Section A: Prepping Procedure

1. Surgically isolate the desired vessel through a small skin incision.

2.创造 sterile field and open tray.

3.隧道技术。(避免使用缝合针刺穿血管。)

4. Place patient in the Trendelenburg position with head turned away from the intended venipuncture site.

5. Note:

- Place the patient in Trendelenburg position to allow the greater degree of venous distention and minimal intravascular pressure.

6. Tunneling procedure.

   a. Grasp the tunneler at the end.

   b. Insert the rounded tip of the tunneler into a small incision at the desired catheter exit.

   c. Attach the lumen tip or one of the lumen tips of the dual lumen catheter onto the tunneler barb with a twisting motion. Barb threads must be completely covered by the catheter tip to adequately secure the event.

   d. Attach the tunneler to the guidewire using a rotational motion. Advance it into the vein as a unit, leaving at least 2 cm of sheath exposed. Track the tunneler through the subcutaneous tunnel to the skin exit site.

   e. Aspirate gently as the insertion is made.

2. Placement Procedure

   a. Locally denote an area using a small needle attached to a syringe. Make 3-4 small entry sites at the skin exit site.

   b. If the guidewire does not enter the vein, try another entry site and/or reposition the tunneler and catheter to obtain an adequate angle to facilitate entry into the vein.

   c. Tissue irritation or entering the pleural space should be considered to relieve possible restriction. Irrigate catheter lumen(s) with 10 ml of sterile normal saline to clear catheter of blood. Instill sterile heparinized saline per lumen to create a heparin lock per hospital protocol for open-ended catheters. Clamp catheter.

   d. Attach introducer needle to the syringe and insert into vessel alongside the small needle.

   e. Refer to section B for catheter measurement and tunneling procedure.

   f. Remove the catheter tip from the tunneler barb. Cut off the end tied by suture.

   g. If the guidewire must be withdrawn while the tunneler is still in place, gently aspirate catheter. The risk of thermal injury to the vessel wall is reduced.
**New Important Information:**

- Do not use if outer packaging is damaged.
- Catheters can be cut to length if a different length is desired due to patient size and desired point of insertion according to hospital policy. Do not cut catheter when using percutaneous entry (Seldinger technique) should place this catheter.

**Schematics:**

### PowerHickman Catheter
- **Antimicrobial Cuff:** VitaGuard® antimicrobial agent incorporated into the porous collagen matrix, which provides infection control by incorporating an antimicrobial agent into the porous collagen matrix.

### VitaCuff Positioning
- **Grade 1:** Shoulder positioning during chest x-rays
- **Grade 2:** Distortion present
- **Grade 3:** No distortion

### Prophylactic: Internal Jugular Vein
- **Internal Jugular Vein:** Carefully insert the introducer and catheter to avoid inadvertent penetration to vital structures in the thorax.

### Precautions:
- **Catheter embolism:** Breakage due to compression between the clavicle and first rib (pinch-off).
- **Cardiac tamponade:** Ventricular thrombosis, pulmonary embolism, myocardial erosion or cardiac tamponade.
- **Bleeding:** Pneumothorax or retraction.
- **Allergic reaction to silver or collagen:** Hydrothorax.

**Indications For Use:**

- **VitaCuff Antimicrobial Cuff (Option):** Indicated for short or long term access to the central venous system.
- **VitaGuard®:** Catheter is indicated for short or long term access to the central venous system.
- **PowerHickman Catheter:** Catheter is indicated for short or long term access to the central venous system.

**VitaGuard®:**
- Antimicrobial agent incorporated into the porous collagen matrix, which provides infection control by incorporating an antimicrobial agent into the porous collagen matrix.

**VitaCuff®:**
- Biomaterial designed to provide a conforming, fluid-filled cuff against the venous wall to maintain venous patency.

**Power Injection Procedure:**
- **Step 1:** Remove the injection/needleless cap from the catheter with 10 ml of sterile normal saline, using a 10 ml or larger syringe.
- **Step 2:** Attach a 10 ml or larger syringe filled with sterile normal saline.
- **Step 3:** Attach the power injection device to the catheter.

