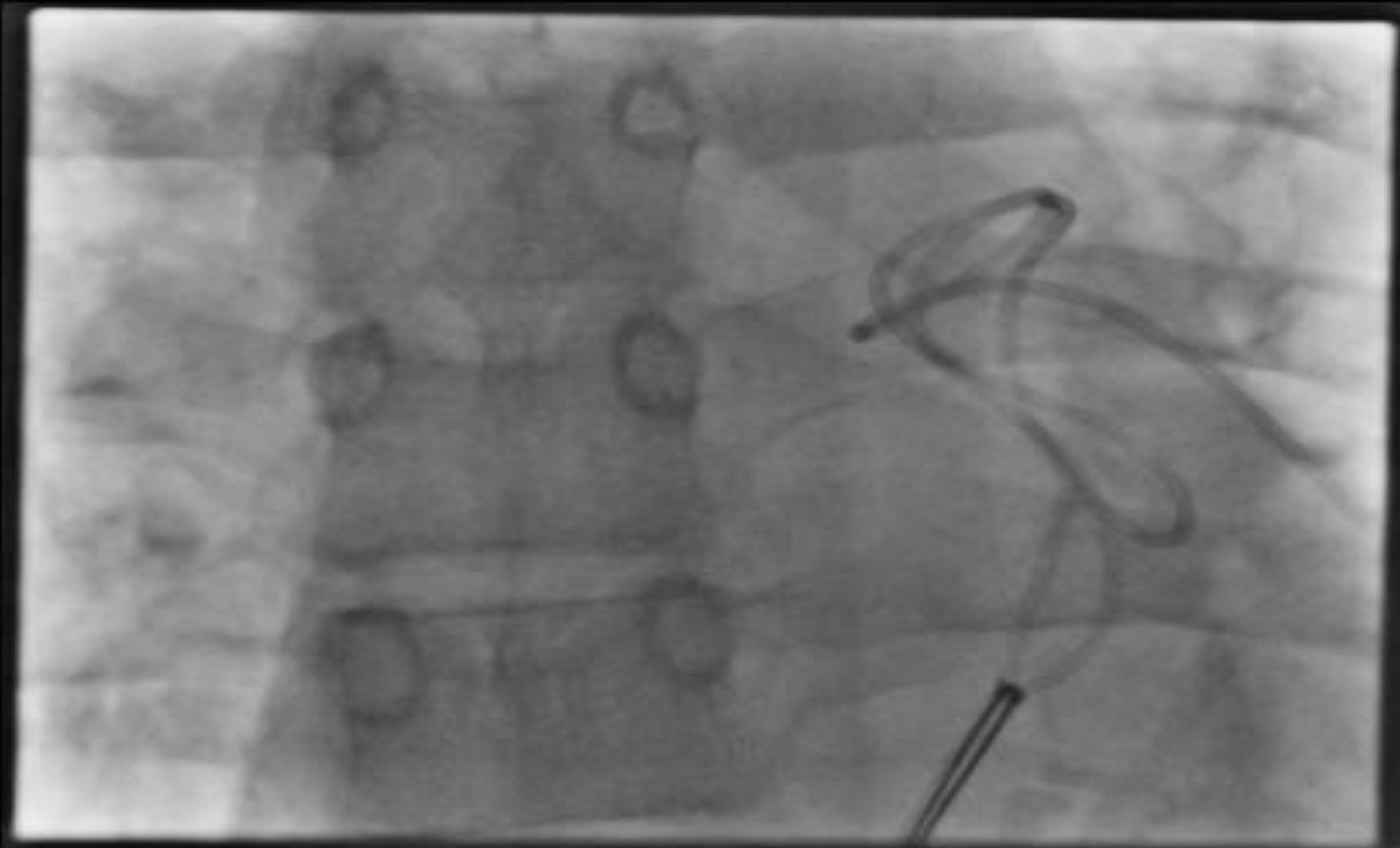
Issues

- Re-insertion rates
- Different Lines trialled
- Post insertion Education
- Bariatric Patients
- Low platelets
- Room availability









Engage in VA

- WoCoVa - Berlin, Germany June 18-21
- Association for Vascular Access Sept 7-10th
- Professional Interest Groups= AVAS

twitter@AVASociety

www.avas.org.au

austvasociety@gmail.com

The Right Line > The Right Patient > The Right Time > The Right Securement





mayohealthcare
australia
hospital·home·life

AVA



2014

Association for Vascular Access
ANNUAL SCIENTIFIC MEETING
September 7-10 - National Harbor, MD