The Ottawa Hospital | L'Hôpital d'Ottawa

NEPHROLOGY PROGRAM
DEPARTMENT POLICIES AND PROCEDURES

Home Dialysis - Section 09 - Peritoneal Dialysis - HDU 9-10
Peritoneal Dialysis Catheter Repair
No.: 01479 (TOH Standardized Policy Number)

ISSUED BY:
Home Dialysis Unit Clinical Practice Committee

DATE OF APPROVAL:
2017/02

APPROVED BY:
Program Clinical Director / Division Head

LAST REVIEW/REVISION DATE:
2017/02

CATEGORY:
Peritoneal Dialysis

IMPLEMENTATION DATE:
2010/02

POLICY STATEMENT

- To safely repair a damaged Peritoneal Dialysis (PD) catheter, minimize the risk of infection for patients experiencing a damaged PD catheter, and minimize any disruption to the patient's dialysis plan of care
- Patients reporting possible damage to their catheter are instructed to apply a beta clamp near the exit site and cover the catheter with sterile gauze. Repair of catheter is to be done as soon as possible
- The Home Dialysis Nurse, who has completed education related to PD care, will repair the PD Catheter after consultation with the physician
  - Consult with physician regarding the need for prophylactic antibiotics
  - If the leak is closer than 3 cm from the exit site, consult physician regarding the need for catheter change as repairing within this distance may lead to trauma of the exit site and subsequent exit site infection

DEFINITION(S): N/A

NURSING ALERTS:

- Maintain aseptic technique when handling catheter and repair kit components
- Use only wide smooth clamps e.g. beta clamp on the catheter to prevent damage
- Alcohol (cleansing solution) and talc (in gloves) can prevent adhesive from curing. Ensure that cleansing solution has dried completely and remove talc from exterior of gloves (if they have powder) with dampened gauze
- Check expiry date of repair kit and adhesive (adhesive has a short shelf life)

- Avoid contact of adhesive with skin or eyes
- When piercing the adhesive, use the cap provided. DO NOT TURN the piercing pin as this may result in particles of metal in the adhesive
- Adhesive has a vinegar like odour when curing
- Relative humidity below 20 % or greater than 60% can result in less than optimal curing of the adhesive e.g. during summer months when the humidity is high

Infection Prevention and Control:

Hand Hygiene:

1. Refer to Corporate Policies and Procedures - #00014 Hand Hygiene
2. Refer to Corporate Policies and Procedures - #00233 Hand Hygiene Products and Materials

   – After patient/patient environment contact

Personal Protective Equipment:

1. Refer to Infection Prevention and Control Policies and Procedures - #00023 Routine Practices

SUPPLIES:

A. For checking for leak:

SUPPLIES	SPD product code
Clean towel or waterproof pad	SPD #220525
1 10 syringe	SPD # 140515
1 Beta clamp	SPD # 320670
Pen to mark leak	SPD # 230380

B. For repair of catheter:

SUPPLIES	SPD product code
Peri-patch repair kit and adhesive- note the kit has the betacap adaptor already attached to the catheter extension	SPD # 321530
Cleansing solution: 10% povidone iodine	SPD # 230380
2 pairs sterile gloves	
Sterile procedure tray	
Scissors or scalpel	SPD # 220105
Resin adapter	
'extended life' transfer set (extra short- 4", regular-6" or extra-long- 9")	SPD # 120225
Beta clamp	SPD # 320670
2- 10 ml syringe	SPD # 140515
2- 18 g blunt fill needles	SPD # 230380
2 10ml vail of 0.9 % NaCl.	SPD # 7760200

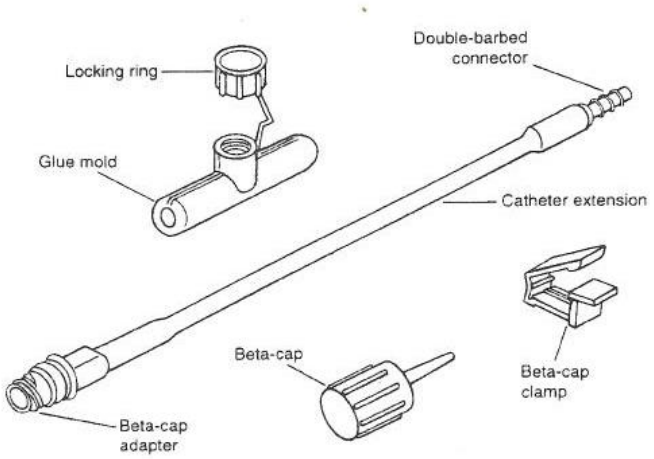
PROCEDURE:

