

# MedStar Health Central Line Simulation Testing Checklist for Physicians 2022

## Sterile Technique & IJ/Femoral Return Demonstration

### Sterile Technique Description:

This is a return demonstration checklist used to evaluate participants in the simulated hands-on skills portions for certification in central line placement.

### Sterile Technique Objective:

Demonstrate proper patient preparation prior to central line insertion using sterile technique with maximal barrier precautions and proper patient positioning

### IJ/Femoral Objectives:

1. Identify complications that can occur from the insertion of a central line during and after placement.
2. Identify major anatomical structures, guide needle insertion, and confirm device placement with ultrasound.
3. Demonstrate successful placement and removal of a central line (IJ and Femoral) using sterile technique with maximal barrier precautions and proper patient positioning.
4. Verbalize appropriate post-procedure care and documentation.
5. Demonstrate the five components of the central line bundle through the utilization of a central line safety checklist.

Critical Actions are Highlighted in Yellow!

The operator must successfully perform all critical actions and 85% of the non-critical actions in order to successfully complete this checklist

Passed	Needs Remediation	Catheter Insertion   Did the operator complete the following:
<input type="checkbox"/>	<input type="checkbox"/>	1. Obtains or confirms documentation of consent.
<input type="checkbox"/>	<input type="checkbox"/>	2. Uses institution specific checklist/algorithm recommending standardized protocol for CVL insertion.
<input type="checkbox"/>	<input type="checkbox"/>	3. Verbalizes that patient history was checked for coagulopathy and anti-coagulation.
<input type="checkbox"/>	<input type="checkbox"/>	4. "Pause for the cause" ( <i>includes verification of patient/procedure and completion of Procedure Verification Form</i> ) is performed.
<input type="checkbox"/>	<input type="checkbox"/>	5. Assures proper position of bed and patient ( <i>if gowned and gloved directs assistant to perform.</i> ) <b>PROMPT:</b> How do you position the patient for IJ and femoral insertion?
<input type="checkbox"/>	<input type="checkbox"/>	6. Powers-on the US machine ( <i>if gowned and gloved directs assistant to perform.</i> )
<input type="checkbox"/>	<input type="checkbox"/>	7. Selects correct probe - linear probe ( <i>if gowned and gloved directs assistant to perform.</i> )
<input type="checkbox"/>	<input type="checkbox"/>	8. Selects appropriate preset - vascular ( <i>if gowned and gloved directs assistant to perform.</i> )

