Peritoneal Dialysis: Blocking of Peritoneal Dialysis (PD) Tube with Heparin

Site Applicability

PHC Renal Program

Practice Level

Specialized: Registered Nurses and Licensed Practical Nurses who have successfully completed the required Peritoneal Dialysis education, or Critical Care areas.

Need to Know

Heparin is used to 'block' a Peritoneal Dialysis (PD) tube, for the following indications:

- Obstruction due to blood clots or fibrin. **Physician must be notified in this case, and an order obtained.** Heparin is left instilled in the tube for 2 hours. Then, an attempt is made to drain by CAPD twin bag to determine if obstruction resolved. **If after 2 hours the PD fluid is still unable to be drained, contact the physician for further direction.**
- Between Intermittent Peritoneal Dialysis (IPD) treatments to ensure PD catheter remains patent.
- After PD catheter flush for newly inserted catheters (**performed only by RN**). This is generally done weekly during the healing period.
- Post abdominal drainage of ascites to maintain catheter patency.
- When PD is on hold (i.e. transplant patient, changed dialysis modalities, surgery precluding PD etc).

Heparin given intraperitoneally (IP) will not cause systemic heparinization of the patient.

PD Tubes are blocked with 8 mL of Heparin 1:1000 units / mL.

Equipment and Supplies

1. Heparin 1:1000 units/mL 10 ml vial
2. Alcohol swab
3. 10 mL sterile syringe
4. Blunt fill needle
5. Medication label

6. Red male/female port cap (‘dead-ender’)
7. Minicap
8. Surgical face mask x 2

Procedure

Steps

STEPS	RATIONALE
1. Perform hand hygiene.	Prevent spread of infection.
2. Clean top of heparin vial with alcohol swab and draw up 8 mL of Heparin 1:1000 units/mL into the 10 mL syringe using blunt fill needle and safely recap needle.	
3. Remove blunt fill needle and apply red port cap. Label syringe with medication label.	Reduces risk of needle stick. Safe medication administration practice.
4. Perform hand hygiene. Apply mask to self and patient.	Prevent spread of infection.
5. Drain patient’s PD fluid first (if applicable), then ensure transfer set clamp is closed. (Note: If you suspect that the patient’s PD tube might be blocked: first attempt to troubleshoot the drain with a CAPD twin bag, even if the patient is on CCPD therapy. This ensures that the peritoneum is as fully drained as possible.) ***If patient is connected to CCPD:*** <u>Mid-therapy:</u> Use the OptiCap to disconnect from CCPD and continue CCPD therapy later as needed. <u>End of therapy:</u> If patient is using CCPD therapy, disconnect from cycler. ***If patient is on CAPD:*** Drain patient fully and disconnect CAPD twin bag tubing.	Prevents leakage of dialysate fluid and contamination of transfer set. Sterility is imperative to reduce the risk of

Keep transfer set sterile and in hand.	infection.
6. Attach syringe containing heparin to transfer set by luer lock.	Sterility is imperative to reduce the risk of infection.
7. Open transfer set clamp and instill heparin into tube.	
8. Close transfer set clamp. Detach syringe and apply new MiniCap.	
9. Secure PD tube to patient's abdomen using securement device of choice. If applicable for a blocked PD catheter: resume PD per patient's prescription after the heparin has been instilled for a minimum of 2 hours.	Prevents pulling or twisting of tube at exit site which can lead to infection.

Documentation

- Per physician's order, document time, amount, and concentration of heparin used to block PD tube on MAR.
- For inpatients: document on CAPD or CCPD log sheet; for outpatients document on the Renal Short Stay flow sheet:
    - Appearance of drained effluent
    - Patient tolerance
    - Any significant findings during procedure

Patient and Family Education

1. Educate patient on importance of monitoring and reporting fibrin/blood in dialysate to PD nurse/physician.
2. Educate patient on the effect of heparin on fibrin and clot formation, in relation to PD tube function.

Related Documents

1. Continuous Ambulatory Peritoneal Dialysis Twin Bag Exchange
2. Peritoneal Dialysis Catheter Flush Using a Manual Y System

References

1. British Columbia Provincial Renal Agency. (2017). PD Procedures: Catheter Heparinization and Capping.
2. British Columbia Provincial Renal Agency. (2017). PD Procedures: Catheter Irrigation.
3. Bodin, S. (Ed.) (2017). Contemporary Nephrology Nursing, (3rd ed). American Nephrology Nurses

Association: New Jersey.
4. Main, C. (2014). Peritoneal Dialysis. In Thomas, N. (Ed.), Renal Nursing (4th ed.)(pp. 207-248). London: Wiley Blackwell.

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