

# PD Procedures

## Titanium Adapter Change

### 1.0 Practice Standard

The Registered Nurse and or Licensed practical nurse who have received education and training and who work in peritoneal dialysis will use the following outlined procedure to change a titanium adapter.

### 2.0 Definitions & Abbreviations: Key Considerations

Reasons for changing the peritoneal dialysis catheter adapter:

- the original adapter has become cracked or damaged
- the adapter is loose or has become disconnected from the PD catheter
- there is a hole in the catheter tubing near the adapter.
- The adapter post catheter insertion is a beta adapter

If less than 7 cm. (3 inches) of the external peritoneal dialysis catheter exists, the catheter must be extended before the adapter is changed.

The Nephrologist is to be notified to determine if prophylactic antibiotic coverage is required.

### 3.0 Equipment

- Chlorhexidine gluconate 2%, chlorhexidine 2% swaps/sticks or hospital approved anti-septic solution
- Sterile tray
- Transfer Set (Baxter 5C4449)
- Mask
- Minicap
- Locking Titanium Adapter (Baxter 5C41-29)
- Sterile Scissors
- Sterile Gloves
- Sterile Metal Forceps and Tweezers
- Smooth-edged scissor clamp or beta clamp

## 4.0 Procedure and Rationale

PROCEDURE	RATIONALE
1. Mask nurse and patient	
2. Perform hand hygiene	
3. Open sterile tray and add all supplies	
4. Place clamp on catheter above the adapter or damaged area of the catheter. Ensure the roller/twist clamp is closed on the transfer set	
5. Apply sterile gloves	
6. While holding the transfer set in one hand, scrub the titanium or beta adapter connector with chlorhexidine soaked gauze or swabs for approximately 30 seconds. Dry the connection with sterile gauze.  If a leak in the catheter is detected scrub with chlorhexidine soaked gauze or swabs from leak to 3" above the leak. Using another chlorhexidine soaked gauze or swab from leak to 3" below the connection. Dry with sterile gauze.	Cleansing the titanium or beta adapter connector prior to exposing the catheter end helps decrease the risk of contamination and introduction of infection, See attached letter for use of chlorhexidine gluconate for adapter changes.
7. Rewash hands and put on sterile gloves	
8. Holding old transfer set with sterile gauze, drape abdomen to create a sterile field and place clean catheter on the drape.	Sterile surface decreases possibility of contamination
9. Carefully remove the cracked adapter. NOTE: the adapter may need to be cut off if the adapter can not be removed without damaging the PD catheter. If a leak in the catheter has been detected, cut the catheter 1cm proximal from the adapter, crack or perforation using sterile scissors	Do not stretch catheter tubing when attempting to remove the adapter. Ensure edges of catheter are cut straight and smooth to permit easier insertion of new adapter
10. Insert new adapter Titanium adapter: <ul style="list-style-type: none"> <li>insert the small non-threaded end of the locking adapter sleeve onto the catheter</li> <li>Insert the titanium adapter into the catheter up to the shoulder until the entire tail is covered. Inspect for any tears in the PD catheter end to ensure secureness of the fit</li> <li>Slide the sleeve portion of the titanium adapter onto the catheter and screw the sleeve onto the titanium adapter until firmly seated and the connection is tight</li> </ul>	See pictures
11. Aseptically attach new transfer set with new minicap to the new adapter and close the roller twist clamp on the transfer set.	
12. Remove clamp on PD catheter	
13. Remove sterile drape and perform exit site care and dressing change if applicable	
14. Secure catheter to abdomen with tape	

Disclaimer: The procedure steps may not depict actual sequence of events. Patient/Client/Resident specifics must be considered in applying Clinical Practice Decision Support Tools.

