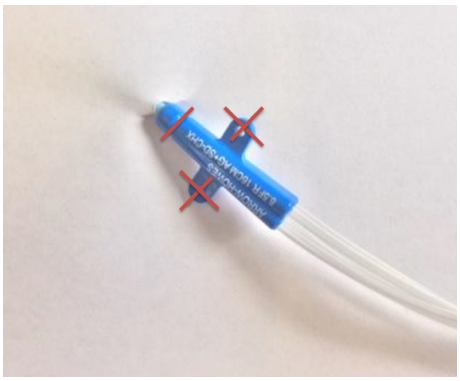
Securing Central Venous Catheters (CVCs) in Critical Care

Standard Approach

-All Left Internal Jugular, Left Sub-clavian and femoral lines should be inserted to the hilt and secured using 3 separate sutures as shown:

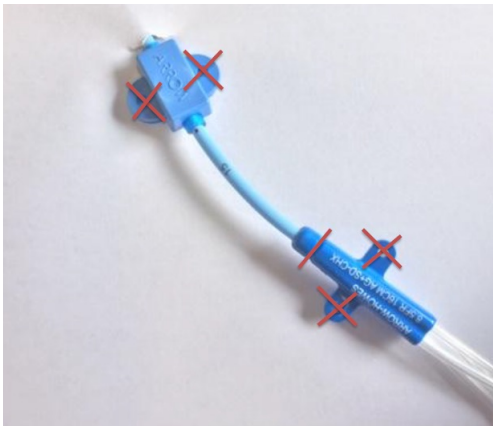


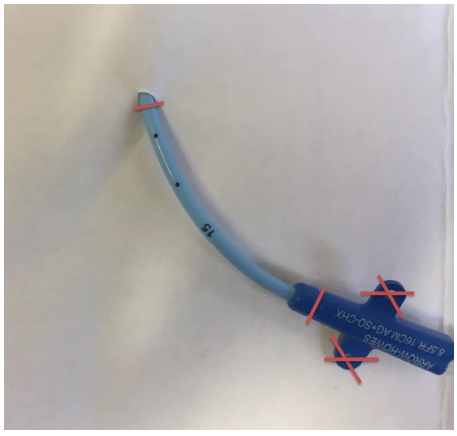
-The vast majority Right Internal Jugular and Right Subclavian lines will also be suitable for this standard technique.

Non Standard Approach

-A very small number of patients may have anatomy (ie extreme short stature) that suggests there is a risk that a standard line when placed to the hilt may leave the tip of the CVC in the Right ventricle. In this instance the line insertion depth and therefore securing technique should be adjusted. The decision to deviate from the standard insertion technique should be discussed with a Senior tier trainee or consultant.

-In this instance once the line is at the required depth, the CVC **should still be secured using the above 3 suture technique.** The line will also require to be secured at the skin insertion point. This may be done using a looped suture (termed “Scotty” knot) if the user is proficient in this technique. It may also be done using the provided clip with 2 separate sutures:





Reviewing Line Position on CXR

All Jugular and Subclavian Line positions should be reviewed on CXR. Lines should not be routinely repositioned/pulled back unless the tip is clearly in the Right Ventricle (RV), either as seen on CXR or as evidenced by RV waveform on transducer (see illustrations below).

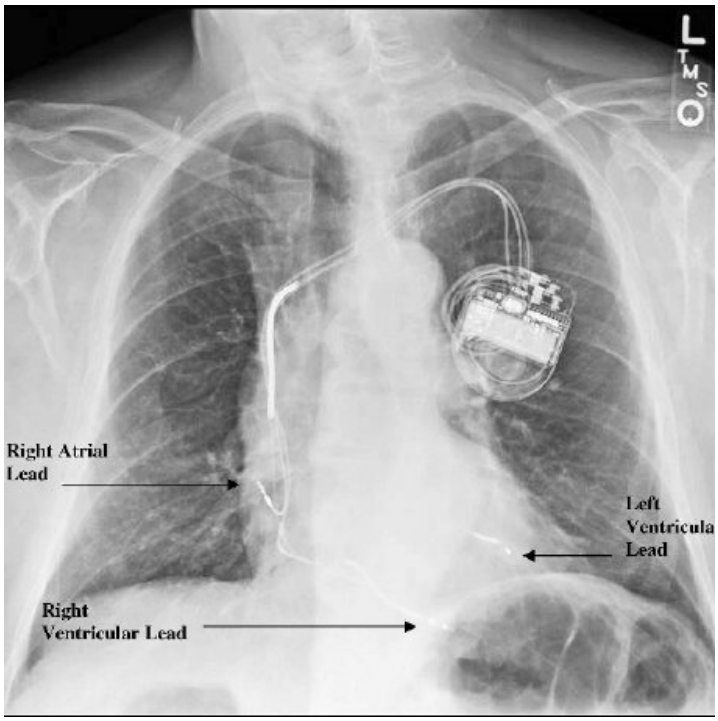
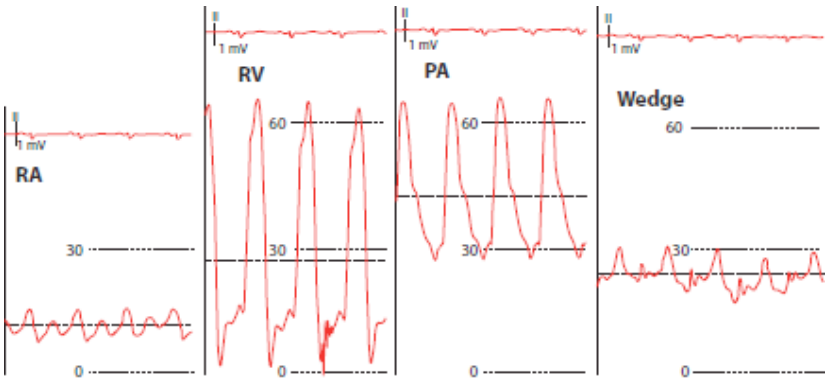


Figure 4: As an illustration of RV position this CXR shows position of a pacing wire in the RV



Source: Jesse B. Hall, Gregory A. Schmidt, John P. Kress: *Principles of Critical Care*, 4th Edition: www.accessmedicine.com

Figure 5: Diagram showing RV waveform when compared to RA/CVP waveform

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