A. Checking the catheter for leak

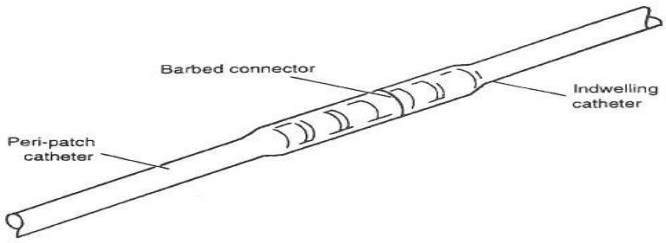
1. Place the clean drape on patient's abdomen near the catheter
2. Don PPE
3. Remove the mini cap from the end of the transfer set; attach a 10-ml syringe of 0.9% NaCl
4. Open the beta clamp and transfer set clamp; GENTLY inject some saline and observe for leak; close the beta clamp. For small holes, you may need to inject against the closed beta clamp in order to find the leak
5. Mark the area of the catheter just distal to the leak with a pen
6. Close the clamp on the transfer set
7. If the patient is in a dwell, drain after repair of the catheter. If the patient is dry, try to aspirate the catheter to check for outflow and to ensure that there is fluid in the PD catheter
8. Prime the replacement catheter and transfer set with saline prior to connection
9. If needed, move the beta clamp closer to the exit site leaving 3-4 cm of tubing between the beta clamp and the leak; close the beta clamp

B. Repair of catheter

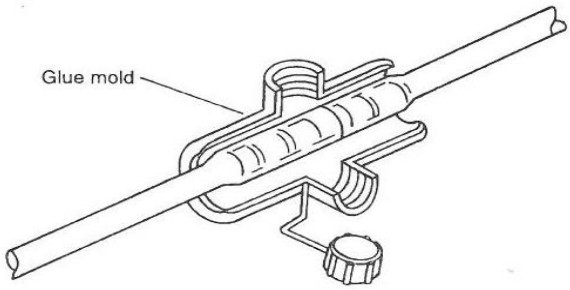
1. Open sterile tray and add supplies) to the sterile field (except repair kit)
2. Don PPE and sterile gloves
3. Place a sterile drape beside the catheter
4. Holding the catheter up, cleanse the exit site
5. While continuing to hold the catheter up, thoroughly cleanse the catheter from the exit site up x2
6. Place the cleansed catheter on a sterile drape and allow to air dry. Remove sterile gloves
7. Open the peri-patch kit and adhesive and add to dry area of sterile field
8. Don fresh pair of sterile gloves and remove any powder from the gloves with dampened gauze



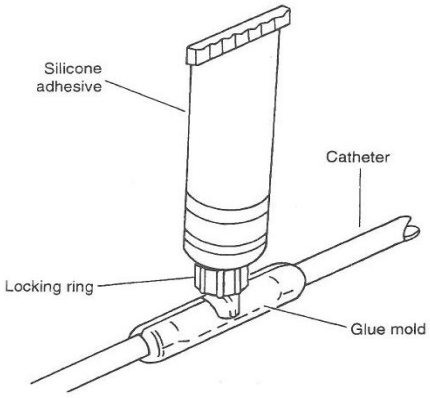
9. Aseptically draw up 0.9% NaCl into 10 ml syringe; prime the catheter extension. Apply second beta clamp to the extension tubing
10. Ensure that the beta clamp is secure on the PD catheter, then use sterile scissors or scalpel to cut the catheter just proximal to the damaged part while conserving as much of the original catheter as possible. Try to cut the end cleanly at 90° to the wall of the catheter
11. Insert the double-barbed portion of the extension tube into the end of the original catheter, pushing it on until the cut edge of the original catheter is touching the hub of the connector



12. Wipe the connection with gauze to ensure that it is dry
13. Wrap the glue mold around the connection so that the locking ring will be directly over the connection of the two tubes



14. Close the mold and secure with the locking ring
15. Use the piercing pin on the cap of the adhesive to pierce the tube of adhesive. **DO NOT** turn the pin while piercing. Remove the pin
16. Thread the tube of adhesive into the locking ring



17. Squeeze the tube of adhesive slowly allowing the mold to fill. Adhesive will begin to ooze thru the seams of the mold. Wipe away excess and remove the tube of adhesive
18. Aseptically draw up 0.9% NaCl into the second 10 ml syringe, and prime the transfer set with saline. Attach the transfer set to the betacap/ titanium connector. Remove the beta clamps from the PD catheter and extension tubing. Proceed to drain. If no fluid drains spontaneously, attach a syringe to the end of the transfer set and attempt to aspirate to remove fluid from the tube
19. Routine PD can be performed while the adhesive is curing
20. Obtain an order for prophylactic IP antibiotic and do this exchange, allowing a dwell time of at least 6 hours
21. Mold is to remain in place for a minimum of **72 hours**. When removing after 72 hours, if the adhesive still feels tacky, close the mold and allow to cure for another 24 hours. If there are bubbles in the mold, apply additional adhesive and allow curing for a further 72 hours

DOCUMENTATION

1. Document in the NephroCare Progress notes (if outpatient) or in the interdisciplinary progress notes if inpatient or in Emergency
2. Medication administration to be documented in the medication list of NephroCare or on the MAR
3. Date of repair and transfer set change documented in NephroCare in the Nurses Worksheet under 'access'

RELATED POLICIES / LEGISLATION:

1. Corporate Policies and Procedures - #00014 Hand Hygiene
2. Infection Prevention and Control Policies and Procedures - #00023 Routine Practices
3. Corporate Policies and Procedures - #00233 Hand Hygiene Products and Materials

REFERENCES:

1. Peri-Patch repair kit product monograph, 1997 Quinton Instrument Co
2. Kumari, U. et al, Repair of chronic peritoneal dialysis catheter. Peritoneal Dialysis International. 18(4):419-23, 1998 Jul-Aug

COMMENTS / SIGNIFICANT REVISIONS: N/A