

STANFORD CENTRAL VENOUS LINE INSERTION TRAINING

Goal:

To implement a simulation-based internal jugular central venous line insertion training and assessment that will improve residents' knowledge of, and technique for, central line placement, resulting in a reduction in CVC related complications.

Phase I: Online Pre-Work

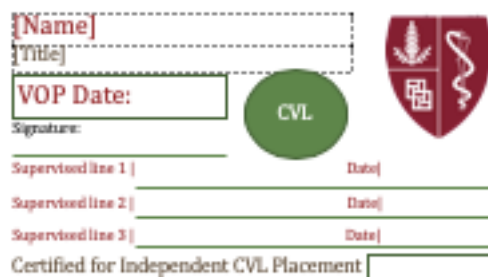
1. Online video: <https://wish.washington.edu/cvc-emodules-uw>
2. Qualtrics quiz: must complete and get 100% to attend the training (can re-take as many times as necessary, open book and open internet).

Phase II: Simulation-based training

1. Demonstration of ultrasound-guided CVL placement by trainer with explanation of all steps
2. Practice by learners with direct 1:1 guidance from an instructor

Phase III: Verification of Proficiency (see Appendix 1 for VOP Checklist)

1. Written test to verify retention of pre-work material
2. Individual demonstration of ultrasound-guided CVL placement in the internal jugular vein on a mannequin with real-time evaluation by a trained rater
3. Residents who pass will receive a card for their ID badge and may begin placing central lines under supervision on patients. Residents must successfully place 3 central lines under direct supervision prior to performing them independently.



The image shows a certification card template for CVL placement. It includes a dashed box for Name and Title, a box for VOP Date, a signature line, a green circle with 'CVL' inside, and the Stanford University logo. Below these are three rows for 'Supervised line 1', 'Supervised line 2', and 'Supervised line 3', each with a line for the date. At the bottom, there is a box for 'Certified for Independent CVL Placement'.

4. Residents who fail will undergo additional mentored practice and a re-test. Residents are required to pass prior to placing central lines in the clinical setting.

Appendix 1

Central Line Verification of Proficiency Checklist (Critical fails = Failure to recognize Contamination OR losing control of wire)

	SUCCESSFUL	UNSUCCESSFUL
Chart reviewed: INR, platelets checked		
Consent verified		
Allergies confirmed		
EKG and SpO2 verified		
Team introduction		
Verify patient with 2 identifiers		
Hands washed		
Vein and artery identified with US (non-sterile)		
Mask, eye protection, hair cover		
Adequate sterile prep with chlorhexadine (wait 3 minutes)		
Patient placed in Trendelenburg		
Gowned and gloved without breaking sterility		
Wide drape placed correctly		
Ultrasound probe sheath applied correctly		
All equipment verified, prepared, and placed (CVC kit)		
Catheter flushed and capped		
Location of IJ confirmed with US (sterile)		
Needle placed at proper location, aiming at the ipsilateral nipple		
Vein accessed: no more than 3 needle passes		
Venous blood return verified		
Wire advanced 12-17cm		
Wire visualized with US in longitudinal view		
Skin nick made with 11 blade		
Dilator deployed and removed properly (2-3 cm, no kinking of wire)		
Catheter advanced over wire, 12-17cm		
Control of wire maintained at all times		
Wire removed and stored without breaking sterility		
Catheter checked for blood return and flushed (all ports)		
Catheter secured in place with suture		
Sterile dressing applied		
Chest x-ray of correct placement confirmed		
TOTAL SCORE:	/31	PASS

Comments: