



Government of **Western Australia**
Department of **Health**

Insertion and Management of Peripheral Intravenous Cannulae in Western Australian Healthcare Facilities Policy

A journey towards state-wide standardisation of practices

Presented by: Sharon Kenny - Project Officer

Healthcare Associated Infection Unit
Communicable Diseases Control Directorate

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Learning objectives for this session:

Summary of WAPPS survey and the IC recommendations that led to the development of the PIVC management OD

Outline of key issues targeted / reviewed relating to PIVC management including an update on the progress of the OD

Background to the WAPPS

- National Safety and Quality Health Service (NSQHS) Standards introduced requiring all health services to demonstrate regular monitoring and improvement strategies relating to the use of policies, protocols and procedures
- Quality Improvement and Change Management (QICM) unit identified an opportunity to conduct a system-wide point prevalence survey building on the methodology developed by Wounds West for the statewide wound prevalence surveys conducted from 2007 to 2011



WAPPS 2014
SUMMARY REPORT

WAPPS (WA Point Prevalence Survey)

- Inaugural Safety and Quality Survey conducted in May 2014
- 14 metropolitan and 6 country WA hospitals surveyed, addressing 6 safety and quality topic areas based on the National Safety and Quality Health Service (NSQHS) Standards
- Aim - to gather and analyse data on 6 topic areas and assess WA Health service providers' current performance against the standards measured
- Project involved close partnership between the Department of Health, health services and hospitals across WA Health, over 400 surveyors and over 3,000 patients



WAPPS 2014
SUMMARY REPORT

WAPPS Methodology

Each of the metropolitan hospitals was surveyed on one day during the month using a standardised audit tool.

The 6 topic areas were:

- ☐ healthcare associated infections
- ☐ medication safety
- ☐ patient identification
- ☐ pressure injuries prevention and management
- ☐ falls prevention
- ☐ venous thromboembolism (VTE) prevention.



Criteria for Healthcare Associated Infection for WAPPS

- NSQHS Standard 3.8 - “management of invasive devices” chosen in response to the HISWA data, as an appropriate criterion for HCAI
- Reporting of Healthcare Associated *Staphylococcus aureus* blood stream infections (HA-SABSI) to Healthcare Infection Surveillance WA (HISWA), is a mandatory requirement for all WA public hospitals and those private hospitals contracted to provide care to public patients
- Data from HISWA has highlighted that each year the majority of HA-SABSI occur as a result of intravascular devices