<input type="checkbox"/>	<input type="checkbox"/>	9. Dons cap, mask and eyewear.
<input type="checkbox"/>	<input type="checkbox"/>	10. Washes hands with CHG soap or CHG alcohol scrub.
<input type="checkbox"/>	<input type="checkbox"/>	11. Opens kit aseptically.
<input type="checkbox"/>	<input type="checkbox"/>	12. Opens sterile supplies aseptically.
<input type="checkbox"/>	<input type="checkbox"/>	13. Opens probe cover package aseptically ( <i>if gowned and gloved directs assistant to perform</i> ).
<input type="checkbox"/>	<input type="checkbox"/>	14. While wearing hat, mask, and gloves, cleanses procedure site with disinfectant ( <i>IJ/SC for 30 seconds</i> ). Should state 2 minutes for femoral. <b>PROMPT:</b> How long is the scrub time for IJ, femoral, subclavian insertion?
<input type="checkbox"/>	<input type="checkbox"/>	15. Verbalizes appropriate drying time of chlorhexidine. <b>PROMPT:</b> Do you need to wait for the chlorhexidine to dry before beginning your procedure? Answer: Yes
<input type="checkbox"/>	<input type="checkbox"/>	16. Dons sterile gown and gloves.
<input type="checkbox"/>	<input type="checkbox"/>	17. Drapes the patient in sterile fashion.
<input type="checkbox"/>	<input type="checkbox"/>	18. Repreps the insertion site with chlorhexidine.
<input type="checkbox"/>	<input type="checkbox"/>	19. Applies gel and inserts probe into sterile probe cover aseptically.
<input type="checkbox"/>	<input type="checkbox"/>	20. Orients probe.
<input type="checkbox"/>	<input type="checkbox"/>	21. Places probe on patient in correct alignment.
<input type="checkbox"/>	<input type="checkbox"/>	22. Assures appropriate depth setting and gain adjustment ( <i>if gowned and gloved, directs assistant to perform; adjust gain</i> ).
<input type="checkbox"/>	<input type="checkbox"/>	23. Describes key anatomical landmarks in transverse and longitudinal view. <b>PROMPT:</b> Please describe key anatomical landmarks for IJ and femoral insertion. ( <i>IJ: head rotated contralaterally, between two heads of sternocleidomastoid muscle [SCM] or edge of posterior belly SCM, patient placed in Trendelenburg; Femoral - below inguinal ligament, vein, artery</i> ).
<input type="checkbox"/>	<input type="checkbox"/>	24. Correctly identifies artery and vein on ultrasound and confirms ability to compress vessel and assess patency.
<input type="checkbox"/>	<input type="checkbox"/>	25. Aspirates the lidocaine numbing agent aseptically.
<input type="checkbox"/>	<input type="checkbox"/>	26. Clamps ports or closes them with claves while leaving distal port open.
<input type="checkbox"/>	<input type="checkbox"/>	27. Pantomimes or verbalizes injecting skin with lidocaine ( <i>do not perform on mannequin</i> ).
<input type="checkbox"/>	<input type="checkbox"/>	28. Places probe on skin without losing alignment.
<input type="checkbox"/>	<input type="checkbox"/>	29. Uses dominant hand for needle and non-dominant hand for the US probe.
<input type="checkbox"/>	<input type="checkbox"/>	30. Punctures the skin at 30-45-degree angle with the needle.
<input type="checkbox"/>	<input type="checkbox"/>	31. Advances needle in proper trajectory ( <i>IJ - toward ipsilateral nipple; Femoral - needle perpendicular to probe</i> ).

<input type="checkbox"/>	<input type="checkbox"/>	32. Utilizing ultrasound, demonstrates ability to identify tip of needle in vessel. <b>PROMPT:</b> Please show me the tip of the needle in the vessel.
<input type="checkbox"/>	<input type="checkbox"/>	33. Obtains blood flash, using non-dominant hand to stabilize the needle hub.
<input type="checkbox"/>	<input type="checkbox"/>	34. Unscrews syringe and notes color of blood and lack of pulse. Keeps needle hub opening sealed until inserting guidewire.
<input type="checkbox"/>	<input type="checkbox"/>	35. Passes guide wire to no further than 24 cm mark at skin. <b>PROMPT:</b> How far should you advance the guidewire? ( <i>Note: if resistance is encountered when passing guidewire into manikin vessel, continue by verbalizing only</i> ). <b>PROMPT:</b> What steps should be taken if resistance is encountered when passing guidewire in an actual patient? <b>ANSWER:</b> If resistance is encountered, DO NOT advance the guidewire any further. The needle and guidewire should be withdrawn together as one unit until fully removed from the patient.
<input type="checkbox"/>	<input type="checkbox"/>	36. Verbalizes options for verification of IV placement. <b>PROMPT:</b> What are the options for verification of venous placement of the catheter? [a] Angiocath placement over guide wire and tube manometry; b] CVP transduction; c] verify guide wire position using ultrasound in long axis view Verbalize: must see guidewire on US.
<input type="checkbox"/>	<input type="checkbox"/>	37. Pantomimes or verbalizes to nick skin with scalpel edge positioned away from the guide wire ( <i>do not perform on mannequin</i> ). <b>PROMPT:</b> Please show me how to position the scalpel.
<input type="checkbox"/>	<input type="checkbox"/>	38. Pantomimes or verbalizes passing the dilator over the guide wire and insertion with circular or oscillating motions to allow adequate dilation of skin and muscle ( <i>do not perform on mannequin</i> ). Pantomimes or verbalizes demonstration of wire mobility during advancement.
<input type="checkbox"/>	<input type="checkbox"/>	39. Controls bleeding at insertion site during dilator removal.
<input type="checkbox"/>	<input type="checkbox"/>	40. Feeds catheter over the guide wire until end of the wire emerges from the distal port.
<input type="checkbox"/>	<input type="checkbox"/>	41. Uses non-dominant hand to control the end of the guide wire.
<input type="checkbox"/>	<input type="checkbox"/>	42. Advances the catheter into the vessel leaving 1.5 cm free between skin and the hub for placement of Biopatch. ( <i>If unable to pass catheter, PROMPT: How far would you advance the catheter?</i> )
<input type="checkbox"/>	<input type="checkbox"/>	43. Removes the guide wire and clamps distal port or closes with a cap.
<input type="checkbox"/>	<input type="checkbox"/>	44. Hands-off guide wire for confirmation of removal.
<input type="checkbox"/>	<input type="checkbox"/>	45. Aspirates and flushes all catheter ports with saline, holding flushes upright to avoid infusing air. <b>Prompt:</b> Show me the proper position for holding the flushes.
<input type="checkbox"/>	<input type="checkbox"/>	46. Places Biopatch.

