Nurse-Led Peripherally Inserted Central Catheter (PICC) Service:
In a rural hospital setting

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PICC Insertion:

‘First choice not last resort’

(Arrow)
Nurse Led PICC Service:

• Historically patients requiring a PICC were placed on the ‘Emergency’ waiting list having the PICC inserted in the Operating Theatres (O/T)

• This process resulted in:
  – Significant delays in patients receiving a PICC (3-4 days)
Nurse Led PICC Service:

- Insertion related complications—including retained guidewires and insertion related infections
- Expense associated with O/T time
- Patient complaints, including a Ministerial Investigation
Nurse Led PICC Service:

• DHS Executive identified need to have a dedicated PICC Insertion Service
• Significant resistance from Anaesthetic Department
• Nursing staff attended one day PICC Insertion Course (Mayo Healthcare)
Nurse Led PICC Service:

- A site visit was conducted to the John Hunter PICC Insertion Team
- A PICC Insertion Learning Package was developed and completed prior to commencing insertion
Nurse Led PICC Service:

• Nursing staff performed five (5) successful PICC insertions before being credentialed (Supervised by ACU Medical Officer)

• The PICC Service commenced operation from the Ambulatory Care Unit (ACU) of Dubbo Health Service (DHS) during April 2013
Nurse Led PICC Service:

- The team consists of two (2) credentialed registered nurses and one (1) medical officer.
- The registered nurses insert all of the PICC lines with the medical officer obtaining consent and confirming PICC placement post insertion.
Referrals:

- A referral form is completed by the referring service and faxed to ACU
- The referring service also calls the PICC team to arrange an insertion time
- Referrals are accepted from within DHS, Dubbo Private Hospital and outlying hospitals in the area
Procedure:

- Majority of PICC’s are inserted in ACU (Exception single rooms on ward-more room)
- Patient is consented for the procedure by the ACU Medical Officer
Procedure:

- Ultrasound is used in the PICC insertion
- A good quality ultrasound unit is essential to the success of the PICC Insertion Team
- A good quality unit allows visualisation of the needle into the vein as well as differentiation of veins and arteries
Procedure:

• The PICC is inserted using strict aseptic technique including:
  – Sterile gown/gloves
  – Thorough washing of arm with Chlorhexidine/Alcohol solution (Allowing time to dry)
  – Full sterile draping or arm and patient
Procedure:

• Usually takes approximately two (2) hours from set up to confirmation of placement on xray

• Time taken to insert a PICC varies upon:
  – Veins of the patient
  – Presence of nerve bundles around veins
  – Compliance of the patient
  – Skill of the operator
Post Insertion KPI’s:

• Several are kept including:
  – Name
  – Referral Date
  – Insertion Date
  – Referral source
  – PICC Type
Post Insertion KPI’s:

• Several are kept including:
  – Insertion Site
  – Insertion Complications
  – Infection within seven (7) days
  – Technician
  – Time Taken
Successes so far:

• 95 PICC’s inserted in 11 months
• Each PICC inserted in ACU saves $2900 per PICC:
  – Based on averaged cost $1000/per hour/per theatre with one (1) hour to insert a PICC line in theatre=$1000
  – Acute bed days saved waiting for PICC insertion (Based on 3 days at $634/day)=$1900
Successes so far:

- Saved over $270,000 in 11 months
- No insertion related PICC infections
- No retained guidewires
- 90% successful insertion rate during first 11 months
- 98% PICC’s inserted within 24 hours of referral (Next business day)
Future Plans:

• Training of additional staff to insert PICC lines

• Expansion of service as a Vascular Access Team for the hospital (Currently informal-FTE)

• Introduction of vascular positioning system (Arrow). Real time Doppler ultrasound that shows PICC position during insertion (Eliminates need for CXR)
PICC Insertion:

‘First choice not last resort’
Questions?