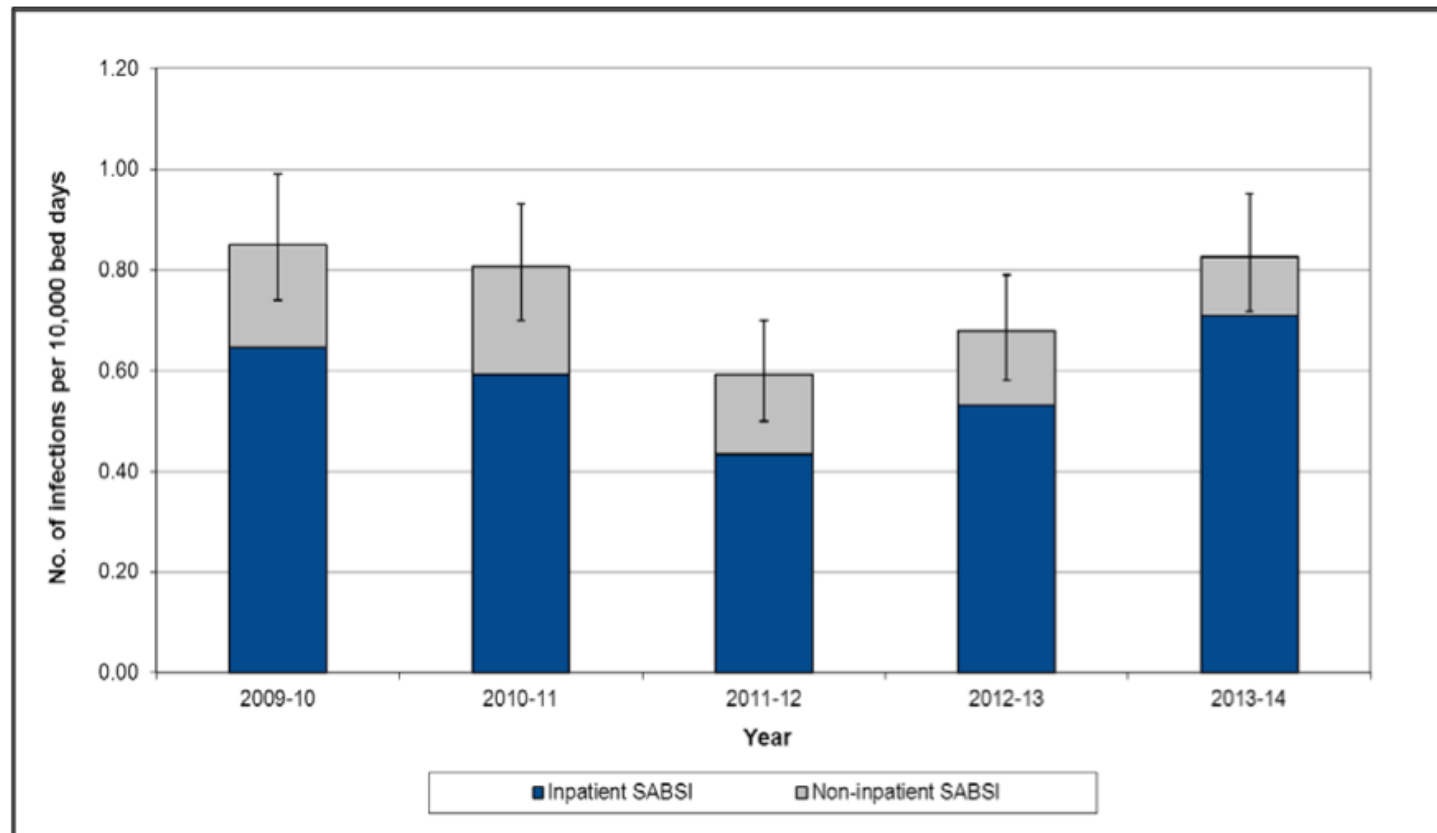


- HA-SABSI cause significant illness and serious complications, which frequently result in increased LOS and healthcare costs
- Even with advanced medical care, mortality remains high, with a median attributable mortality rate of 25%
