



Peripheral Intravenous Cannulation Around NZ

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Overview - Nurse Specialist Forum March 2017

OVERVIEW – South Island PIVs

1. Ellen Jones – IV Clinical Nurse Specialist Southland DHB
2. Ally Hale – IV Nurse Educator Bidwell Private Hospital Timaru
3. Kerry Davis – IV Nurse Educator Dunedin Mercy Hospital
4. Brooke Heald – RN southern Cross Hospital Christchurch

OVERVIEW – Waikato DHB

Jenny Heretini – Infusion Clinical Nurse Specialist Waikato DHB

RESEARCH & NZ Review

1. Dr Claire Rickard – Griffith University PIV Overview of latest research presentation
2. National discussion on PIV Practice

South Island Overview

Private Sector South Island


- Many hospitals part of the OMG study of 2014 – Over 1 million PIVs audited
- Education - Centralised for South Island both Private and Public
- Documentation Issues
- Combination of Nurse and Doctor lead insertions
- Overall Lack of understanding – Site selection, device selection, securement and ongoing monitoring of site
- All sites agree that resourcing of ongoing monitoring through surveillance and auditing
- All sites moving towards clinically indicated dwell time but foundational work being done

Waikato DHB – Jenny Heretini

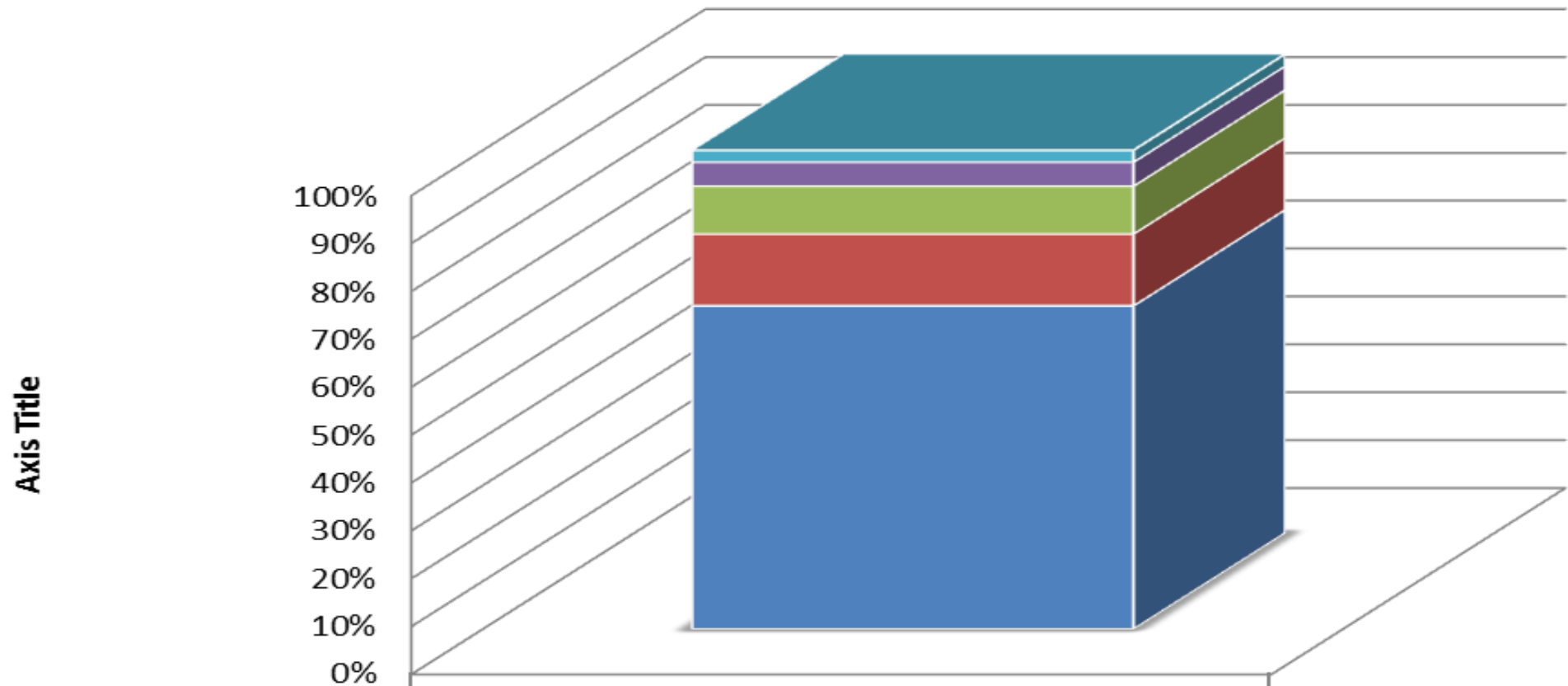
Why Longitudinal Audit – Life of a PIV?