<input type="checkbox"/>	<input type="checkbox"/>	47. If only testing for IJ/FEM, secures catheter with 2 sutures or STATLOCK to suture pad. <b>Proctor:</b> slide suture pad under drape. Verbalizes if testing for subclavian.
<input type="checkbox"/>	<input type="checkbox"/>	48. Pantomimes or verbalizes to apply sterile dressing ( <i>do not perform on mannequin</i> ).
<input type="checkbox"/>	<input type="checkbox"/>	49. Appropriately disposes of sharps.
<input type="checkbox"/>	<input type="checkbox"/>	50. For IJ, orders a CXR and reviews for venous placement, depth and pneumothorax. For femoral line, verbalizes no CXR required.
<input type="checkbox"/>	<input type="checkbox"/>	51. Verbalizes documentation of the line insertion.
Passed	Needs Remediation	<b>Sterile Field   Did the operator complete the following:</b>
<input type="checkbox"/>	<input type="checkbox"/>	52. Throughout the procedure, did the operator maintain asepsis at all times?
Passed	Needs Remediation	<b>Catheter Removal   Did the operator complete the following:</b>
<input type="checkbox"/>	<input type="checkbox"/>	53. Verbalizes that central line removal is a two-licensed persons' procedure (MD, PA, RN, NP) - No students.
<input type="checkbox"/>	<input type="checkbox"/>	54. Verbalizes that patient history was checked for coagulopathy, anti-coagulation, dehydration and hypovolemia markers within past 24 hours.
<input type="checkbox"/>	<input type="checkbox"/>	55. "Pause for the cause" ( <i>includes verification of patient/procedure</i> ) is initiated.
<input type="checkbox"/>	<input type="checkbox"/>	56. Verbalizes that the patient is laid flat for femoral removal or placed in a slight Trendelenburg position and instructed to Valsalva during IJ or Subclavian removal. Verbalizes cutting sutures before removal.
<input type="checkbox"/>	<input type="checkbox"/>	57. Compresses the insertion site with a digit until the bleeding stops.
<input type="checkbox"/>	<input type="checkbox"/>	58. Verbalizes dressing site with an occlusive dressing ( <i>ointment, petroleum gauze, or sealed Tegaderm</i> ).
<input type="checkbox"/>	<input type="checkbox"/>	59. Instructs the patient to remain flat for 30 minutes.
<input type="checkbox"/>	<input type="checkbox"/>	60. Verbalizes documentation of the line removal.