- These adverse events are an important measure of quality of care in our hospitals and are increasingly regarded as a preventable healthcare associated infection



HISWA Data

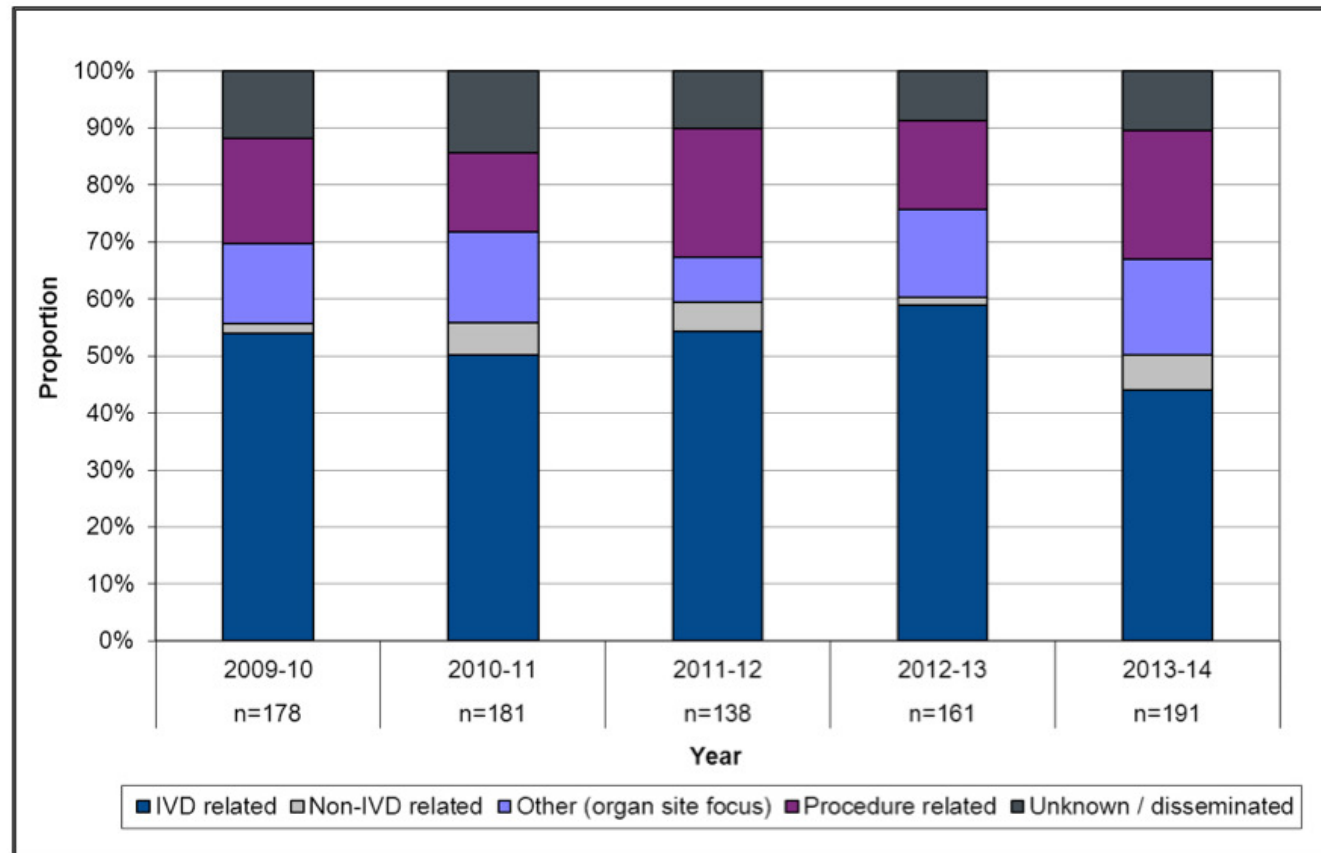
Inpatient and Non-inpatient HA-SABSI rates 2009 - 2014