- Clinically indicated dwell time since 2011 – With Limitations in place

Overall positive observations	%
Overall compliance with hand hygiene	75%
Use of appropriate gauge cannula 22-20G	80%
Insertion documentation completed	95%
Use of extension set or exemption	80%
Treatment completed without complication	67%
Bloods being taken from cannula post insertion once patient in the clinical areas	0%



Reason for removal - from 40 PIV cannula



	Reason for removal
Blocked	1
Accidental removal	2
Infiltration	4
Phlebitis	6
Treatment completed	27

2018 – Clinically Indicated Dwell Time Trial & SAB MONTHLY AUDITS



- No Pain on flushing
- No Pain on palpation

CRITERIA FOR REMOVAL



If Any IV Has Not Been Used For the Last 24 Hrs or Clinical Signs From Below PERIPHERAL IV MUST BE REMOVED

R	R edness – at the insertion site greater than 2mm
E	E xudate – any serous ooze, pus or purulent discharge. TAKE SWAB
M	W ar M th – any signs of inflammation and warmth at the site
O	O edema – any signs of infiltration /extravasation or swelling around the insertion site. Cool to touch
V	V enous Cord – on palpation the vein is hard to touch and extends up the arm
E	L eakage – of fluid at the insertion site, skin tight. Skin blanching and cool to touch

If any of the above criteria are evident, proceed with removal of the peripheral IV. Please complete a DATIX report & document in the clinical notes

Waikato DHB Peripheral Intravenous Line Audit Tool


Patient Sticker: _____ Admission Date: ___/___/___
Date of Luer insertion: ___/___/___

Section One

Size: 14g orange 16g grey 18g green 20g pink 22g blue 24g yellow Unknown

Insertion:

Side of insertion:	Right /	Left /
Hand		
ACF		
Lower Arm		
Upper Arm		
Other:		
Where Inserted (Please circle)	Pre hospital /	MDHB Hospital /
	Unknown	



Dressing Information: Yes / No X		Luer Observation: Yes / No X	
Dressing Correct		Unable to observe	LOOK
Date / time		Pain on palpation	TOUCH
Tubing secured		Pain on flushing	FLUSH
Insertion site visible		Red	LOOK
Extension set used		Warmth	TOUCH
Dressing - Tegaderm		Oedema	LOOK

Luer Observations: Yes / No X		Yes / No X	
Smart site/luer plus		Extension set with smart site/luer	

If you have answered yes / to any of the luer observation question please complete section two

Section Two

	Yes /	No X	Dwell time (hours)	Yes /	No X
Palpable cord			24 48 72 96 other: _____		
Purulent discharge			Has the cannula been used in the last 24 hours		Removed cannula if not used in last 24 hours
Streak formation			Does the patient have any post infusion phlebitis		Type of infusion: _____

"No Pain Can Remain!"
Any signs of pain, phlebitis or infection Remove Luer Now!


Section Three:

Summary of Findings:

Section Four:


Action Plan / Recommendations for this IV Luer Observed: (Please place N/A if there are not any)

Action	By Whom	By When	Completion Date



- No Pain on flushing
- No Pain on palpation

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Dr Claire Rickard – Research Overview

- 5,907 PIVs from 3 hospitals
- INFECTION 0.017%
- PHLEBITIS (1 sign/symptom) 5%
- OCCLUSION/INFILTRATION 26%
- **D**ISLODGE**M**ENT 6%



Lancet Rickard et al 2012; Wallis et al ICHE 2014

Intravascular device use, management, documentation and complications: a point prevalence survey

