Policy

1. Registered Nurses and Registered Practical Nurses who have had additional education and who are knowledgeable in performing paracentesis and know the indications, monitoring parameters, and potential complications may perform intermittent paracentesis drainage.

2. Only Registered Nurses may admit clients receiving paracentesis. Registered Practical Nurses can only perform paracentesis on a client on whom paracentesis is well established in the home setting.

3. A physician’s order is required to perform paracentesis. The order must include
   - Amount of fluid to be removed
   - Frequency of the drain

4. The CarePartners' policy on paracentesis is always superseded by the policy of the referring facility, provided the policy of the referring facility adheres to accepted best practice guidelines for this procedure.

5. Paracentesis is initiated in hospital after the client has had the catheter inserted.

6. There must be a plan in place for the disposal of paracentesis effluent. Bottles must be picked up by a service or returned to the hospital by the client/caregiver. Nurses are not to remove the top of the vacuum bottle but are allowed to safely remove the top of the PleurX drainage system bottles. The nurse may empty bags containing paracentesis effluent into the toilet providing appropriate personal protective equipment is worn by the nurse.

7. Prior to performing the drainage procedure the nurse must perform a thorough client assessment including the following:
   - Weight (when able) - Respiration
   - Chest assessment - Edema
   - Temperature - Abdominal girth
   - Pulse - Bowel sounds
Background Information
Paracentesis is a procedure that aids in the removal of fluid from the peritoneal cavity. In home care, abdominal paracentesis is most commonly performed as a palliative measure to provide relief of abdominal and respiratory discomfort related to ascites fluid. A catheter is inserted into the client’s peritoneum and is accessed intermittently to allow for drainage of fluid. Indications for paracentesis are abdominal discomfort and tension, shortness of breath, crackles upon chest assessment, edema, nausea and vomiting.

Performing Paracentesis
There are a number of drainage systems that can be used to perform paracentesis. The nurse can use an evacuation container (glass vacuum bottle) or empty IV bag or can use a system called PleurX. The equipment required and procedure for each is described below.

Evacuation Container (bottle or IV bag)

Equipment:
- Evacuate container (vacuum bottle or empty 1000cc IV bag)
- 30” thoracentesis tubing
- Alcohol swab

Procedure:
1) Have client void prior to paracentesis procedure.
2) Assess client including weight, chest, temperature, pulse, respirations, BP (both pre and post paracentesis especially
if more than 1 liter of fluid is removed), edema, abdominal girth, bowel sounds.
3) Perform hand hygiene.
4) Don non-sterile gloves.
5) Clamp tubing on thoracentesis set.
6) Remove tab from thoracentesis set. Insert needle from tubing set into the thoracentesis drainage bottle or if using an IV bag attach drain line to and empty IV bag.
7) Clean end of catheter with alcohol swab.
8) Insert needle into injection cap or if using needleless system, luer lock tubing onto adaptor.
9) Open clamp drain to initiate drainage. If pulling occurs stop draining. Have client change position to see if the end of the catheter might have been against the wall of the peritoneal cavity.
10) Discontinue drain if pulling continues and report and document.
11) Once you have reached desired drain volume or pulling occurs, clamp tubing.
12) Remove needle from injection cap or remove luer lock connector.
13) Discard tubing and set bottle with effluent in a safe location for pickup. If effluent is in an IV bag it may be emptied into the toilet. Wear gown, gloves, goggles and mask when emptying IV bag into the toilet.
14) Remove PPE and perform hand hygiene.
15) Document findings on the paracentesis flow sheet.
   a. Weight pre-drain
   b. Abdominal girth pre-drain
   c. Amount of fluid removed
   d. Abdominal girth post-drain
   e. Characteristics of effluent