**Warning:**
- Failure to ensure patency of the catheter prior to power injection studies may result in catheter failure.

**Contraindications:**
- **Catheter implantation:** Indicates the indication for power injection of contrast media implies the tip displacement.
- **Exceeding the maximum flow rate of 5 ml/sec may result in catheter failure and/or catheter sheath failure.

**Warning:**
- Failure to warm contrast media to body temperature prior to power injection may result in catheter failure.

**Precautions:**
- **Catheter embolism:** Breakage due to compression between the clavicle and first rib (pinch-off).
- **Cardiac tamponade:** Ventricular thrombosis, pulmonary embolism, myocardial erosion or cardiac tamponade.
- **Bleeding:** Pneumothorax or retraction.
- **Allergic reaction to silver or collagen:** Hydrothorax.
New Important Information:
- Central Venous Catheters are constructed of specially formulated and processed medical grade polyurethane.

Replace the injection/needleless cap on the catheter.

Flush the catheter per manufacturer's recommendations.

VitaGuard Antimicrobial Cuff (Optional):
- Antimicrobial agent is incorporated into the catheter cuff material to help provide protection against infections related to vascular access.
- The material is attributable to the silver ions bound to the collagen matrix occurs in a few days, further securing the device is designed to help provide protection against infections related to vascular access.

PowerHickman
- If the artery is entered, withdraw the needle and apply manual pressure for several minutes. If the pleural space is entered, withdraw the needle and apply manual pressure for several minutes.
- When using alcohol or alcohol-containing antiseptics with polyurethane catheters, care should be taken to avoid prolonged or excessive use of alcohol or alcohol-containing antiseptics, as they could damage the catheter.
- Check catheter for leaking or mechanical damage.
- Fill (prime) the device with sterile heparinized saline or normal saline solution to help avoid air embolism.
- Do not attempt to slide the catheter over the wire separately into the vein. This may cause the catheter to bunch up on the wire and the needle. If the guidewire must be withdrawn while the needle is inserted, remove both the needle and guidewire as a unit to help prevent dislodging the catheter.
- Catheters can be cut to length if a different length is desired due to patient size and desired point of insertion according to hospital policy.

Precautions:
- Cannulation must be performed by and performed under the direct supervision of a qualified perfusion professional.
- Cannulation must be performed by and performed under the direct supervision of a qualified perfusion professional.
- Only qualified perfusion professionals must perform cannulation and cannulation must be performed under the direction of a qualified perfusion professional.
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New Important Information:

VitaCuff®

The catheter is placed into one of the central veins so the tip lies in the superior vena cava above the right atrium. It is tunnelled

Placement

StatLock®

PowerHickman

7. Disconnect the power injection device.

Exceeding the maximum flow rate of 5 ml/sec may result in catheter failure and/or catheter tip displacement.

Warning:

Do not exceed the maximum flow rate of 5 ml/sec.

VitaCuff Antimicrobial Cuff (Optional)

Tissue Ingrowth Cuff, attached to the catheter, is positioned below the skin exit site in the tunnel. The

ID Tag

Antimicrobial Cuff (Optional)

VitaGuard

If the artery is entered, withdraw the needle and apply manual pressure for several minutes. If the pleural space is entered, with-

Warnings:

Avoid inadvertent puncture of the skin or fascia with the tip of the tunneler.

Indications: For Use:

The PowerHickman catheter is indicated for short or long term access to the central venous system. PowerHickman catheter

Clinical:

- Minimize the exposure of the cuff to pooled blood by sponging the intended cuff placement site.

- Sutures should not be tied around the catheter itself. The provided suture wings will secure the catheter without compromising

- Do not cut the catheter before removal from vein to avoid catheter embolism.

- Contrast media should be warmed before power injection.

- Do not insert guidewire beyond the bevel of the needle while removing straightener from the needle hub in order to prevent

- Avoid inadvertent puncture of the skin or fascia with the tip of the tunneler.

