

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

Catheter Insertion Did the operator complete the following:	Passed	Needs Remediation
1. Obtains or confirms documentation of consent.		
2. Uses institution specific checklist/algorithm recommending standardized protocol for CVL insertion.		
3. Verbalizes that patient history was checked for coagulopathy and anti-coagulation.		
4. "Pause for the cause" (includes verification of patient/procedure and completion of Procedure Verification Form) is performed.		

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5. Assures proper position of bed and patient (if gowned and gloved directs assistant to perform.) [PROMPT: How do you position the patient for IJ and femoral insertion?]		
6. Powers-on the US machine (if gowned and gloved directs assistant to perform).		
7. Selects correct probe - linear probe (if gowned and gloved directs assistant to perform).		
8. Selects appropriate preset - vascular (if gowned and gloved directs assistant to perform).		
9. Dons cap, mask and eyewear.		
10. Washes hands with CHG soap or CHG alcohol scrub.		
11. Opens kit aseptically.		
12. Opens sterile supplies aseptically.		
13. Opens probe cover package aseptically (if gowned and gloved directs assistant to perform).		
14. While wearing hat, mask, and gloves, cleanses procedure site with disinfectant (IJ/SC for 30 seconds). Should state 2 minutes for femoral. [PROMPT: How long is the scrub time for IJ, femoral, subclavian insertion?]		
15. Verbalizes appropriate drying time of chlorhexidine. [PROMPT: Do you need to wait for the chlorhexidine to dry before beginning your procedure? Answer: Yes].		
16. Dons sterile gown and gloves.		
17. Drapes the patient in sterile fashion.		
18. Repreps the insertion site with chlorhexidine.		
19. Applies gel and inserts probe into sterile probe cover aseptically.		
20. Orients probe.		
21. Places probe on patient in correct alignment.		
22. Assures appropriate depth setting and gain adjustment (if gowned and gloved, directs assistant to perform; adjust gain).		

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23. Describes key anatomical landmarks in transverse and longitudinal view. [PROMPT: Please describe key anatomical landmarks for IJ and femoral insertion.] (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.		
24. Correctly identifies artery and vein on ultrasound and confirms ability to compress vessel and assess patency.		
25. Aspirates the lidocaine numbing agent aseptically.		
26. Clamps ports or closes them with claves while leaving distal port open.		
27. Pantomimes or verbalizes injecting skin with lidocaine (do not perform on mannequin).		
28. Places probe on skin without losing alignment.		
29. Uses dominant hand for needle and non-dominant hand for the US probe.		
30. Punctures the skin at 30-45-degree angle with the needle.		
31. Advances needle in proper trajectory (IJ - toward ipsilateral nipple; Femoral - needle perpendicular to probe).		
32. Utilizing ultrasound, demonstrates ability to identify tip of needle in vessel. [PROMPT: Please show me the tip of the needle in the vessel.]		
33. Obtains blood flash, using non-dominant hand to stabilize the needle hub.		
34. Unscrews syringe and notes color of blood and lack of pulse. Keeps needle hub opening sealed until inserting guidewire.		
35. Passes guide wire to no further than 24 cm mark at skin. [PROMPT: How far should you advance the guidewire?] [Note: if resistance is encountered when passing guidewire into manikin vessel, continue by verbalizing only] [PROMPT: 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.]		
36. Verbalizes options for verification of IV placement. [PROMPT: 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]).		
37. Pantomimes or verbalizes to nick skin with scalpel edge positioned away from the guide wire (do not perform on mannequin). [PROMPT: Please show me how to position the scalpel.]		

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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 (do not perform on mannequin). Pantomimes or verbalizes demonstration of wire mobility during advancement.		
39. Controls bleeding at insertion site during dilator removal.		
40. Feeds catheter over the guide wire until end of the wire emerges from the distal port.		
41. Uses non-dominant hand to control the end of the guide wire.		
42. Advances the catheter into the vessel leaving 1.5 cm free between skin and the hub for placement of Biopatch. (if unable to pass catheter [PROMPT: How far would you advance the catheter?])		
43. Removes the guide wire and clamps distal port or closes with a cap.		
44. Hands-off guide wire for confirmation of removal.		
45. Aspirates and flushes all catheter ports with saline, holding flushes upright to avoid infusing air (Prompt: Show me the proper position for holding the flushes).		
46. Places Biopatch.		
47. <u>If only testing for IJ/FEM</u> , secures catheter with 2 sutures or STATLOCK to suture pad [Proctor: slide suture pad under drape]. Verbalizes if testing for subclavian.		
48. Pantomimes or verbalizes to apply sterile dressing (do not perform on mannequin).		
49. Appropriately disposes of sharps.		
50. For IJ, orders a CXR and reviews for venous placement, depth and pneumothorax. For femoral line, verbalizes no CXR required.		
51. Verbalizes documentation of the line insertion.		