**PleurX Drainage System (Using PleurX bottle)**

**Equipment**
- Plastic vacuum bottle with attached drain line
- 3 - Alcohol pads
Section: General Nursing Procedures

P&P: Paracentesis

- Procedure pack
  - Self-adhesive dressing
  - Sterile gloves
  - Valve cap
  - Blue emergency slide clamp
  - Gauze pads

**Procedure:**
1) Have client void prior to paracentesis procedure.
2) Assess client including weight, chest, temperature, pulse, respirations, BP (both pre and post paracentesis especially if more than 1 liter of fluid is removed), edema, abdominal girth, bowel sounds.
3) Perform hand hygiene.
4) Set up a clean workspace.
5) Open the drainage kit bag.
6) Open procedure pack pouch.
7) Set the adhesive dressing aside.
8) Set the bundle with the blue wrapping on your workspace. Remove the tape. Unfold the blue wrapping by pulling on the outside of the wrapping. Leave the enclosed items on the wrapping. The items and the inside of the wrapping are sterile, so do not touch them with your ungloved hands or other non-sterile items.
9) Open the vacuum bottle bag and remove the bottle with the attached drainage line. The items in the bag are sterile. Maintain sterility of access tip. Set the bottle near the blue wrapping and place the access tip on the wrapping near the other sterile items.
10) Tear open the three alcohol pads, but do not remove the pads from the pouches. Place them on the blue wrapping.
11) Don sterile gloves.
12) Peel open the pouch containing the valve cap and let the cap fall onto the sterile blue wrapping.
13) Close the clamp on the drainage line.
14) Hold the drainage line near the access tip and remove the cover from the access tip with your other hand by twisting it and pulling gently. Set the access tip back on the sterile blue wrapping.

15) Hold the base of the catheter valve and remove the cap by twisting it counterclockwise and pulling gently. Discard cap.

16) Clean around the valve opening with an alcohol pad.

17) Insert the access tip into the catheter valve. You will feel and hear a click when the access tip and valve are locked together.

   Note: Do not put anything except the access tip of the drainage line into the PleurX Catheter valve. This could damage the valve. A damaged valve could allow air to be pulled in or let fluid leak out through the valve.

18) Remove the support clip on the top of the vacuum bottle by pulling it outward.

19) Push the “T” plunger down with the other hand to puncture the foil seal. The vacuum bottle will pull the flexible bottle cap down.

20) Release the clamp on the drainage line to begin drainage. Fluid will flow into the vacuum bottle. You can slow the flow by squeezing the clamp partially closed. The flow of the fluid into the bottle may slow down when the fluid is almost completely drained. When the flow stops or the 1000ml bottle is filled, squeeze the clamp closed. The drainage can take from 5-15 minutes.

21) With the drainage complete, place the line in one hand and the catheter valve in the other hand. Pull the access tip out of the valve in a firm smooth motion. Set the drainage line down.

22) Clean the valve with an alcohol pad.

23) Place the new cap over the catheter valve and twist it clockwise until it snaps into its locked position.
Emptying the PleurX Vacuum Bottle

24) Hold the bottle steady and push down on “T” plunger, then move it in a circular motion to make a larger opening in the foil seal.

25) Remove the drainage line from the bottle. Release the white clamp on the drainage line to release any vacuum that may be left in the bottle. The drainage line is attached with a flexible cap. Place your thumb on the edge of the cap and push the cap sideways and down into the bottle opening to loosen the cap from the bottle rim. Grasp the cap and pull it away from the loosened side to the bottle top.

26) Don gown, goggles, mask and gloves. Empty the bottle into the toilet.

27) Remove PPE and perform hand hygiene.

28) Place the bottle in a plastic bag, seal tightly, and discard.

29) Document findings on the paracentesis flow sheet.
   a. Weight pre-drain
   b. Abdominal girth pre-drain
   c. Amount of fluid removed
   d. Abdominal girth post-drain
   e. Characteristics of effluent

Changing the PleurX Drainage Bottle

1) Perform hand hygiene.

2) Don sterile gloves.