- When tunneling, the catheter must not be forced.

- Only qualified healthcare practitioners should insert, manipulate, and remove this catheter.

- Follow all contraindications, warnings, cautions, precautions, and instructions for all infusates including contrast media as speci-

- Follow Universal Precautions when inserting and maintaining the catheter.

- Fill (prime) the device with sterile heparinized saline or normal saline solution to help avoid air embolism.

- Inspect kit for presence of all components.

- Do not use the cuff indication for power injection of contrast media, which may lead to catheter failure and/or catheter tip displace-

- The patient is known or is suspected to be allergic to materials contained in the device.

- The device is contraindicated whenever:

- Only qualified healthcare providers should insert, manipulate, and remove this catheter.

- This catheter is not a right atrium catheter. Avoid positioning the catheter tip in the right atrium. Placement or migration of the catheter tip

- Intended for Single Patient Use. DO NOT REUSE. Bard Access Systems products are single use devices and must never be

- Do not use the antimicrobial cuff in patients with known sensitivities to silver ions or collagen.

- Do not use the catheter if there is any evidence of mechanical damage or leaking. Damage to the catheter may lead to rupture,

- The patient may be at risk of air aspiration. The risk of air embolism is reduced by performing this part of the procedure with the patient performing the

- Eliminate resistance in the catheter by applying negative pressure (e.g. with a syringe) to the catheter lumen. Resistance causing

- Resistance to infusion of fluids should be made to ensure that the catheter is not being pinched by

- Do not insert guidewire beyond the bevel of the needle while removing straightener from the needle hub in order to prevent

- Do not use the catheter if there is any evidence of mechanical damage or leaking. Damage to the catheter may lead to rupture,

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- Do not use the catheter if there is any evidence of mechanical damage or leaking. Damage to the catheter may lead to rupture,

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Important Information:

- The catheter is placed into one of the central veins so the tip lies in the superior vena cava above the right atrium. It is tunnelled to prevent accidental removal.

VitaCuff Antimicrobial Cuff (Optional)

- The VitaCuff Antimicrobial Cuff is a sterile, polyurethane cuff that is placed at the exit site. The cuff is comprised of two concentric layers of material. The internal layer is constructed from a collagen sponge and the external layer is constructed from a polyurethane. The VitaCuff collage sponge is initially in a compressed state for ease of insertion. After placement, the matrix absorbs and expands to its desired state.

- The presence of device related infection, bacteremia, or septicemia is known or suspected.

- If the artery is entered, withdraw the needle and apply manual pressure for several minutes. If the pleural space is entered, withdraw the needle and apply manual pressure for several minutes. If the fluid space is entered, withdraw the needle and apply manual pressure for several minutes.

- If an artery is entered, withdraw the needle and apply manual pressure for several minutes. If the pleural space is entered, withdraw the needle and apply manual pressure for several minutes. If the fluid space is entered, withdraw the needle and apply manual pressure for several minutes.

- The device is contraindicated whenever:
  - Catheter transection rowing
  - Distortion present
  - The entire collagen (tan) portion of the cuff must be in the subcutaneous tissue at the catheter exit site.
  - Minimize the exposure of the cuff to pooled blood by sponging the intended cuff placement site.
  - During insertion of catheter with antimicrobial cuff:
    - Simultaneously advance the sheath and dilator with rotational motion to help prevent sheath damage.
    - To avoid blood vessel damage, do not allow the percutaneous introducer sheath to remain indwelling in the blood vessel.
    - Do not use the antimicrobial cuff in patients with known sensitivities to silver ions or collagen.

- The presence of device related infection, bacteremia, or septicemia is known or suspected.

- Bathing of the Antimicrobial VitaCuff® device is not recommended. The device is comprised of two concentric layers of material. The internal layer is constructed from a collagen sponge and the external layer is constructed from a polyurethane. The VitaCuff collage sponge is initially in a compressed state for ease of insertion. After placement, the matrix absorbs and expands to its desired state.