Inpatient SABSI consistently represent the majority of HA-SABSI reported from WA hospitals

HISWA data

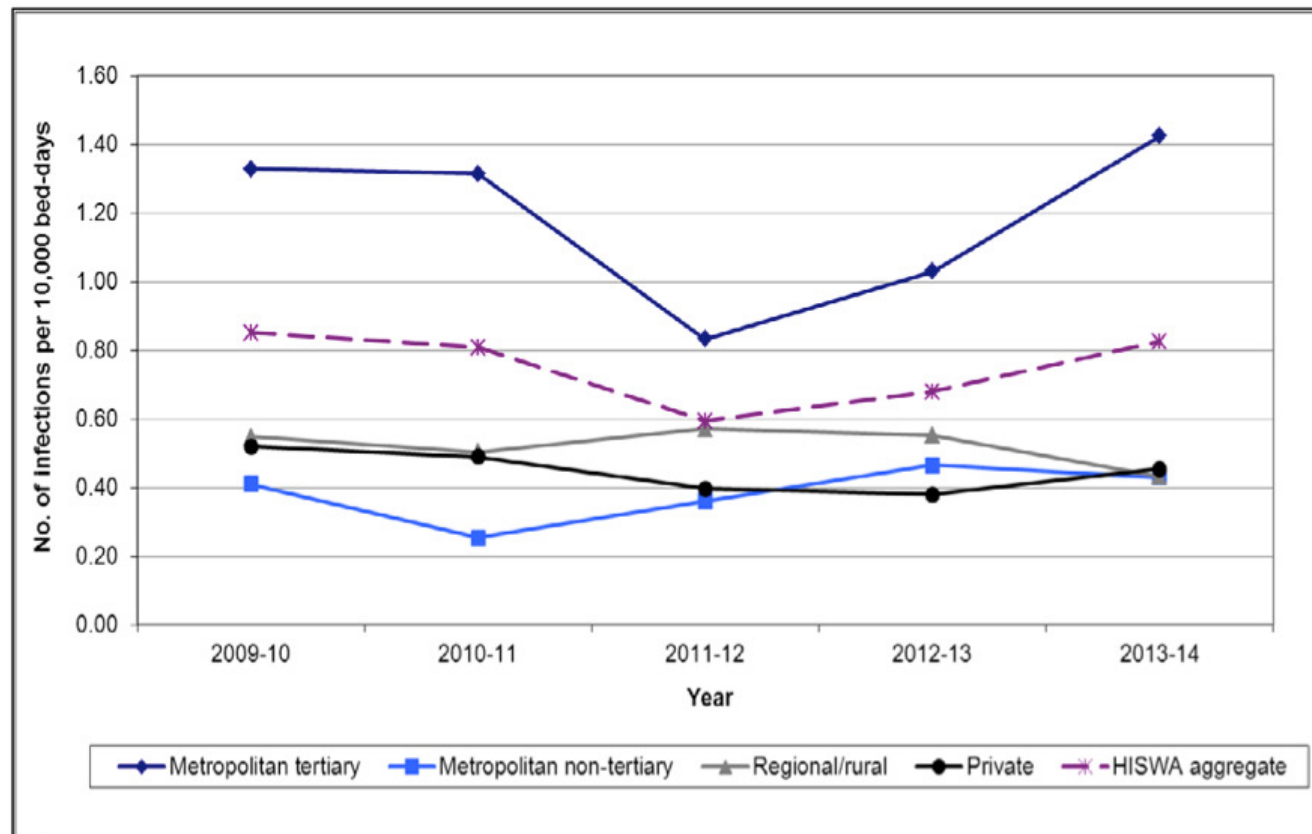
HA-SABSI sources 2009 - 2014



Most commonly identified source of HA-SABSI are events related to the presence of an IVD

HISWA data

HA-SABSI – by Hospital Group

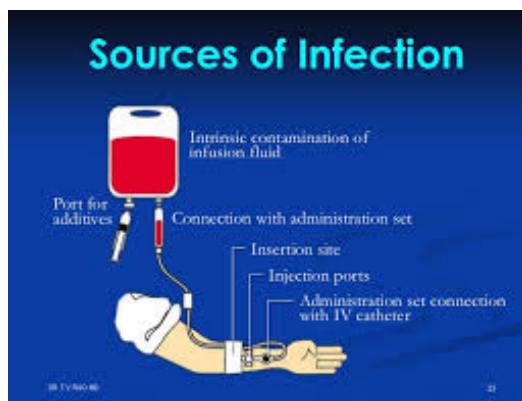


Of the 191 HA-SABSI reported in the 2013-14 period, the majority (67% n=128) were reported by tertiary hospitals

HISWA data

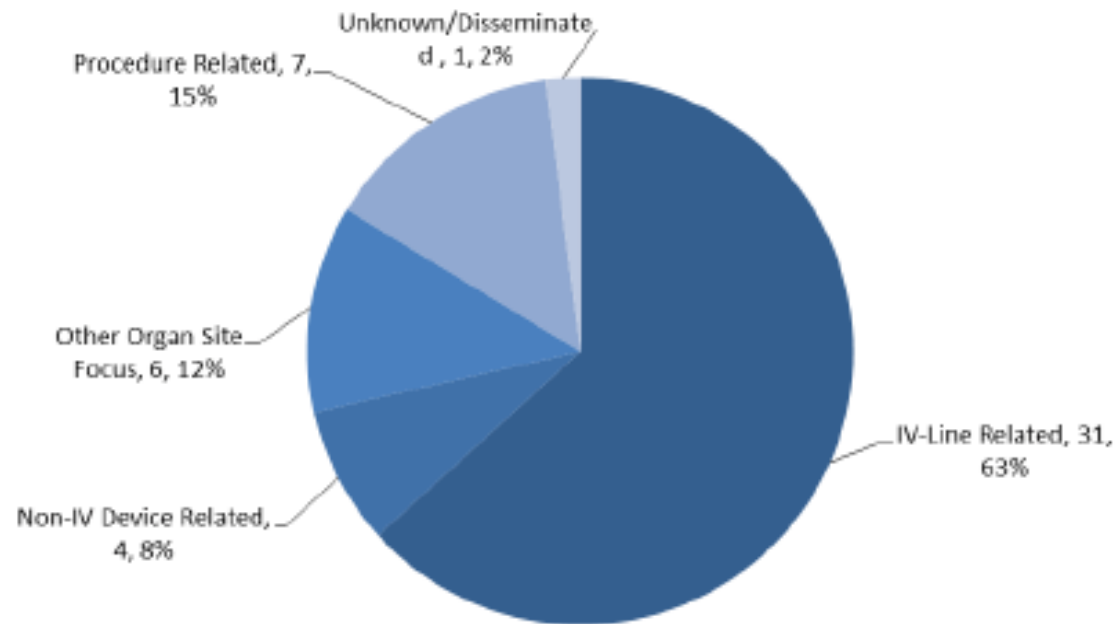
HA-SABSI data analysis 2013 - 2014

- 39% of the HA-SABSI reported by tertiary hospitals were attributable to an intravascular device and 20% were attributable to an invasive procedure
- These results would suggest there are areas where considerable improvements in infection prevention and patient safety outcomes could be made