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Sterile Field Did the operator complete the following:	Passed	Needs Remediation
52. Throughout the procedure, did the operator maintain asepsis at all times?		

Catheter Removal Did the operator complete the following:	Passed	Needs Remediation
53. Verbalizes that central line removal is a two-licensed persons' procedure (MD, PA, RN, NP) -- No students.		
54. Verbalizes that patient history was checked for coagulopathy, anti-coagulation, dehydration and hypovolemia markers within past 24 hours.		
55. "Pause for the cause" (includes verification of patient/procedure) is initiated.		
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.		
57. Compresses the insertion site with a digit until the bleeding stops.		
58. Verbalizes dressing site with an occlusive dressing (ointment, petroleum gauze, or sealed Tegaderm).		
59. Instructs the patient to remain flat for 30 minutes.		
60. Verbalizes documentation of the line removal.		

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

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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.		
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The operator must pass all critical actions and 85% of the non-critical actions in order to pass this checklist.

Catheter Insertion Did the operator complete the following:	Passed	Needs Remediation
1. Obtains or confirms documentation of consent.		
2. Uses institution specific checklist/algorithm recommending standardized protocol for CVL insertion.		
3. "Pause for the cause" (includes verification of patient/procedure and completion of Procedure Verification Form) is performed.		
4. Verbalizes that patient history was checked for coagulopathy and anti-coagulation.		
5. Verbalizes placement of patient in Trendelenburg position. [PROMPT: What is the proper positioning of the bed and patient for subclavian insertion?]		
6. Drapes the patient in sterile fashion (Verbalizes).		
7. Repreps the insertion site with chlorhexidine (Verbalizes).		

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8. Describes key anatomical landmarks. [PROMPT: Please describe the key anatomical landmarks of subclavian insertion.] (Midpoint of clavicle, or juncture of middle and lateral thirds of the clavicle).		
9. Aspirates the lidocaine numbing agent aseptically.		
10. Clamps ports or closes them with claves while leaving distal port open.		
11. Pantomimes or verbalizes injecting skin with lidocaine (do not perform on mannequin).		
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.		
13. Uses a non-dominant finger or thumb to press the tip of the needle underneath the clavicle.		
14. Once underneath, directs the tip of the needle toward the sterno-clavicular joint and advance.		
15. Obtains blood flash, using non-dominant hand to stabilize the needle hub.		
16. Unscrews syringe and notes color of blood and lack of pulse.		
17. Passes guide wire to no further than 24 cm mark at skin. [PROMPT: How far should you advance the guidewire?] [Note: if resistance is encountered when passing guidewire into manikin vessel, continue by verbalizing only]. [PROMPT: 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.]		
18. Verbalizes options for verification of IV placement. [PROMPT: What are the options for verification of venous placement of the catheter?] (a) Angiocath placement over guide wire and tube manometry; b) CVP transduction.		
19. Pantomimes or verbalizes to nick skin with scalpel edge positioned away from the guide wire (do not perform on mannequin). [PROMPT: Please show me how to position the scalpel.]		
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 (do not perform on mannequin). Pantomimes or verbalizes demonstration of wire mobility during advancement.		
21. Control bleeding at insertion site during dilator removal.		

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22. Feed catheter over the guide wire until end of the wire emerges from the distal port.		
23. Use non-dominant hand to control the end of the guide wire.		
24. Advance the catheter into the vessel leaving 1.5 cm free between skin and the hub for placement of Biopatch (verbalizes if unable to pass catheter).		
25. Removes the guide wire and clamps distal port or closes with a cap.		
26. Hands-off guide wire for confirmation of removal.		
27. Aspirates and flushes all catheter ports with saline, holding flushes upright to avoid infusing air.		
28. Places Biopatch.		
29. Secures catheter with 2 sutures or STATLOCK to suture pad [Proctor: slide suture pad under drape].		
30. Pantomimes or verbalizes to apply sterile dressing (do not perform on mannequin).		
31. Appropriately disposes of sharps.		
32. Orders a CXR and reviews for venous placement, depth and pneumothorax.		
33. Verbalizes documentation of the line insertion.		

Sterile Field Did the operator complete the following:	Passed	Needs Remediation
34. Throughout the procedure, did the operator maintain asepsis at all times?		
Reporting Results to New Innovations©	Yes	No
35. I verify that the learner has successfully completed this practical station.		
36. I verify that I have observed learner logging successful completion into the New Innovations© <i>Procedure Tracker</i> .		
37. I verify proctor confirmation of successful completion in New Innovations©.		

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