CENTRAL VENOUS CATHETER INSERTION UPDATES 2025

Hand Hygiene Principles:

1. The provider who will perform the CVC insertion, the observer, and anyone who enters the room during the procedure must perform hand hygiene with an alcohol-based solution or soap and water before the procedure and wear a mask and hair cover.
2. Use the WHO handwashing technique (YouTube video on the Johns Hopkins Medicine channel). Hand hygiene must occur before touching the patient to scout the site and again before donning sterile gowns and gloves.
3. Use maximal sterile barrier precautions, including the use of a cap, mask, sterile gown, sterile gloves, and a **sterile full body drape**, for the insertion of CVCs, PICCs, or guidewire exchange.

Prep and Dry Times by site:

1. For internal jugular and subclavian lines, prep with Chlorohexidine-alcohol with a back-and-forth rub for at least **30** seconds; allow to dry for at least **30** seconds.
2. For femoral catheters, prep with Chlorohexidine-alcohol with a back-and-forth rub for at least **2 minutes**; allow to dry for at least **2 minutes**.
3. If a central venous catheter has been inserted emergently and the prep and dry times have been compromised, the catheter should be replaced within 48 hours.

Self-gowning:

Open the sterile gown and fasten the hook and loop at the collar of the gown, slip the gown over your head and insert your arms into the sleeves. Don sterile gloves.

Depth of Insertion:

1. There are many formulas for calculating the depth of insertion from the internal jugular or subclavian approach. The simplest technique is to measure from the site of skin entry in a straight line to the sternal angle (Angle of Louis) and add 3 cm for approach from the right and 5 cm for approach from the left.
2. Use the portable chest X-ray to confirm that the tip of the catheter is in the superior vena cava, outside of the right atrium (on the chest radiograph this will be 1 cm above the carina).

Catheter Securement:

1. If more than 2 cm of catheter distal to the hub wings are outside the skin, apply the Second Site adjustable clip to the catheter where it enters the skin and suture its wings to the skin, then flex the catheter caudally so that the hub with wings are at or just below the clavicle and suture the catheter wings to the skin.
2. Both the hub wings AND the Second Site clip are ALWAYS sutured to the skin.

3. When applying the Bio-patch and sterile transparent adhesive dressing or CHG-impregnated dressing to the catheter entrance site, the dressing should cover the

catheter entrance site, the Second Site adjustable clip (if used), and the catheter hub with wings, and all edges of the dressing should be adherent to the skin.

Miscellaneous:

1. CDC and AHRQ recommend subclavian as the preferred insertion site.
2. Remove all non-Port catheters (CVLs and PICCs) placed at outside facilities within 24 hours of admission.
3. Patients with an indwelling Port-a-catheter must receive daily Chlorhexidene baths while hospitalized, if they have an intravenous catheter of any type (peripheral IV, PICC, Mid-line, CVL, Vascath) even if the port is not being used or accessed.