BSUH General Theatres
Central Venous Catheter tip sheet

PRE-PROCEDURE
• Ensure monitoring (AAGBI standard), equipment (CVC pack, sterile gown, USS & sterile probe cover), and adequate training for procedure
• Assessment and treatment of coagulopathy should be considered on a case-by-case basis, with potential precautions including insertion at a compressible vessel
• Device/length selection
  o will depend on factors incl. insertion point, patient height, fixation
  o proximal placement of tip increases extravasation and thrombosis risk
  o ‘Standard’ lengths are considered at least:
    ▪ 15cm (right internal jugular vein (IJV))
    ▪ 20 cm (left IJV & right subclavian)
  o VasCath devices are typically longer- see ICU protocol
  o Cardiac theatres CVC lines are typically shorter (eg 11cm)

PERFORMING PROCEDURE
• Full ultrasound guidance recommended for IJV sites (including USS to identify anatomy, real-time venepuncture & location of guidewire in vein)
• Fixation at skin entry point:
  o 3-point fixation (transverse groove and both holes) if advanced to the hilt
  o 4-point fixation (including fixation device) if not fully advanced

INTRA-OPERATIVE USE
• Transduce proximal lumen to identify catheter migration early
• Run vasopressors on distal lumen to minimise extravasation in event of catheter partial migration

POST-OPERATIVE CHECKING
• Chest X-ray to confirm position of upper body CVCs
  o Tip of catheter should ideally be:
    ▪ In lower SVC, or upper Right Atrium
    ▪ Parallel to vessel wall
  o Devices positioned elsewhere may still be used only if safe to do so
• May require repositioning or further imaging

MISPLACED CATHETERS
• Suspect if
  o difficult aspiration of blood
  o loss of/abnormal pressure waveform
  o pain on injection
  o visible extravasation, or swelling around CVC site
• Only remove if known not to be dwelling within vulnerable structures
  o Seek advice or further imaging if required- see ICU misplaced catheter protocol
  o Discuss with vascular surgeon in event of arterial cannulation
  o “If in doubt, don’t take it out”

REFERENCES
1. AAGBI Safe Vascular access 2016