

IV Forum

Optimising Outcomes with PICCs

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Where Are We At in Australia



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Standard 1 – **Governance for Safety and Quality in Health Service Organisations**
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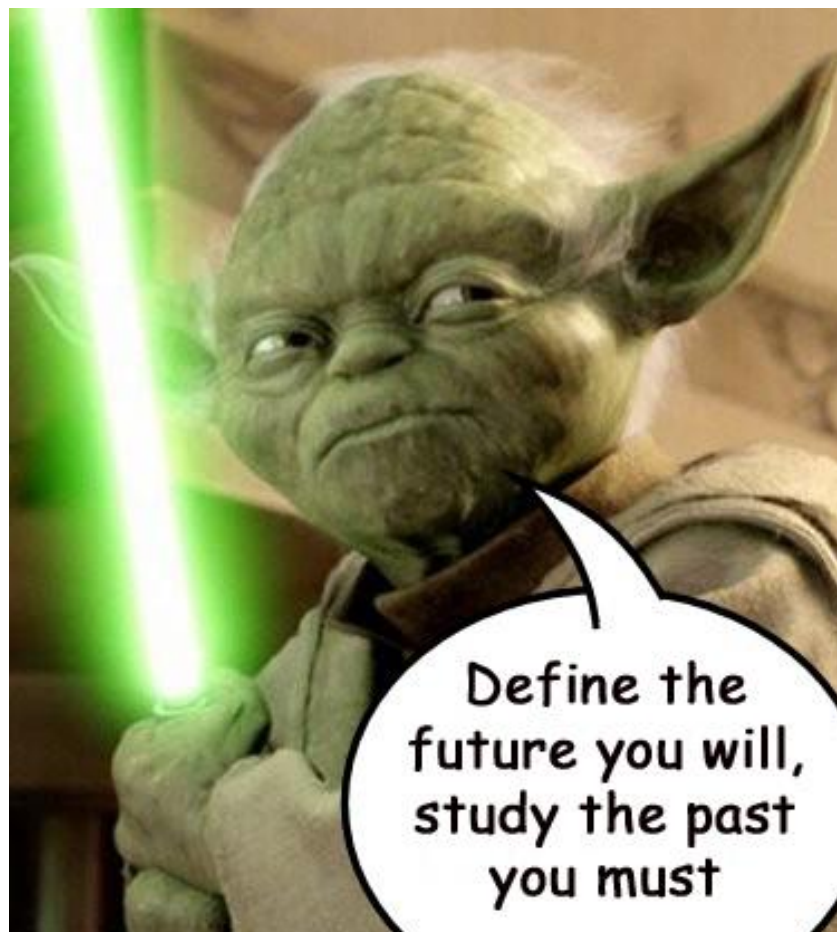
Standard 3 – **Preventing and Controlling Healthcare Associated Infections**