- Do not cut the catheter before removal from vein to avoid catheter embolism.

- Contrast media should be warmed before power injection.

- Do not exceed the maximum flow rate of 5 ml/sec. Exceeding the maximum flow rate of 5 ml/sec may result in catheter failure and/or catheter tip displacement.

- When using alcohol or alcohol containing antiseptics with polyurethane catheters, care should be taken to avoid prolonged or residual contact of the antiseptic with the catheter.

- Do not use the antimicrobial cuff in patients with known sensitivities to silver ions or collagen.

- There have been previous episodes of venous thrombosis or vascular surgical procedures at the prospective placement site.

- The presence of device related infection, bacteremia, or septicemia is known or suspected.

- If the artery is entered, withdraw the needle and apply manual pressure for several minutes. If the pleural space is entered, withdraw the needle and apply manual pressure for several minutes. If the fluid space is entered, withdraw the needle and apply manual pressure for several minutes.

- Do not use the antimicrobial cuff in patients with known sensitivities to silver ions or collagen.

- There have been previous episodes of venous thrombosis or vascular surgical procedures at the prospective placement site.

- The presence of device related infection, bacteremia, or septicemia is known or suspected.

- Bathing of the Antimicrobial VitaCuff® device is not recommended. The device is comprised of two concentric layers of material. The internal layer is constructed from a collagen sponge and the external layer is constructed from a polyurethane. The VitaCuff collage sponge is initially in a compressed state for ease of insertion. After placement, the matrix absorbs and expands to its desired state.

- When using percutaneous introducers:
  - To avoid blood vessel damage, do not allow the percutaneous introducer sheath to remain indwelling in the blood vessel.
  - Do not use the antimicrobial cuff in patients with known sensitivities to silver ions or collagen.

- The presence of device related infection, bacteremia, or septicemia is known or suspected.

- Bathing of the Antimicrobial VitaCuff® device is not recommended. The device is comprised of two concentric layers of material. The internal layer is constructed from a collagen sponge and the external layer is constructed from a polyurethane. The VitaCuff collage sponge is initially in a compressed state for ease of insertion. After placement, the matrix absorbs and expands to its desired state.

- Do not cut the catheter before removal from vein to avoid catheter embolism.

- Contrast media should be warmed before power injection.

- Do not exceed the maximum flow rate of 5 ml/sec. Exceeding the maximum flow rate of 5 ml/sec may result in catheter failure and/or catheter tip displacement.

- When using alcohol or alcohol containing antiseptics with polyurethane catheters, care should be taken to avoid prolonged or residual contact of the antiseptic with the catheter.

- Do not use the antimicrobial cuff in patients with known sensitivities to silver ions or collagen.

- There have been previous episodes of venous thrombosis or vascular surgical procedures at the prospective placement site.

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- If the artery is entered, withdraw the needle and apply manual pressure for several minutes. If the pleural space is entered, withdraw the needle and apply manual pressure for several minutes. If the fluid space is entered, withdraw the needle and apply manual pressure for several minutes.

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- Do not cut the catheter before removal from vein to avoid catheter embolism.

- Contrast media should be warmed before power injection.

- Do not exceed the maximum flow rate of 5 ml/sec. Exceeding the maximum flow rate of 5 ml/sec may result in catheter failure and/or catheter tip displacement.

- When using alcohol or alcohol containing antiseptics with polyurethane catheters, care should be taken to avoid prolonged or residual contact of the antiseptic with the catheter.

- Do not use the antimicrobial cuff in patients with known sensitivities to silver ions or collagen.

- There have been previous episodes of venous thrombosis or vascular surgical procedures at the prospective placement site.

- The presence of device related infection, bacteremia, or septicemia is known or suspected.

- If the artery is entered, withdraw the needle and apply manual pressure for several minutes. If the pleural space is entered, withdraw the needle and apply manual pressure for several minutes. If the fluid space is entered, withdraw the needle and apply manual pressure for several minutes.

- Do not use the antimicrobial cuff in patients with known sensitivities to silver ions or collagen.

