PROCEDURE

TITLE: HICKMAN CATHETER MANAGEMENT (Tunneled Catheter)

PURPOSE: To provide procedures for the RN to utilize for Hickman Catheter.

SUPPORTIVE DATA: The Hickman catheter is used to provide vascular access for long term therapy and is a silastic, indwelling central venous catheter used to deliver infusions of:

1. Blood
2. Blood Products
3. IV Fluids
4. Intermittent Infusions
5. TPN
6. Chemotherapy

It is also used to monitor Central Venous Pressure and withdraw blood samples. The catheter tip is normally positioned in the right atrium or superior vena cava during surgery under local or general anesthesia. The Hickman catheter offers advantages of remaining in place for a year or longer.

RESPONSIBLE PERSON: IV qualified RN

CONTENT:

A. Hickman Catheter Flush/Bolus Injection
B. Collection of Blood Samples from a Hickman Catheter
C. Continuous Infusion via Hickman Catheter
D. Dressing Change for Hickman Catheter: Exit Site & Suture Site
E. Hickman Catheter: PRN Adapter Change

A. HICKMAN CATHETER FLUSH/BOLUS INJECTION

To be performed:

1. Immediately after the catheter is inserted.
2. After medication administration.
3. After completion of IV infusion.
4. After blood samples are drawn.
5. Every eight (8) hours or as ordered by the physician for a catheter not being used.

EQUIPMENT LIST:

- Alcohol Wipes
- Gloves
- Pre-filled syringe of heparinized saline 5ml. (10 units/cc) in 5 ml.
- Pre-filled syringes of normal saline 10 ml. in each syringe.

CONTENT:	PROCEDURE STEPS:	KEY POINTS:
	1. Verify MD's orders.	
	2. Assemble all equipment.	
	3. Identify the patient – using two unique patient identifiers.	
	4. Explain procedure to patient.	
	5. Position the patient comfortably and expose the	

catheter.

6. Wash hands thoroughly and don gloves.

7. Cleanse the prn adapter with an alcohol wipe, using friction, allow to dry.

8. Open the clamp on the catheter.

9. Insert the normal saline syringe through the prn adapter.

10. Ensure patency of the line by aspirating for a blood return.

11. a. Flush with normal saline. — Normal saline 10cc
Heparinized saline 5 cc (10 units/cc)

    b. Flush with heparinized saline if incompatibility is not a problem.

12. Close the clamp as the last 0.5 cc of injectate is instilled. — This will ensure forward pressure and prevent back flow of blood and clotting at the tip of catheter.

13. Remove the syringe.

14. Record time and initials on patient's MAR.

B. HICKMAN CATHETER: COLLECTION OF BLOOD SAMPLES

EQUIPMENT LIST:

- 20 cc syringe
- 3 - 12 cc syringes
- 2 - 5/8" #20 gauge needles
- Alcohol swabs
- Non-allergenic tape 1"
- Gloves
- 5 cc heparinized saline (10 units/ ml)
- 10 cc normal saline

CONTENT: PROCEDURE STEPS: KEY POINTS:

1. Explain procedure to patient.

2. Wash hands and don gloves.

3. Prepare syringes of NS and heparinized saline as appropriate.

4. Cleanse prn adapter with alcohol swab using friction.

5. Attach empty 10cc syringe and withdraw 5 cc of blood from catheter **or** attach empty blood sample tube with vacutainer and withdraw 5 cc blood.

6. Remove blood filled syringe or blood sample tube and discard.

7. Attach 10cc syringe or blood sample tubes with vacutainer and withdraw slowly and

steadily, appropriate amount of blood needed for studies.

8. Remove syringe or blood sample tubes and hand to laboratory technician.

9. If catheter is not in use: — 5 cc heparinized saline (10 units/cc)
   a. Inject saline solution. — 10cc normal saline
   b. Inject heparinized normal saline solution.
   c. Loop catheter and tape securely to dressing.

10. Close the clamp as the last 0.5 cc of injectate is instilled. — This will ensure forward pressure and prevent back flow of blood and clotting at the tip of catheter.

11. If catheter will be used immediately for I.V. solutions:
    a. Attach syringe with normal saline, inject saline to clear blood from catheter. — 10cc normal saline.
    b. Remove syringe, attach intravenous line, and establish appropriate flow rate and tape connection.