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Standard 4 – **Medication Safety**
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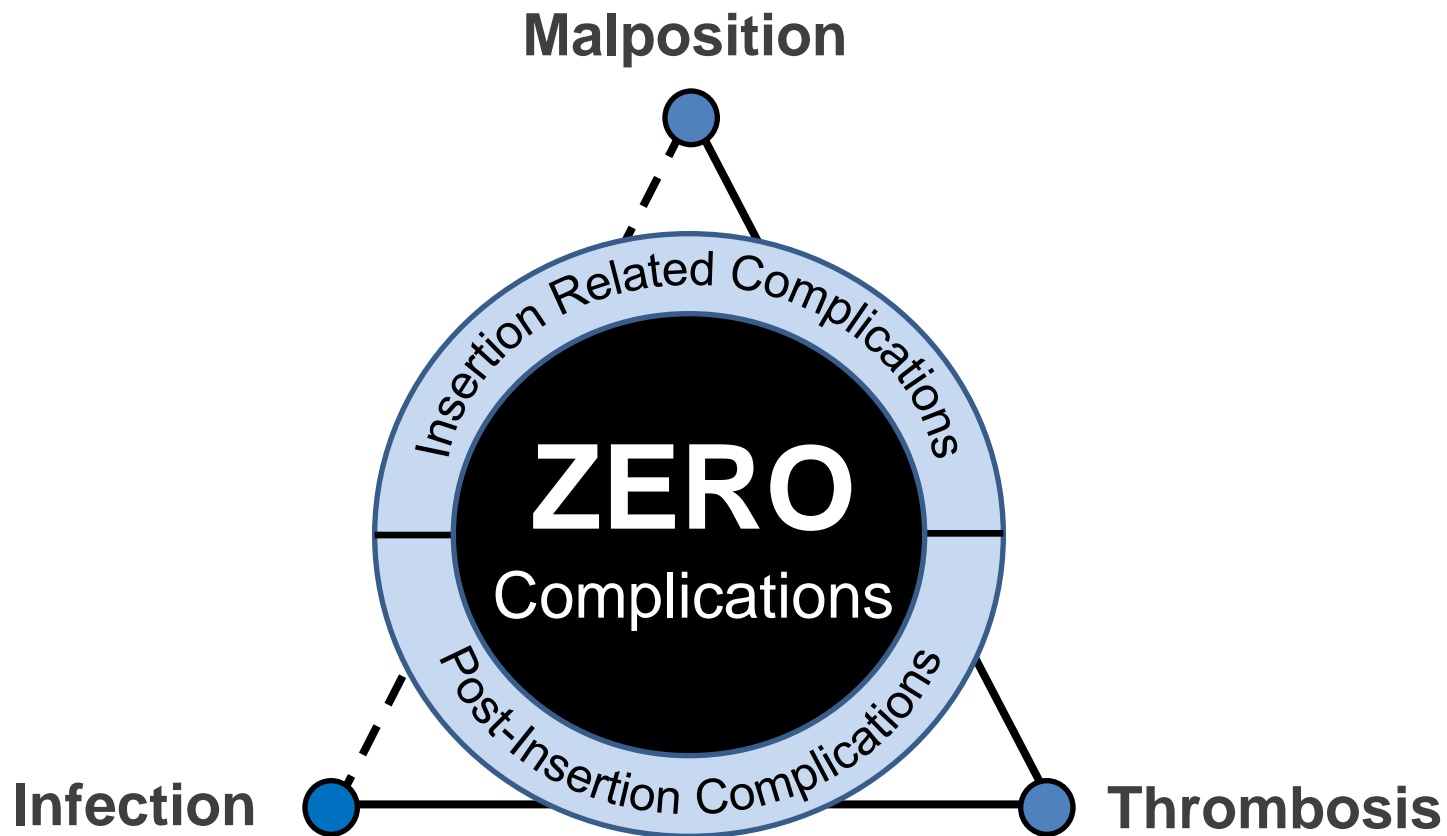
Standard 5 – **Patient Identification and Procedure Matching**
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Standard 7 – **Blood and Blood Products**
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Standard 9 – **Recognising and Responding to Clinical Deterioration in Acute Health Care**