HISWA Quarterly Aggregate Data

Source of HA-SABSI Oct - Dec 2015



- IV device related events are attributable to all IV devices – not just PIVC.
- 27 of the total 31 IV line related HASABSI in this quarter were reported from public hospitals and in total 8 were PIVC SAB.
- *A further 6 PIVC HA-SABSI have been identified in January and Feb 2016*

HISWA data concerning trends

- HA-SABSI rates are a concern for WA HCFs, as the majority of these events are considered preventable adverse events

Food for thought.....

- If an attributable mortality rate of 25% was applied to 2013-14 data, then an estimated 32 patients may have sustained serious adverse outcomes (including death) as a result of intravascular device and procedural interventions alone



Core elements assessed by WAPPS

Core elements for the patient:

- 1) PIVC insertion site secured with a transparent dressing?
- 2) PIVC insertion site can be seen through the dressing?
- 3) Is the dressing clean, dry and intact?
- 4) PIVC connected to an extension set?

Core elements of documentation:

- 1) Insertion DATE
- 2) Insertion TIME
- 3) Insertion SITE



Findings of the WAPPS

Key findings and associated recommendations:

- 44% patients provided with information regarding problems that may occur with a PIVC
- Only 21% patients met the core elements assessed NB: Extremely poor documentation led to difficulties assessing other elements of the survey
- 74% had a PIVC assessment tool in use and of those patients 63% had a PIVC assessment score documented each shift
- 89% of PIVC insertions were observed by the surveyors to have a VIPS score 0 (i.e. no indication of phlebitis)
- Low use of extension sets



Identified concerns post WAPPS survey

- No WA Health wide policy addressing insertion / management of PIVCs



- Health services have single site or area-wide policies that differ in specifics
- Additionally, compliance with NSQHSS requirement to demonstrate consumer participation / use of consumer specific information was highlighted as deficient

Recommendations from the HISWA 2013 – 2014 Annual Report

- HCFs to thoroughly review infection prevention strategies related to IVD insertion and management



- All HA-SABSIIs should be subject to root cause analysis and findings should be fed back to relevant stakeholders in order to facilitate effective change management

Individual Health Services WAPPS recommendations

- Review processes in relation to providing verbal information to patients on potential risks and complications of a PIVC

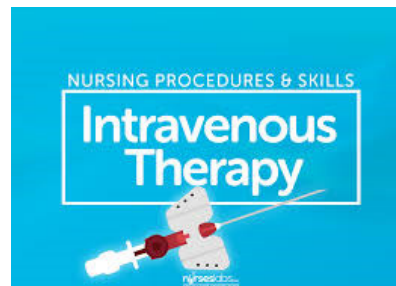


- Review local policies / education on the use of an extension set
- EDs to review their processes and policies in relation to PIVC insertion
- Sites to ensure that time of PIVC insertion is documented and this requirement is included in relevant policy/guideline



Statewide WAPPS recommendations:

- Develop a standardised information brochure for consumers on complications of PIVC
- Develop / adopt a clinical care policy / clinical practice standard for insertion and management of PIVC
- Develop / adopt a standardised online learning package for standards of care of PIVC
- A standardised PIVC assessment tool be developed / adopted and implemented



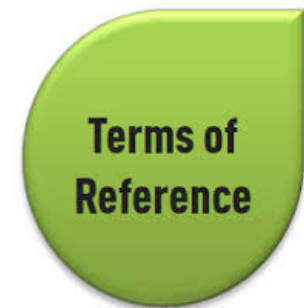
PIVC Expert Advisory Group

The Healthcare Associated Infection Unit (HAIU) invited PIVC EAG members to meet on the 19 of August 2015, to discuss recommendations of the WAPPS survey and the way forward.