Yes	No	Reporting Results to New Innovations©
<input type="checkbox"/>	<input type="checkbox"/>	61. I verify that the learner has successfully completed this practical station.
<input type="checkbox"/>	<input type="checkbox"/>	62. I verify that I have observed learner logging successful completion into the New Innovations© <i>Procedure Tracker</i> .
<input type="checkbox"/>	<input type="checkbox"/>	63. I verify proctor confirmation of successful completion in New Innovations©.

## Subclavian Return Demonstration

### Subclavian Description:

This is a return demonstration checklist used to evaluate participants in the simulated hands-on skills portion for certification in central line placement.

### Subclavian Objectives:

1. Identify complications that can occur from the insertion of a central line during and after placement.
2. Identify major anatomical structures, guide needle insertion, and confirm device placement with ultrasound.
3. Demonstrate successful placement and removal of a central line (Subclavian) using sterile technique with maximal barrier precautions and proper patient positioning.
4. Verbalize appropriate post-procedure care and documentation.
5. Demonstrate the five components of the central line bundle through the utilization of a central line safety checklist.

Critical Actions are Highlighted in Yellow!

The operator must successfully perform all critical actions and 85% of the non-critical actions in order to successfully complete this checklist

Passed	Needs Remediation	Catheter Insertion   Did the operator complete the following:
<input type="checkbox"/>	<input type="checkbox"/>	1. Obtains or confirms documentation of consent.
<input type="checkbox"/>	<input type="checkbox"/>	2. Uses institution specific checklist/algorithm recommending standardized protocol for CVL insertion.
<input type="checkbox"/>	<input type="checkbox"/>	3. "Pause for the cause" ( <i>includes verification of patient/procedure and completion of Procedure Verification Form</i> ) is performed.
<input type="checkbox"/>	<input type="checkbox"/>	4. Verbalizes that patient history was checked for coagulopathy and anti-coagulation.
<input type="checkbox"/>	<input type="checkbox"/>	5. Verbalizes placement of patient in Trendelenburg position. <b>PROMPT:</b> What is the proper positioning of the bed and patient for subclavian insertion?
<input type="checkbox"/>	<input type="checkbox"/>	6. Drapes the patient in sterile fashion ( <i>Verbalizes</i> ).
<input type="checkbox"/>	<input type="checkbox"/>	7. Re-preps the insertion site with chlorhexidine ( <i>Verbalizes</i> ).
<input type="checkbox"/>	<input type="checkbox"/>	8. Describes key anatomical landmarks. <b>PROMPT:</b> Please describe the key anatomical landmarks of subclavian insertion. ( <i>Midpoint of clavicle, or juncture of middle and lateral thirds of the clavicle</i> ).
<input type="checkbox"/>	<input type="checkbox"/>	9. Aspirates the lidocaine numbing agent aseptically.
<input type="checkbox"/>	<input type="checkbox"/>	10. Clamps ports or closes them with claves while leaving distal port open.
<input type="checkbox"/>	<input type="checkbox"/>	11. Pantomimes or verbalizes injecting skin with lidocaine ( <i>do not perform on mannequin</i> ).