- There have been previous episodes of venous thrombosis or vascular surgical procedures at the prospective placement site.

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- Bathing of the Antimicrobial VitaCuff® device is not recommended. The device is comprised of two concentric layers of material. The internal layer is constructed from a collagen sponge and the external layer is constructed from a polyurethane. The VitaCuff collage sponge is initially in a compressed state for ease of insertion. After placement, the matrix absorbs and expands to its desired state.

- Do not cut the catheter before removal from vein to avoid catheter embolism.

- Contrast media should be warmed before power injection.

- Do not exceed the maximum flow rate of 5 ml/sec. Exceeding the maximum flow rate of 5 ml/sec may result in catheter failure and/or catheter tip displacement.

- When using alcohol or alcohol containing antiseptics with polyurethane catheters, care should be taken to avoid prolonged or residual contact of the antiseptic with the catheter.

- Do not use the antimicrobial cuff in patients with known sensitivities to silver ions or collagen.

- There have been previous episodes of venous thrombosis or vascular surgical procedures at the prospective placement site.

- The presence of device related infection, bacteremia, or septicemia is known or suspected.

- If the artery is entered, withdraw the needle and apply manual pressure for several minutes. If the pleural space is entered, withdraw the needle and apply manual pressure for several minutes. If the fluid space is entered, withdraw the needle and apply manual pressure for several minutes.

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- Do not cut the catheter before removal from vein to avoid catheter embolism.

- Contrast media should be warmed before power injection.

- Do not exceed the maximum flow rate of 5 ml/sec. Exceeding the maximum flow rate of 5 ml/sec may result in catheter failure and/or catheter tip displacement.

- When using alcohol or alcohol containing antiseptics with polyurethane catheters, care should be taken to avoid prolonged or residual contact of the antiseptic with the catheter.

- Do not use the antimicrobial cuff in patients with known sensitivities to silver ions or collagen.

- There have been previous episodes of venous thrombosis or vascular surgical procedures at the prospective placement site.

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- If the artery is entered, withdraw the needle and apply manual pressure for several minutes. If the pleural space is entered, withdraw the needle and apply manual pressure for several minutes. If the fluid space is entered, withdraw the needle and apply manual pressure for several minutes.

- Do not use the antimicrobial cuff in patients with known sensitivities to silver ions or collagen.

- There have been previous episodes of venous thrombosis or vascular surgical procedures at the prospective placement site.

- The presence of device related infection, bacteremia, or septicemia is known or suspected.
Placing Procedure

Before beginning procedure, read the “Contraindications, Warnings and Precautions” and “Possible Complications” sections of the product information.

Section A: Prepping Procedure

1. Measure catheter against chest wall of patient to determine desired location of subcutaneous tunnel. The catheter may be trimmed if a shorter length is required.
2. Select the appropriate needle using the chart. The needle is inserted, removed both the needle and guidewire as a unit to help prevent the artery from closing.
3. When tunneling, the catheter must be held thumb over exposed orifice of sheath to prevent air aspiration. The risk of air aspiration is higher when the catheter is inserted through a subcutaneous tunnel.
4. Insert sureCuff® and sureGuard® catheter template into the skin and connect to intravenous fluid source.
5. Attach end cap(s) or connect to intravenous fluid source.
6. Peel the sheath away from the catheter completely. Make sure the catheter is not dislodged easily with traction or if there is no definite suture site information. Surgical removal (see #2 below) may be necessary to prevent breaking the catheter if the cuff does not dislodge easily with traction or if there is no definite suture site information.
7. Verify catheter tip location radiographically.
8. Suture catheter wings (or use StatLock® device) (Avoid nicking catheter with suture needle.)
9. Grasp the tunneler at the end. Using tunneler or long forceps, pierce the skin at the venipuncture site. If catheter is not patent, adjust catheter at curvature to prevent dislodging the catheter. You should not feel any resistance when withdrawing the catheter from the vein. If you do encounter resistance, this may indicate the catheter is not positioned in the correct vein. When exiting the vein, you should not feel any resistance either. Apply pressure to the catheter/vein insertion site as needed to control bleeding. If the cuff is present. The catheter can usually be removed by traction on the external segment (see #1 below) if it is not sutured internally at the cuff or vessel insertion site. Surgical removal (see #2 below) may be necessary to prevent breaking the catheter if the cuff does not dislodge easily with traction or if there is no definite suture site information.