Position	Organisation
IC Project Officer	HAIU WA Health
Educator	KEMH
CNS Infection Prevention	KEMH
Coordinator Infection Prevention	CAHS
CNS Nursing Practice	PMH
CNS Infection Prevention	RPH
Staff Development Educator	RPH
Acting Nurse Director Education	FSH
Clinical Nurse Infection Prevention	FSH
CNS Infection Prevention	WACHS
Nurse Educator	WACHS
CNS Infection Prevention	SCGH
Educator	SCGH
Educator	SCGH
CNC IV access service	SCGH
Infectious Diseases Physician	AKDHS
Program Manager	HAIU
Infectious Diseases Physician	FSH
Clinical Nurse Consultant	FSH
Quality Facilitator	SMHS
IV Access / AVATAR	SCGH
CNS Infection Prevention WACHS	

Terms of Reference of the PIVC EAG

- Develop a consumer information brochure
- Develop a state-wide policy on insertion and management of peripheral intravenous cannula (PIVC)
- Develop a state-wide standardised e-learning tool
- Develop a state-wide PIVC assessment tool



Key issues discussed by the PIVC EAG

- Differing policies currently for Nurse / DR / VA Teams - ? necessary
- Competency / Training for HCWs inserting PIVCs
- Paediatric and Adult variations in practice – can we combine?
- Skin Disinfection / Hub disinfection / Drying times
- Gloves – sterile or non-sterile?
- Blood Collection through a PIVC
- VIPS tool or PIVAS tool or something new??
- IV site change / dwell time
- IV site inspection timing varies in current policies
- J-loops / extension sets / bungs etc
- Labelling / dating on the dressing
- Consumer resources



Progress to date

- Draft Consumer information sheet developed, presented to HICWA
- Draft PIVAS tool developed and awaiting review by group
- Draft Operational Directive for Peripheral Intravenous Cannula Insertion and Management – final stages of adapting Paediatric and Neonatal components prior to circulation to PIVC EAG for review





Key inclusions in the draft OD

- Training and assessment for all PIVC inserters
- Skin antisepsis utilising 2% Chlorhexidine and 70% alcohol
- Hub / injection port disinfection utilising alcohol as a minimum
- Sterile glove use for insertion
- Use of a IV starter pack or equivalent equipment
- Removal following 72 hours for adults – paediatric considerations have been included
- Blood collection through a PIVC only to occur at insertion
- Only short stay use to use a bung otherwise extension set to be utilised
- Use of standard PPE as required for routine insertion (aprons not specified)
- PIVAS (not VIP) tool to be utilised



Future challenges...

Training and assessment for all PIVC inserters

- Draft OD states – “All clinicians who perform PIVC cannulation are to complete a theoretical and practical assessment and be deemed competent to insert PIVC. The theoretical component is to include aseptic technique, documentation requirements, infection prevention strategies and potential complications of PIVC. The practical assessment is to include two successful supervised insertions.”
- Development of training packages / programs and subsequent implementation of these training programs to all PIVC inserters will provide challenges for HCFs.



Peripheral Intravenous Assessment Score (PIVAS)		
Assess the PIVC site each time it is accessed and ensure a PIVAS is documented each shift		
</		

Appendix E PIVC Documentation Tool

PERIPHERAL INTRAVENOUS CANNULA OBSERVATION RECORD	ATTACH PATIENT ADDRESSOGRAPH LABEL
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Peripheral IV Cannula # _____ Insertion Date: ____/____/____ Insertion Time: _____ hrs Cannulation site: _____																		
Department PIVC Inserted In: _____ Inserted by (print name and designation): _____																		
Date	____/____/____		____/____/____		____/____/____		____/____/____		____/____/____		____/____/____		____/____/____		____/____/____			
Time	AM	PM	ND	AM	PM	ND	AM	PM	ND	AM	PM	ND	AM	PM	ND	AM	PM	ND
PIVAS																		
Initial																		
Removal Reason: _____							Removal Date: ____/____/____			Signature: _____								
							Removal Time: _____ hrs											
If PIVAS > 2 - CIM reporting completed <input type="checkbox"/> YES										CIM number: _____								

Peripheral IV Cannula # _____ Insertion Date: ____/____/____ Insertion Time: _____ hrs Cannulation site: _____																		
Department PIVC Inserted In: _____ Inserted by (print name and designation): _____																		
Date	____/____/____		____/____/____		____/____/____		____/____/____		____/____/____		____/____/____		____/____/____		____/____/____			
Time	AM	PM	ND	AM	PM	ND	AM	PM	ND	AM	PM	ND	AM	PM	ND	AM	PM	ND
PIVAS																		
Initial																		
Removal Reason: _____							Removal Date: ____/____/____			Signature: _____								
							Removal Time: _____ hrs											
If PIVAS > 2 - CIM reporting completed <input type="checkbox"/> YES										CIM number: _____								

Peripheral IV Cannula # _____ Insertion Date: ____/____/____ Insertion Time: _____ hrs Cannulation site: _____																		
Department PIVC Inserted In: _____ Inserted by (print name and designation): _____																		
Date	____/____/____		____/____/____		____/____/____		____/____/____		____/____/____		____/____/____		____/____/____		____/____/____			
Time	AM	PM	ND	AM	PM	ND	AM	PM	ND	AM	PM	ND	AM	PM	ND	AM	PM	ND
PIVAS																		
Initial																		
Removal Reason: _____							Removal Date: ____/____/____			Signature: _____								
							Removal Time: _____ hrs											
If PIVAS > 2 - CIM reporting completed <input type="checkbox"/> YES										CIM number: _____								



Your Intravenous Cannula or 'IV'

What is an IV and why do I need it?

An IV is a small plastic tube, inserted into a vein, usually in your hand or arm.

Why do you need an IV and what is it used for?

- To provide fluids when you are dehydrated or can't drink
- To give a blood transfusion
- To administer medications directly into your bloodstream. Some drugs work better and more quickly this way

Are there any alternatives to an IV?

Yes sometimes. You can discuss possible alternatives with the staff looking after you. Some treatments however can only be given, or are best given through an IV.

How is your IV put in?

Your doctor, nurse or midwife, will:

- Verify your name, ask about allergies, explain the procedure and obtain verbal consent
- Wash their hands and wear gloves
- Clean your skin with an antiseptic and use sterile equipment
- Place the IV into a vein using a fine needle, which is removed after the plastic tube is in place
- Cover the IV insertion site with a sterile dressing and write the date and time on the dressing

Is having your IV inserted painful?

You may feel a brief sharp sting as the needle goes in, but once the IV is in place this will pass.

Can your IV fall out?

An IV is secured with a see-through dressing and is taped in place to prevent it falling out. Let staff know if you are concerned that the IV is not securely taped, or if it becomes loose.

Are there any risks with having an IV?

- **Infection and minimising risk of infection:** there is a risk of infection with any procedure that punctures the skin. As an IV sits directly in your bloodstream, this does increase the risk of infection, therefore frequent observation of the IV site and strict procedures to prevent infection must be followed by staff inserting and caring for your IV
- **Possible bruising and vein irritation:** difficult or unsuccessful attempts to insert an IV can cause bruising and the cannula may cause irritation to the vein
- **The IV can get blocked:** sometimes the IV can become blocked by blood and may need to be removed

Important: Let staff know straight away if you notice any redness, swelling, skin irritation or pain around your IV or if you feel hot, cold or shivery.

When will your IV be removed?

Your IV should be removed after 3 days, or as soon as you no longer require it, to reduce your risk of getting an infection. A new IV will be inserted if you still need it.

How will staff care for your IV cannula?

Prevention of infection is very important and staff must:

- Clean their hands before they touch your IV or the tubing, inject drugs or change the IV fluids
- Check your IV regularly for signs of irritation, infection or blockage
- Keep the dressing clean, dry and securely in place
- Record the date that the IV is inserted on the dressing, to ensure staff can easily see when the IV may need to be changed.

Your IV and dressing should look similar to the picture below.



How can you help in the care of your IV?

- Try not to touch the IV site or pull the tubing
- Try to keep the dressing dry
- It is ok to remind staff to clean their hands before touching your IV
- Your IV should not be disconnected from the fluid bag when you shower or are getting dressed, as unnecessary disconnections can increase your risk of infection
- An IV is usually removed before you are discharged from hospital
- If you are to be discharged with an IV in place for home care, you should be given clear instructions relating to the care of the IV prior to your discharge.



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Thank you for your attention

Discussion.....?