## 5.0 Patient Teaching Considerations

	RATIONALE
1. Patient to inspect their PD catheter, adapter and transfer set for damage or malfunction daily	Early identification and reporting of damage or malfunction may result in minimizing potential for infectious complications
2. Patient to report any signs of damage or malfunction immediately to the PD program for intervention	
3. If leak in tubing is noted, the patient should stop dialysis and clamp the catheter proximal to the damaged spot. Cover with sterile gauze and proceed to hospital	Antibiotic treatment may be required
4. Avoid contact of unsuitable soaps and solutions with the catheter and tubing	
5. Keep sharp objects and scissors away from the catheter and tubing.	

## 6.0 Documentation Considerations

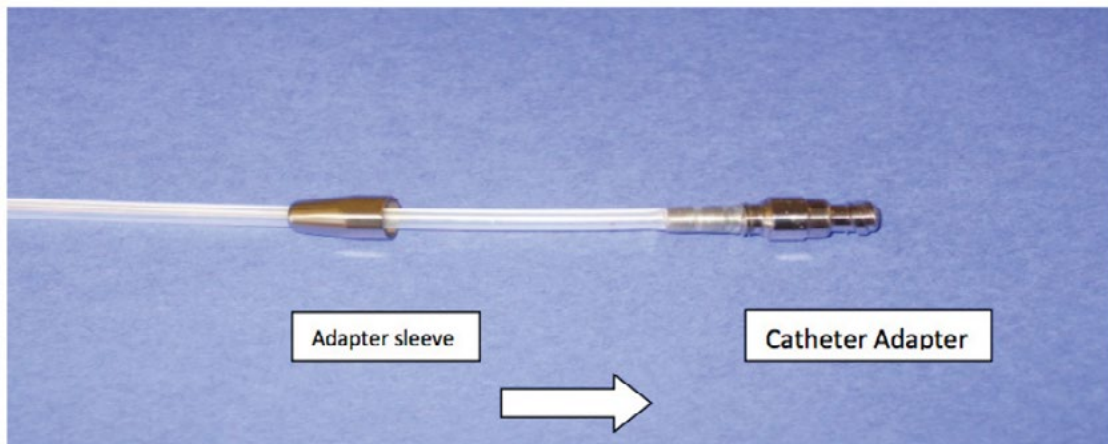
Document in patients' chart:

- Date
- Procedure
- Reason for adapter change
- Type of adapter used
- Antibiotic administration
- Patient response to intervention
- Patient education provided

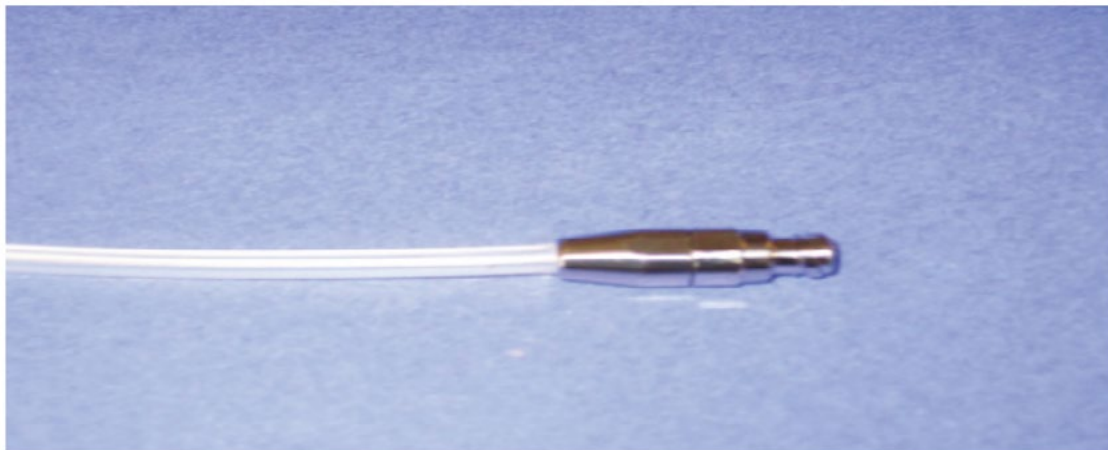
## 7.0 Special Considerations: Interventional Guidelines

(does not replace individualized care and clinical expertise)

- The PD catheter, transfer set, and adapter should be assessed each shift and/or with each clinic visit to ensure catheter integrity is maintained
- Notify nephrologist to determine if prophylactic antibiotic treatment is required.