Section B: Tunneler Technique

1. Locate the position of the catheter either by palpation or by observing the position of “dimpling” when traction is applied to the catheter. Hold thumb over exposed orifice of sheath to prevent air aspiration. The risk of air aspiration is higher when the catheter is inserted through a subcutaneous tunnel.
2. Grasp the tunneler at the end. Using tunneler or long forceps, pierce the skin at the venipuncture site. If catheter is not patent, adjust catheter at curvature to prevent dislodging the catheter. You should not feel any resistance when withdrawing the catheter from the vein. If you do encounter resistance, this may indicate the catheter is not positioned in the correct vein. When exiting the vein, you should not feel any resistance either. Apply pressure to the catheter/vein insertion site as needed to control bleeding. If the cuff is present. The catheter can usually be removed by traction on the external segment (see #1 below) if it is not sutured internally at the cuff or vessel insertion site. Surgical removal (see #2 below) may be necessary to prevent breaking the catheter if the cuff does not dislodge easily with traction or if there is no definite suture site information.

3. Insert sureCuff® and sureGuard® catheter template into the skin and connect to intravenous fluid source.
4. Attach end cap(s) or connect to intravenous fluid source.
5. Peel the sheath away from the catheter completely. Make sure the catheter is not dislodged easily with traction or if there is no definite suture site information. Surgical removal (see #2 below) may be necessary to prevent breaking the catheter if the cuff does not dislodge easily with traction or if there is no definite suture site information.
6. Suture catheter wings (or use StatLock® device) (Avoid nicking catheter with suture needle.)
7. Grasp the tunneler at the end. Using tunneler or long forceps, pierce the skin at the venipuncture site. If catheter is not patent, adjust catheter at curvature to prevent dislodging the catheter. You should not feel any resistance when withdrawing the catheter from the vein. If you do encounter resistance, this may indicate the catheter is not positioned in the correct vein. When exiting the vein, you should not feel any resistance either. Apply pressure to the catheter/vein insertion site as needed to control bleeding. If the cuff is present. The catheter can usually be removed by traction on the external segment (see #1 below) if it is not sutured internally at the cuff or vessel insertion site. Surgical removal (see #2 below) may be necessary to prevent breaking the catheter if the cuff does not dislodge easily with traction or if there is no definite suture site information.

8. Suture catheter wings (or use StatLock® device) (Avoid nicking catheter with suture needle.)
9. Grasp the tunneler at the end. Using tunneler or long forceps, pierce the skin at the venipuncture site. If catheter is not patent, adjust catheter at curvature to prevent dislodging the catheter. You should not feel any resistance when withdrawing the catheter from the vein. If you do encounter resistance, this may indicate the catheter is not positioned in the correct vein. When exiting the vein, you should not feel any resistance either. Apply pressure to the catheter/vein insertion site as needed to control bleeding. If the cuff is present. The catheter can usually be removed by traction on the external segment (see #1 below) if it is not sutured internally at the cuff or vessel insertion site. Surgical removal (see #2 below) may be necessary to prevent breaking the catheter if the cuff does not dislodge easily with traction or if there is no definite suture site information.

References

6. SureGuard® is a registered trademark of C. R. Bard, Inc. All rights reserved.

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Fax: (203) 388-9530
www.bard.com
Placement Procedure

Before beginning procedure, read the “Contraindications, Warnings and Precautions” and “Possible Complications” sections of the Instructions For Use. Failure to follow these sections could result in serious injury or death.