DOCUMENTATION:

1. Procedure and laboratory studies done in the Nurses' Notes.
2. Patient's tolerance to procedure.
3. Flushing solution on eMAR.

C. HICKMAN CATHETER: STARTING CONTINUOUS INFUSION

EQUIPMENT LIST:

- IV solution ordered by MD
- IV pump
- Tape
- Alcohol wipes
- Gloves
- Extracorpeal clamp (clamp with rubber stopper covering the teeth)
- 10 cc normal saline in prefilled syringe

CONTENT:

PROCEDURE STEPS:	KEY POINTS:
1. Check MD's orders.	
2. Assemble all equipment.	
3. Explain procedure to patient.	
4. Wash hands thoroughly and don gloves.	
5. Unclamp catheter	
6. Cleanse prn adapter with alcohol using friction and allow to dry.	
7. Check patency by aspirating blood.	
8. Inject normal saline.	10 cc normal saline.
9. Clamp catheter.	To prevent air embolism.

10. Remove prn adaptor.

11. Insert primed IV tubing and adjust rate per physician orders.

Pump is to be used at all times for infusions.

12. Remove extracorporeal clamp and start infusion.

13. Tape connection site.

D. HICKMAN CATHETER: DRESSING CHANGE (EXIT SITE)

EQUIPMENT LIST:
- Disposable clean gloves
- Central Line dressing kit

CONTENT:

PROCEDURE STEPS:

1. Wash hands.

2. Explain procedure to patient.

KEY POINTS:
Dressings should be replaced when the dressing becomes damp, loosened or soiled or if closer inspection of site is necessary. Follow Central Line Policy.

3. Using no-touch techniques, wearing clean gloves, remove old dressing and discard properly.

4. Inspect area for signs of infection: redness, swelling, drainage. Remove gloves.

5. Set up sterile area.

6. Apply sterile gloves.

7. Scrub site with chlorhexidine swab outward in a circular motion. Discard. Allow to dry.

8. Check condition of skin. Remove gloves.

9. Apply transparent dressing
10. Loop catheter ends and tape.

DRESSING FOR SUTURE AREA (IF PRESENT)

1. Wash hands.

2. Using no-touch technique wearing clean gloves,remove old dressing and discard properly.

3. Inspect entrance site for signs of redness, edema, drainage and placement of steri-strips or sutures.

4. Apply sterile 4x4 and cover with silk tape.

DOCUMENTATION: Document the following in the Nurses' Notes:

1. Condition of skin and dressing at catheter site.

2. Date and time dressing changed

3. Patient's response.

E. HICKMAN CATHETER: LEUR LOCK CAP CHANGE PROCEDURE

EQUIPMENT:
- Sterile prn adapter
- Gloves
- Extracorporeal clamp
- 1" tape
- Heparinized saline 5cc (10 units/cc) prefilled

CONTENT:	PROCEDURE STEPS:	KEY POINTS:
	1. Wash hands; don gloves.	
	2. Fold down edges of 3" piece of 1" tape and wrap around catheter so that opposite ends adhere.	
	3. Remove old tape.	
	4. Apply extracorporeal clamp over new tape site.	To prevent air embolism and to avoid repeated clamping in same area.
	5. Remove tape from prn adapter	
	6. Open sterile prn adapter package and prime air out of new PRN adapter using heparinized normal saline.	
	7. Twist off old cap and discard. Attach primed new cap.	**DO NOT CONTAMINATE EXPOSED ENDS OF CATHETER AND CAP.**
	9. Remove clamp and tape to head of bed.	
	10. Flush catheter through rubber diaphragm of cap with heparin solution.	5 cc (10 units/cc).

DOCUMENTATION:
1. Record flushes on patient's eMAR.
2. Record procedure in Nurses' Notes.

Reference:

Alexander, Mary . Corrigan, Ann. Gorski, Lisa. Hankins, Judy. Perucca, Roxanne. Infusion Nursing, An Evidence-Based Approach (Saunders) St Louis Missouri 2010

"Infection Control in Hyperalimentation Therapy Bacterial Disease Division", June 1980, Bureau of Epidemiology.
Guidelines for prevention of intravascular device related infections Publich Health Service, CDC,Atlanta, GA. 1996