Karen A. New^{1,2,4} RN, PhD, Nurse Researcher

Joan Webster^{1,2,3} RN, BA, Nursing Director, Research

Nicole M. Marsh^{1,3} RN, BN, Project Manager

*Barbara Hewer*¹ RGON, BN, Clinical Nurse Consultant, Vascular Access Devices

on behalf of the Royal Brisbane and Women's Hospital Intravenous Access Research Council

- 25% of dressings were **NOT** clean, dry and intact
- **Seven** different primary dressings & securements in use, plus many more added on top

European Journal of Oncology Nursing 18 (2014) 231–235



ELSEVIER

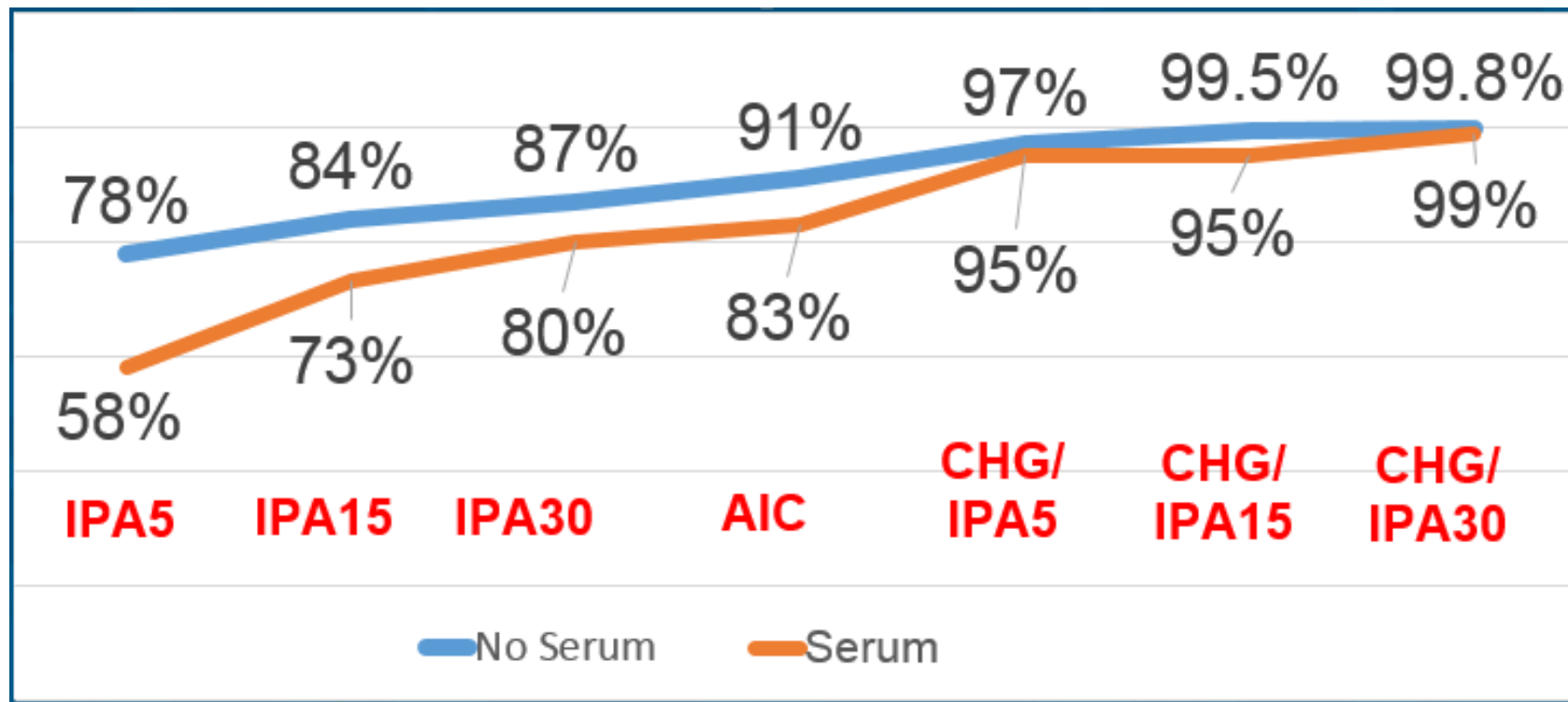
Contents lists available at [ScienceDirect](#)