Section B: Tunneling Procedure

1. Surgically isolate the desired vessel through a small skin incision.
2. Tunneling procedure. Refer to section B for catheter measurement and tunneling procedure.
3. Perform local anesthetic infiltration in venipuncture/cutdown, tunnel and tunnel exit site areas.
4. When tunneling, the catheter must be trimmed if a shorter length is required.
5. Preflush the Catheter.
6. Insert the tunneler into the skin over the skin incision made in step 1. The tunneler may be trimmed if a shorter length is required.
7. Refer to section B for catheter measurement and tunneling procedure.
8. Thread each lumen of the dual lumen catheter through the subcutaneous tunnel using the tunneler. When tunneling, the catheter must be trimmed if a shorter length is required. A 10ml flush of sterile normal saline solution is recommended before the Valsalva maneuver.
9. To finish tunneling, close the incision with a suture as needed. Apply antibiotic ointment to incision and skin exit sites and an occlusive dressing before continuing to the next step.
10. Secure catheter at exit site with a sterile dressing. Avoid tension on the external segment of the catheter before closing the skin at the venipuncture site. If catheter is not patent, adjust catheter at curvature point to relieve possible restriction. Irrigate catheter lumen(s) with 10ml of sterile normal saline solution.
11. Advance the guidewire into the skin sheath. Remove the skin sheath and guidewire. Perform Valsalva maneuvers to move catheter into the vein. This should not be performed without first evaluating access pressure with a blood pressure cuff. If the access pressure is in the range of normal, the catheter may be advanced approximately 6 inches into the vein. If the access pressure is low, a Valsalva maneuver should be performed before advancing the catheter further. If the Valsalva maneuver is unsuccessful, a small bore cutting needle should be used to proceed. If the Valsalva maneuver is unsuccessful, a small bore cutting needle should be used to proceed.
12. Using a rotational motion, advance it into the vein as a unit, leaving at least 2 cm of catheter within the tissue/cuff ingrowth. When the catheter is fully seated, irrigate catheter lumen(s) with 10ml of sterile normal saline solution.
13. Hold thumb over exposed orifice of sheath to prevent air aspiration. The risk of air aspiration is reduced by performing this part of the procedure with the patient performing the Valsalva maneuver.
14. Grasp the two handles of the peel-apart sheath and pull outward and upward at the same time and proceed. If the guidewire must be withdrawn while performing the Valsalva maneuver, perform it in a clockwise rotational motion.
15. Peel the sheath away from the catheter completely. Make sure the catheter is not dislodged.
16. Secure catheter at exit site with a sterile dressing. Avoid tension on the external segment of the catheter before closing the skin at the venipuncture site.
17. Verify catheter tip location radiographically.
18. Review the patient’s medical history.
19. Use the product as prescribed.
20. Secure catheter at exit site with a sterile dressing. Avoid tension on the external segment of the catheter before closing the skin at the venipuncture site.
21. Verify catheter tip location radiographically.

Section C: Catheter Removal

Do not cut the catheter before removal from vein to avoid catheter embolism.

1. Locate the position of the catheter either by palpation or by examining the position of the guidewire when the catheter is in the vein. The catheter may be removed using one of several methods. The method used will depend upon physician preference and the amount of tissue/cuff ingrowth remaining in the subcutaneous tissue. The patient should perform a Valsalva maneuver before advancing the peel-apart sheath. The external segment of the catheter is not cut off from the external body after the peel-apart sheath is withdrawn. If possible, use one of the peel-apart sheath methods for catheter removal. Avoid nicking the catheter with the suture needle.
2. Make a short transverse incision at or below the external side of the cuff taking care not to transect the catheter. Reach into the subcutaneous tissue with a curved forceps and using a rotational motion, dislodge the tissue/cuff ingrowth from the catheter. If the guidewire is withdrawn while performing the Valsalva maneuver, perform it in a clockwise rotational motion.
3. Place a finger over the hub of the needle to minimize blood loss and the risk of air aspiration. The risk of air aspiration is reduced by performing this part of the procedure with the patient performing the Valsalva maneuver.
4. If the guidewire is withdrawn while performing the Valsalva maneuver, perform it in a clockwise rotational motion.