- ✓ Insert catheter into small non-threaded end of the locking **adapter sleeve**
- ✓ Insert **catheter adapter** into the catheter up to the shoulder
- ✓ Slide the adapter sleeve back down the catheter and screw the sleeve onto the catheter adapter until firmly seated



- ✓ **adapter sleeve is screwed firmly into the catheter adapter**
- ✓ **Locking titanium is then connected to a transfer set with twist clamp and mini cap**

## 8.0 References

Baxter healthcare corporation, Locking titanium adapter for peritoneal dialysis catheters (2002)

Prowant, B.F. (2006) Peritoneal Dialysis Access. ANNA's Contemporary Nephrology Nursing: Principles and Practice. Second edition (661-685) Pitman, New Jersey: Anthony J Jannetti, Inc.

BC response to Baxter Instruction for use for transfer sets. March 2013. Attached document-see page 6.

Nursing Practice Policies and Procedures retrieved 2017 from: Northern Health, Providence Health, Vancouver Coastal, Interior Health, Vancouver Island Health Authorities.

## 9.0 Developed By

- BC Renal PD RN Nurses group

## 10.0 Reviewed By

- BC Renal PD Medical Director
- BC Renal PD RN Nurses group

## 11.0 Created

- October 1, 2018

## 12.0 Reviewed and Revised

- January 2024

## **BC PD programs Response to Baxter Instruction For Use (IFU) for Transfer Sets**

### **ISSUE:**

All Peritoneal Dialysis programs in BC received a notification regarding changes in the Instructions for use (IFU) regarding transfer sets from Phil Lynch, Director Quality, Baxter dated March 6, 2013. This IFU suggests a change in protocol to povidone-iodine from current product of Chlorhexidine gluconate. This represented a significant change in practice for all BC PD programs (adult and pediatric).

### **ACTIONS:**

To further the understanding of the proposed IFU additional written information from Dr. James A. Sloand, MD, FACP, FASN Senior Medical Director, Medical Affairs. Renal, North America was received by the PD programs on April 9, 2013. Additionally a teleconference with nursing participants from all PD programs in BC, BC nephrologist Dr Daniel Schwartz and Dr Sloand was held on April 12, 2013.

### **DISCUSSION:**

Chlorhexidine gluconate is the disinfectant of choice for connections and disconnections at the transfer set – catheter interface for all PD programs in British Columbia. Points of emphasis for BC’s transfer set protocol are:

1. The transfer set is replaced at intervals no longer than six months or more frequently as deemed necessary.
2. The transfer set is changed by PD trained personal only.
3. Sterile technique is followed for all steps of the transfer set change protocol
4. Thorough scrubbing of the external surface of the titanium connector between the catheter and transfer set with chlorhexidine gluconate occurs for a specified time period. The procedure ensures that:
  - Chlorhexidine scrubs are limited to the external surface of the connector only.
  - Chlorhexidine contact with the PD catheter and the transfer set is avoided.
  - Chlorhexidine scrubs of the connector are associated with the transfer set change procedure only (once every six months)
5. The titanium connector is permitted to dry
6. The old transfer set is removed and replaced with the new transfer set.
7. Flush before fill procedure is completed prior to the PD exchange.

Following clinical discussion and review of the current BC procedure with Dr J. Sloand there was concurrence that the BC PD programs will continue with their current practice as outlined above. This protocol is felt to ensure that the integrity of all components of the catheter and transfer set are maintained while reducing the potential for bacterial contamination in the fluid path. The above protocol differs from practice elsewhere where the Baxter IFU would likely apply.

### **OUTCOME:**

All PD programs in BC will maintain current protocol.