3) Open the second PleurX vacuum bottle pouch and remove the bottle with the attached drainage line. Items in the bag are sterile. Maintain sterility of access tip. Set bottle near the blue wrapping and place the access tip on the wrapping near the other sterile items.

4) Squeeze the clamp on the drainage line completely closed.

5) Hold the drainage line near the access tip and remove the cover from the access tip with your other hand by twisting it and pulling gently. Set access tip back on the sterile blue wrapping.
Section: General Nursing Procedures

P&P: *Paracentesis*

6) Remove the used bottle by holding the drainage line in one gloved hand and the catheter valve in the other gloved hand, pull access tip of the used bottle out of the valve in a firm, smooth motion. Set the drainage line down.

7) Continue holding the catheter near the valve. Pick up the new drainage line with your other hand and insert the access tip securely into the catheter valve. You will feel and hear a click when the access tip and valve are locked together.

8) Document the change of bottle, amount, colour and consistency of drainage.

**PleurX Drainage System (using other vacuum bottles i.e. glass)**

**Procedure:**

1) Perform hand hygiene.

2) Don non-sterile gloves.

3) Attach a 17 gauge needle to the drainage set using a vacuum bottle other than PleurX. Attach a 5 in 1 connector to the set I using wall suction.

4) Using clamp on drainage line, squeeze clamp closed.

5) Remove protective cover from access tip.

6) Remove cap from the catheter valve. Take care to avoid contaminating the valve and the access tip.

7) Grasp the catheter valve in one hand and the hub of the access tip in the other hand. Insert the access tip into the valve and advance it completely into the valve. You will feel and hear a click indicating that the access tip and valve are securely connected.

8) Release the clamp on the drainage set to begin the removal of fluid.

9) Clamp the drainage set closed when drainage has stopped or the desired amount of pleural fluid has been removed.
10) Gra\pathp\ the access tip hub in one hand and the catheter valve in the other. In a smooth, firm motion, pull the access tip out from within the valve.

11) Clean the valve opening with alcohol. Do not push anything through the valve as this could cause damage to the valve.

12) Attach a new protective cap over the valve and twist the cap until it locks in place.

13) Document bottle change, amount, color and consistency of drainage.

Paracentesis Dressing Change

Aseptic technique will be maintained throughout the exit site care procedure. Exit site care is performed three times a week and as needed. Assess site for redness, swelling or fluid around the catheter. Send swab for culture and sensitivity if redness, swelling, or exudate is present and notify physician. During exit site care inspect the integrity of the paracentesis/semi-permanent catheter. Inspect the catheter for the following: catheter is free from cracks or tears, catheter is secured in a manner to prevent the pulling or tugging of the catheter.

**Equipment:**
- Chlorhexidine, alcohol or betadine swabs/sticks
- Mask
- Non-sterile gloves
- Sterile gloves
- Dressing supplies: 2X2, 4X4 or trach sponges
- Tape i.e. mepore

**Procedure:**
1) Perform hand hygiene.
2) Gather supplies necessary for dressing change and explain to client.
3) Don mask.
4) Don non-sterile gloves.
Section: General Nursing Procedures  
P&P: **Paracentesis**

5) Remove old dressing, being careful not to pull or tug on the catheter. Note color and type of drainage from around catheter.
6) Assess exit site for drainage, bleeding, odor or hypergranulation.
7) Remove non-sterile gloves and perform hand hygiene.
8) Set up sterile field.
9) Don sterile gloves.
10) Using aseptic technique, cleanse around the catheter with Betadine or chlorhexidine swab sticks, an area approximately 7 cm in diameter.
11) Replace dressing with sterile 4X4 gauze or trach sponge or foam dressing and secure with tape.
12) Ensure catheter is secured.
13) Remove gloves and perform hand hygiene.
14) Remove mask.
15) Document findings:
   - drainage
   - condition of exit site
   - catheter integrity