Goal of Zero



What can happen to Cannulas.....



Risks with Central Venous Catheters

1. Injury During Insertion

Vessel wall, atrial or ventricular wall perforation, Pleural & mediastinal injuries, Air Embolus, Catheter or wire embolus, Thoracic duct laceration, Bacteremia, Septicaemia, Thrombosis, Inadvertent arterial puncture, Nerve damage, Haematoma, Haemorrhage and Dysrhythmias.

2. Whilst Insitu

Phlebitis (Chemical & Mechanical), Infiltration and Extravasation, Catheter Embolus, Thrombo Embolus, Thrombosis, Air Embolus, Local or Systemic Infection.

PICC Line Occlusion

Mechanical:

- Kink in the catheter
- Positional – the catheter rests up against the vessel wall preventing flow
- Catheter malposition secondary to poor dressing technique
- Ruptured catheter or Migration

Non-Thrombotic:

- Intraluminal obstructions caused by: medication precipitates such as lipids, incompatible infusates/medications
- Poor flushing volumes in between incompatible medication administration

Thrombotic:

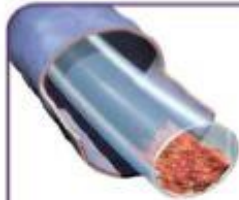
- Intraluminal thrombus
- Extraluminal fibrin sleeve formation
- Mural thrombus (DVT)
- Complete occlusion of the vessel



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Thrombotic Occlusions

Figure 2
Types of Thrombotic Occlusions



Intraluminal Thrombus



Fibrin Tail



Mural Thrombus



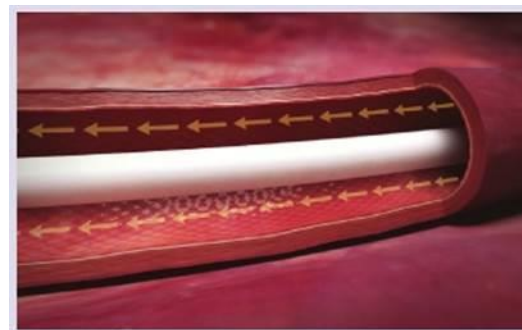
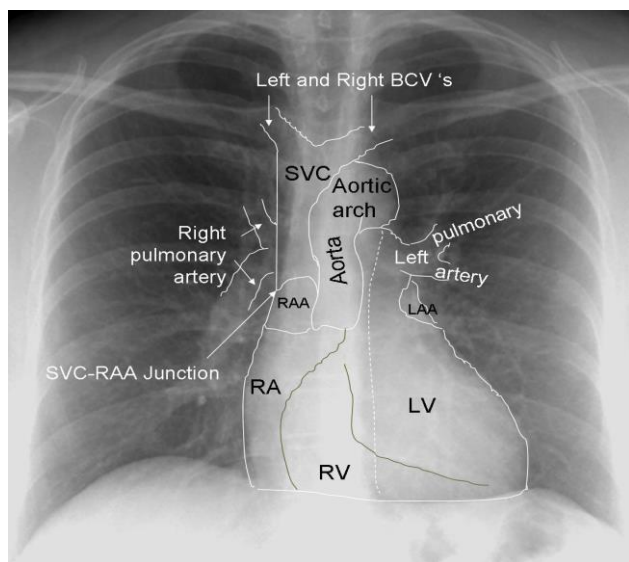
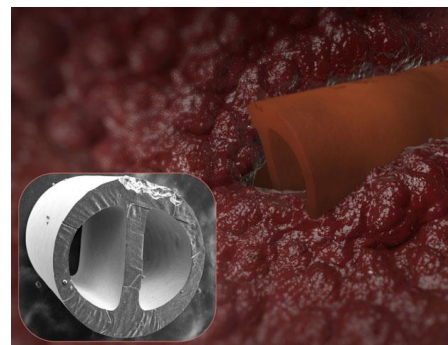
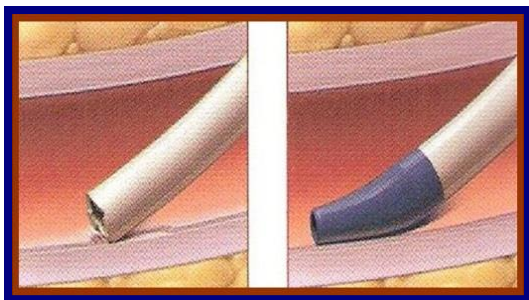
Fibrin Sheath

Source: Used with permission from Genentech, Inc.



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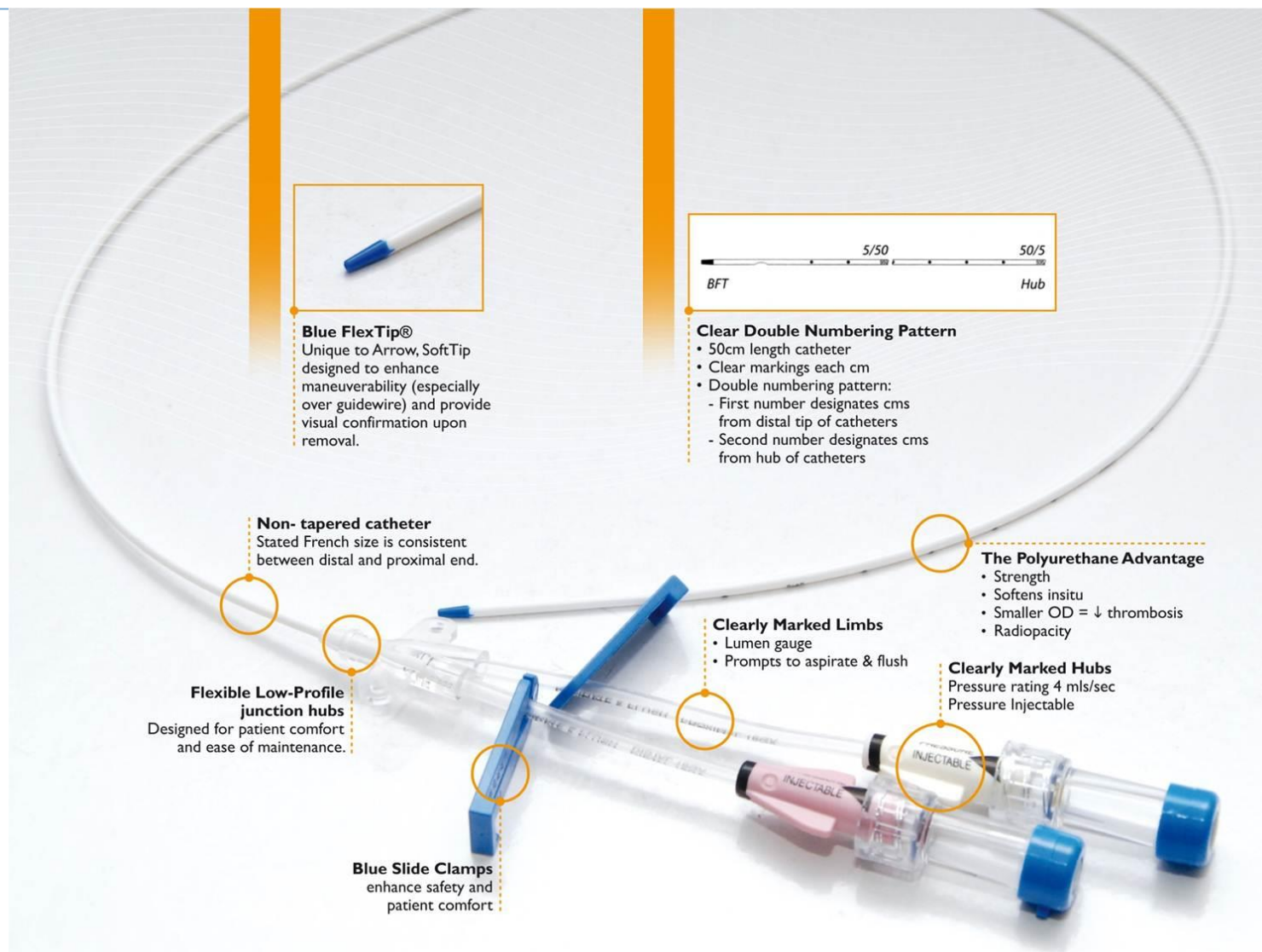
DVT & PICCs



