The Royal Children's Hospital Melbourne
Dept. of Anaesthesia & Pain Management

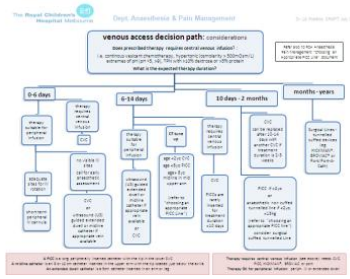
TITLE OF GUIDELINE: CHOOSING AN APPROPRIATE VENOUS ACCESS DEVICE

LINKED AND ATTACHED DOCUMENTS	(click to open)
Venous access decision path diagram (Hyperlink)	**Booking a venous access device at RCH Melbourne** (Hyperlink)
Process for requesting "awake" difficult peripheral IV access at RCH Melbourne (Hyperlink)	**Booking venous access for cystic fibrosis (CF) "tune-ups" RCH Melbourne** (Hyperlink)

RELATED DOCUMENTS AND POLICIES

1. CVAD RCH intranet site
2. Surgical CVAD CPG (Michael Nightingale)
3. Peripheral IV device management guideline
4. Midline catheter CPG
5. Venous access recommendations for cystic fibrosis respiratory "tune ups" CPG
6. CVAD insertion and management CPG

MAKING AN APPROPRIATE LINE CHOICE



- follow this **venous access decision path diagram** (Click on diagram for hyperlink) to guide in selection of the appropriate device for your patient
- Once an appropriate choice is made, fill out the **venous access request form** and follow the "**process for requesting venous access at RCH Melbourne** "

CONSIDERATIONS IN CHOOSING A VENOUS ACCESS DEVICE

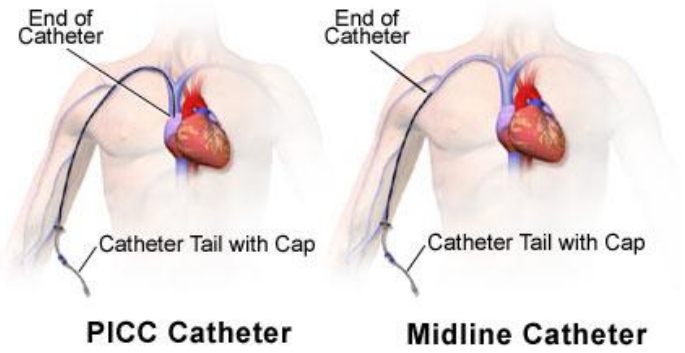
Therapeutic purpose	Infusates / medications requiring central venous access include • continuous vesicant chemotherapy • hypertonic solutions (osmolarity > 500mOsm/L) • extremes of pH (pH <5, >9) • TPN with >10% dextrose or >5% protein **Note:** Certain antibiotics can be supplied in a more dilute form so they then become suitable for peripheral infusion (i.e. via peripheral IV or midline).
Estimated length of treatment (dwell time)	Any patient requiring more than seven days of intravenous therapy should be assessed for insertion of a CVAD.
Medical history	Including any cardiac anomalies, haematological disorders, and previous history of line complications (such as thrombosis).
Vein status	Difficult peripheral IV access should be a flag for early insertion of a CVAD
Patient weight and size	PICC insertion is technically difficult and has a high failure rate in patients <15 kg or 2yo. Refer to the **venous access decision path diagram**
Urgency of venous access	

DEFINITIONS: PERIPHERAL IV ACCESS DEVICES	
Insertion site	Cannula are inserted into veins of the arm or leg (or scalp)
Drugs suitable for infusion	Only those suitable for peripheral IV infusion (refer to "therapeutic purpose" above)
A simple IV cannula	A short catheter with a dwell time of approximately 3 days
An extended dwell catheter	A 5cm catheter that is more likely to last several days
Midline Catheter	A 8-15cm length catheter Inserted into the upper arm. The larger calibre basilic or brachial veins are usually selected to provide better haemodilution and avoid thrombosis. The tip is advanced no further than the axilla. Ultrasound guided insertion by an experienced clinician is recommended. Recommended dwell time at RCH is 14 days (in adults with larger veins midlines have been used up to 30 days). Currently approved for use by Clinical Haematology for cystic fibrosis "tune-ups". (Refer to **midline catheter CPG** and **venous access for cystic fibrosis respiratory "tune-ups" CPG**).

DEFINITIONS: CENTRAL VENOUS ACCESS DEVICES (CVADs)		
Tip location	Catheters whose tip terminates in a central vessel - usually the lower superior vena cava or inferior vena cava.	
Drugs suitable for infusion	Suitable for infusions requiring central venous infusion (refer to "therapeutic purpose" above)	
Central Venous Catheters (CVC)	Simple CVC	Inserted into the subclavian vein, internal jugular vein, external jugular vein or femoral vein. Dwell time up to 14 days
	Tunnelled cuffed CVCs	Include HICKMAN™, BROVIAC™, permacaths, infusaports. Dwell time up to years
	Tunnelled' non cuffed CVCs	An alternative when PICC insertion is difficult or impossible (e.g. patients < 2 years or < 15kg). Dwell time 2 - 12 weeks.
	Vascaths	Double lumen catheters typically inserted via femoral vein for dialysis, haemofiltration or plasmafiltration. Dwell time a few days
Peripherally Inserted Central Catheters (PICCs)	A long catheter typically inserted via the basilic or brachial vein with the tip terminating in the lower SVC. Current evidence recommends ultrasound guided insertion via the mid upper arm to avoid complications including early line failure. Insertion via the cubital fossa, cephalic or long saphenous veins should be avoided. Dwell time 2 - 12 weeks (In patients <2 years or <15kg PICC placement may be technically difficult, and require an alternative line – see note below)	

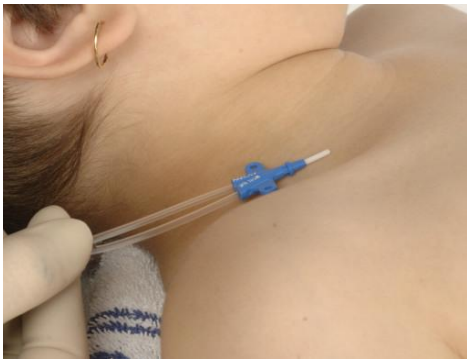
PICTURES OF VENOUS ACCESS DEVICES

PICC



PICC Catheter **Midline Catheter**

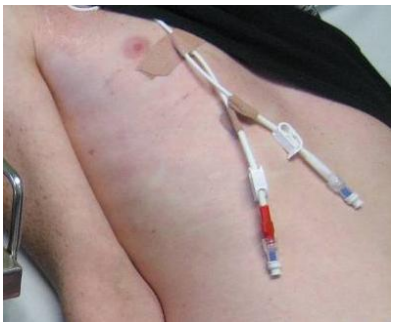
midline catheter



CVC

port: not accessed

port: accessed



Hickmann's

tunnelled CVC