<input type="checkbox"/>	<input type="checkbox"/>	12. Punctures skin 2 cm below the clavicle with needle almost parallel to the skin and advance until the tip of the needle touches the clavicle.
<input type="checkbox"/>	<input type="checkbox"/>	13. Uses a non-dominant finger or thumb to press the tip of the needle underneath the clavicle.
<input type="checkbox"/>	<input type="checkbox"/>	14. Once underneath, directs the tip of the needle toward the sternoclavicular joint and advance.
<input type="checkbox"/>	<input type="checkbox"/>	15. Obtains blood flash, using non-dominant hand to stabilize the needle hub.
<input type="checkbox"/>	<input type="checkbox"/>	16. Unscrews syringe and notes color of blood and lack of pulse.
<input type="checkbox"/>	<input type="checkbox"/>	17. Passes guide wire to no further than 24 cm mark at skin. <b>PROMPT:</b> How far should you advance the guidewire? <i>(Note: if resistance is encountered when passing guidewire into manikin vessel, continue by verbalizing only).</i> <b>PROMPT:</b> What steps should be taken if resistance is encountered when passing guidewire in an actual patient? ANSWER: If resistance is encountered, DO NOT advance the guidewire any further. The needle and guidewire should be withdrawn together as one unit until fully removed from the patient.
<input type="checkbox"/>	<input type="checkbox"/>	18. Verbalizes options for verification of IV placement. <b>PROMPT:</b> What are the options for verification of venous placement of the catheter? [a] Angiocath placement over guide wire and tube manometry; b] CVP transduction.
<input type="checkbox"/>	<input type="checkbox"/>	19. Pantomimes or verbalizes to nick skin with scalpel edge positioned away from the guide wire <i>(do not perform on mannequin)</i> . <b>PROMPT:</b> Please show me how to position the scalpel.
<input type="checkbox"/>	<input type="checkbox"/>	20. Pantomimes or verbalizes passing the dilator over the guide wire and insertion with circular or oscillating motions to allow adequate dilation of skin and muscle <i>(do not perform on mannequin)</i> . Pantomimes or verbalizes demonstration of wire mobility during advancement.
<input type="checkbox"/>	<input type="checkbox"/>	21. Control bleeding at insertion site during dilator removal.
<input type="checkbox"/>	<input type="checkbox"/>	22. Feed catheter over the guide wire until end of the wire emerges from the distal port.
<input type="checkbox"/>	<input type="checkbox"/>	23. Use non-dominant hand to control the end of the guide wire.
<input type="checkbox"/>	<input type="checkbox"/>	24. Advance the catheter into the vessel leaving 1.5 cm free between skin and the hub for placement of Biopatch <i>(verbalizes if unable to pass catheter)</i> .
<input type="checkbox"/>	<input type="checkbox"/>	25. Removes the guide wire and clamps distal port or closes with a cap.
<input type="checkbox"/>	<input type="checkbox"/>	26. Hands-off guide wire for confirmation of removal.
<input type="checkbox"/>	<input type="checkbox"/>	27. Aspirates and flushes all catheter ports with saline, holding flushes upright to avoid infusing air.
<input type="checkbox"/>	<input type="checkbox"/>	28. Places Biopatch.

<input type="checkbox"/>	<input type="checkbox"/>	29. Secures catheter with 2 sutures or STATLOCK to suture pad. <b>Proctor:</b> slide suture pad under drape.
<input type="checkbox"/>	<input type="checkbox"/>	30. Pantomimes or verbalizes to apply sterile dressing ( <i>do not perform on mannequin</i> ).
<input type="checkbox"/>	<input type="checkbox"/>	31. Appropriately disposes of sharps.
<input type="checkbox"/>	<input type="checkbox"/>	32. Orders a CXR and reviews for venous placement, depth and pneumothorax.
<input type="checkbox"/>	<input type="checkbox"/>	33. Verbalizes documentation of the line insertion.
Passed	Needs Remediation	Sterile Field   Did the operator complete the following:
<input type="checkbox"/>	<input type="checkbox"/>	34. Throughout the procedure, did the operator maintain asepsis at all times?

Yes	No	Reporting Results to New Innovations©
<input type="checkbox"/>	<input type="checkbox"/>	35. I verify that the learner has successfully completed this practical station.
<input type="checkbox"/>	<input type="checkbox"/>	36. I verify that I have observed learner logging successful completion into the New Innovations© <i>Procedure Tracker</i> .
<input type="checkbox"/>	<input type="checkbox"/>	37. I verify proctor confirmation of successful completion in New Innovations©.