European Journal of Oncology Nursing

journal homepage: www.elsevier.com/locate/ejon

A point prevalence study of cancer nursing practices for managing intravascular devices in an Australian tertiary cancer center

Emily Russell ^{a,*}, Raymond Javan Chan ^{a,c}, Nicole Marsh ^{b,c}, Karen New ^{b,d}



Flynn J et al Infection Control & Hospital Epidemiology 2017

Percentage of microbes prevented from passing through the connector



Many studies report complications do not increase over time

Day	1	2	3	4	5	6	7
PIVs	542	1326	1627	1218	563	281	142
Phlebitis	5%	6%	5%	3%	5%	2%	2%

Day	8	9	10	11+
PIVs	85	42	27	54
Phlebitis	2%	7%	4%	0%

Rickard Lancet 2012.
Australia

Bloodstream infections can occur any time

- 5 years at 1 large hospital in Australia. Stuart MJA 2013
- 137/583 (24%) of all SABs were associated with PIVs

SAB BSI	Yes SAB	No SAB
< 4 Days	75 (55%)	?
4+ Days	62 (45%)	?

What if we knew the denominator (how many PIVs were used)?

SAB BSI	Yes SAB IVs	No SAB IVs
< 4 Days	75 (0.2%)	34,925 (99.8%)
4+ Days	62 (0.4%)	14,938 (99.6%)

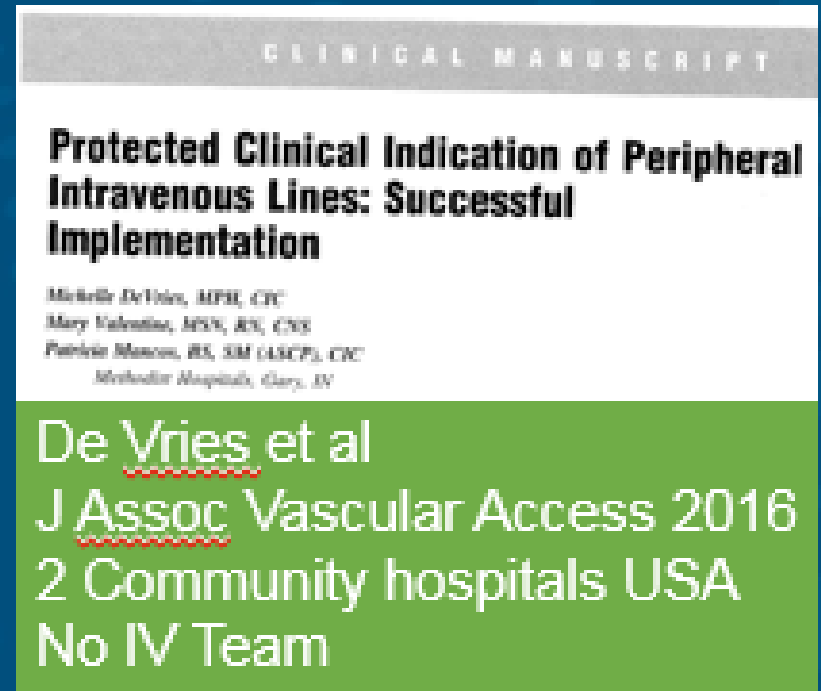
PER PATIENT or PER 1000 hours the risk is the same.

Implementation of clinically indicated replacement – case study

First...a Bundle was implemented:

1. CHG skin prep
2. Sterile glove insertion
3. IV with integrated extension set
4. CHG sponge
5. Securement dressing
6. Alcohol caps

2nd Clinically Indicated policy implemented



37% reduction in primary bacteraemias
Purchase of PIV start kits down 48%
35% of PIVs in place for 5+ days

New Zealand overview

- Most DHBs around New Zealand have a senior nurse role involving infusion/intravenous therapy
- All these DHBs communicate together. IVNNZ provides a platform
- 13 DHB's use Lippincott procedures
- The only DHBs in NZ that work in isolation are some of the Auckland DHBs including Starship
- Concerns around infusion therapy practice in Auckland DHB including Starship
- IVNNZ CVAD workshop held in Auckland 3-4 times annually

Many thanks