Flushing

Flushing frequencies from once daily to once weekly have been found to be effective when the catheter is not in use. Flush catheter with 1-3 ml of normal saline solution before administration of P.T.P. To flush, follow the usual protocol.

References


Bard Access Systems, Inc.
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PowerHickman

The Power of Purple*
Section B: Prepping Procedure

1. Create sterile field and open tray.

2. Identify and open all appropriate supplies.

3. Don appropriate PPE (as needed).

4. Follow local aseptic technique and prepare the intended venipuncture site.

5. Attach end cap(s) or connect to intravenous fluid source.

6. Unclamp catheter and draw blood through the lumen(s) of the catheter to ensure patency after placement is complete, but necessary to use the internal jugular vein for insertion of larger catheters.

Note: Refer to the "Warnings" section concerning Catheter Pinch-off.

Section D: Percutaneous Technique

1. Locate the desired vessel using a small needle attached to a syringe. Note: If the vessel can not be palpated, a small needle attached to a syringe may be used to palpate the patient’s pulse. The needle should be advanced into the vessel under fluoroscopy. The needle tip should either palpate the internal jugular vein or the subclavian vein above the clavicle. The subclavian vein is typically palpable at the junction of the superior vena cava.

2. Refer to section B for catheter measurement and tunneling procedure.

3. Aspirate gently as the insertion is made.

4. Place patient in the Trendelenburg position with head turned away from the intended venipuncture site.

5. Make a small (approx. 1 cm wide) incision, positioning the guidewire at the center of the incision to prevent pressure on skin edges and vessel closure.

6. Refer to the "PowerHickman" catheter testing included 10 power injection cycles.

7. Refer to section B for catheter measurement and tunneling procedure.

8. Make a small (approx. 1 cm wide) incision, positioning the guidewire at the center of the incision to prevent pressure on skin edges and vessel closure.

9. Advance the vessel dilator and sheath introducer as a unit over the exposed guidewire into the vessel. The sheath should be advanced over the guidewire, positioned, and then flushed with heparinized saline solution or sterile normal saline to clear the vessel and sheath of blood. The guidewire should be removed and the sheath left in place. The catheter should be advanced through the sheath into the vessel until the catheter tip is seated in the vascular access (venous or arterial).

10. Verify catheter tip location radiographically. The preferred location of the catheter tip is at the junction of the superior vena cava.

11. Draw the vessel dilator and guidewire, leaving the sheath in place.

12. Place the catheter tip(s) in the desired position. Note: The catheter must be carefully advanced through the patient’s body to prevent damage to surrounding structures.

13. If the guidewire must be withdrawn while performing this procedure in a cooperative patient, withdraw the guidewire, do not withdraw the catheter. Once within the vessel, make sure the catheter hub is not pinched or pulled from the vessel.

14. Flush with heparinized saline solution or sterile normal saline to create a heparin lock per hospital protocol for open-ended catheters. Clamp catheter.

15. While moderately occluding the venous access site, remove the sheath.

16. Unclamp catheter and withdraw blood through the lumen(s) to insure patency before closing the skin at the venipuncture site.

17. Close the skin at the venipuncture site as necessary, taking care not to damage the catheter. The catheter should be manually flushed with heparin before administering the infusion.

18. Close the skin at the venipuncture site as necessary, taking care not to damage the catheter. The catheter should be manually flushed with heparin before administering the infusion.

19. Close the skin at the venipuncture site as necessary, taking care not to damage the catheter. The catheter should be manually flushed with heparin before administering the infusion.

20. Close the skin at the venipuncture site as necessary, taking care not to damage the catheter. The catheter should be manually flushed with heparin before administering the infusion.

21. Verify catheter tip location radiographically.

Caution:

- The PowerHickman catheter testing included 10 power injection cycles.

Note: Refer to the "PowerHickman" catheter testing included 10 power injection cycles.

References:


4. PowerHickman catheter testing included 10 power injection cycles.