DVT & PICCs

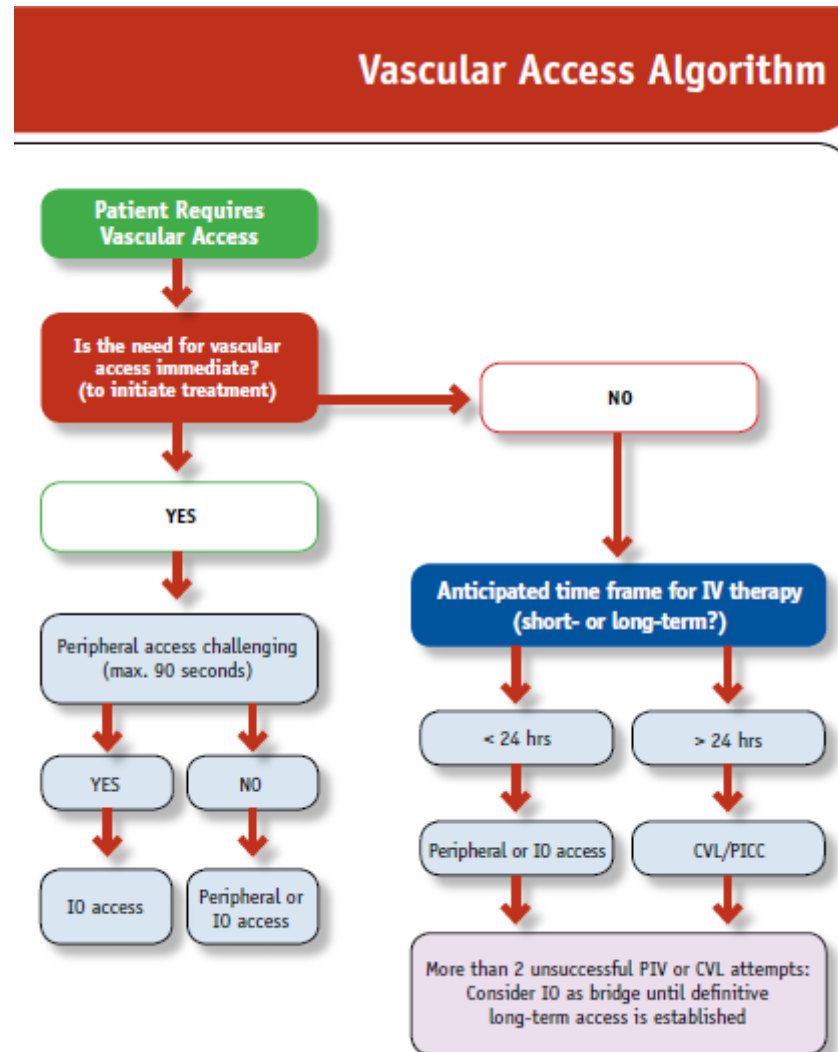


The Arrow® PICC Advantage





The Right Device



References Thrombosis

- Grove J et al (2000) *Venous Thrombosis Related to Peripherally Inserted Central Catheters JVIR* Volume 11, Issue 7, Pages 837–840
- Chopra V et al (2013) *Risk of venous thromboembolism associated with peripherally inserted central catheters: a systematic review and meta-analysis* www.thelancet.com Published online May 20, 2013 [http://dx.doi.org/10.1016/S0140-6736\(13\)60592-9](http://dx.doi.org/10.1016/S0140-6736(13)60592-9)
- Carr Peter & Rippey (2015) *Upper extremity deep vein thrombosis: a complication of an indwelling peripherally inserted central venous catheter*. 2015 The Authors. Clinical Case Reports published by John Wiley & Sons Ltd.^a 2015 The Authors.



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Websites

- www.avas.org.au/ (Australian Vascular Access Society)
- www.health.qld.gov.au/chrisp/icare/about.asp (Qld Infection Prevention Website)
- <http://clabsi.apic.org> (Association for Practitioners in Infection Control)
- <http://iv-therapy.net/> (An excellent on-line forum / website with IV Therapy)
- <http://www.cdc.gov/hicpac/BSI/BSI-guidelines-2011.html> (CDC Vascular Access Guidelines)
- www.ins1.org (Infusion Nurses Society Website)



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