PERITONEAL DIALYSIS (PD) – CHANGING PD CATHETER EXTENSION SET

Cross references	NSW Health PD2017_013 *Infection Prevention and Control Policy* NSW Health PD2017_026 *Clinical and Related Waste Management for Health Services* NHMRC *Australian Guidelines for the prevention and control of Infection in Healthcare* SGH-TSH CLIN027 *Aseptic Technique - Competency and Education Requirements* SGH CLIN 357 *Peritoneal Dialysis Catheter (and Extension set) – Management of Contamination* SGH CLIN 433 *Peritoneal Dialysis (PD) Catheter Infection – Exit Site and Tunnel Infection Management and Treatment* SGH CLIN 442 *Peritoneal Dialysis (PD) – Peritonitis Management and Treatment* SGH CLIN 402 *Peritoneal Dialysis Catheter – Daily Care, dressing and management* SGH CLIN 414 *Peritoneal Dialysis Catheter (PDC) – Post insertion Catheter Care, Dressing and Management*
1. Purpose	To ensure the process of changing PD catheter extension set is performed according to best practice guidelines reducing the risk of infection and ensuring patient safety

2. Process

2.1 Recommendations to change the PD catheter (PDC) extension/transfer set:

- Annual as part of the routine PD care
- Immediately after a PDC contamination
- Whenever a PDC or extension set is damaged or faulty
- In the event of a PDC extension/transfer set recall

2.2 Devices

2.2.1 Equipment

- Dressing pack
- Sterile gloves
- Blue clamp
- Antiseptic solution (Betadine or Chlorhexidine)
- Blue sheet
- Dressing (ask patient which type of dressing they regularly use)
- Micropore tape

2.2.2 Key parts

- Sterile Gauze
- New PD extension/transfer set
- Minicap

2.2.3 Key site

- Abdominal PD catheter

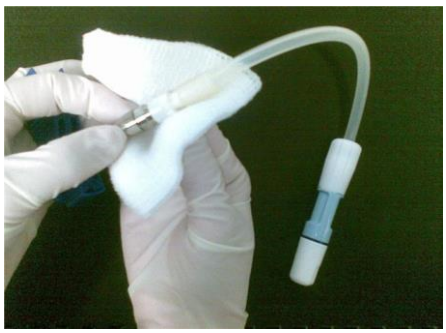
2.3 Procedure

1. Educate the patient and/or carer on the importance of changing the PD catheter extension set
2. Ascertain the type of exit site dressing the patient requires
3. Ascertain the type of antiseptic solution suitable for the patient
4. Perform hand hygiene
5. Identify and gather equipment and key parts for procedure
6. Check expiry dates on equipment and key parts
7. Clean trolley/work surface with detergent
8. Perform hand hygiene
9. Don gloves
10. Prepare general aseptic field equipment and key parts at the patient's bedside
11. Secure the end part of the PD catheter to the abdomen with a micropore tape
12. Remove old dressing
13. Perform hand hygiene
14. Wash the blue clamp and dry thoroughly
15. Wipe the blue clamp with antiseptic solution and dry thoroughly
16. Clamp the PD catheter closest to the skin using the blue clamp
17. Place the PD catheter over a blue sheet
18. Soak sterile gauzes in antiseptic solution
19. Perform hand hygiene
20. Don sterile gloves and wear PPE as per NHMRC *Australian Guidelines for the prevention and control of Infection in Healthcare* and NSW Health PD2017_013 *Infection Prevention and Control Policy*
21. Change the PDC extension/transfer set using aseptic technique ensuring all the key parts/sites are protected:
    a. Soak the titanium connector with antiseptic soaked gauze for 2 minutes;
    b. Clean the exit site twice with antiseptic soaked gauze;
    c. Close the valve on the new PDC extension/transfer set;
    d. Remove clear plastic cap from new PDC extension/transfer set and replace with a new minicap;
    e. Place PD catheter over sterile towel;
    f. Remove antiseptic soaked gauze from titanium connector and replace with a new set of antiseptic soaked gauze. Soak for another minute;

g. Using dry gauze, undo the old PDC extension//transfer set from titanium connector;
h. Using dry gauze, connect the new PDC extension/transfer set to the titanium connector (see Figures 1 & 2);
i. Secure the new PDC extension/transfer set tightly to the titanium connector.

Figure 1

Figure 2



22. Remove blue clamp from the PD catheter
23. Change exit site dressing as per SGH CLIN 402 *Peritoneal Dialysis Catheter – Daily Care, dressing and management* SGH CLIN 414 *Peritoneal Dialysis Catheter (PDC) – Post insertion Catheter Care, Dressing and Management* using aseptic technique ensuring all the key parts/sites are protected
24. For contaminated PDC, administer treatment and manage as per SGH CLIN 433 *Peritoneal Dialysis (PD) Catheter Infection – Exit Site and Tunnel Infection Management and Treatment*
25. Discard used equipment in the clinical waste bin as per NSW Health PD2017_026 *Clinical and Related Waste Management for Health Services*
26. Remove gloves and PPE
27. Perform hand hygiene
28. Clean trolley after use and perform hand hygiene
29. Document the procedure on patient notes
30. Handover to the next shift and the PD nurses

3. Network file	Renal, Peritoneal Dialysis
4. External references / further reading	Bender, F. H., Bernardini, J., & Piraino, B. (2006). Prevention of infectious complications in peritoneal dialysis: best demonstrated practices. *Kidney International*, 70(S103), S44-S54. Crabtree, J. H., Shrestha, B. M., Chow, K.-M., Figueiredo, A. E., Povlsen, J. V., Wilkie, M., . . . Dor, F. J. M. F. (2019). Creating and Maintaining Optimal Peritoneal Dialysis Access in the Adult Patient: 2019 Update. *39*(5), 414-436. doi:10.3747/pdi.2018.00232 Figueiredo, A., Goh, B.-L., Jenkins, S., Johnson, D. W., Mactier, R., Ramalakshmi, S., . . . Wilkie, M. (2010). Clinical Practice Guidelines for Peritoneal Access. *Peritoneal Dialysis International*, 30(4), 424-429. doi: 10.3747/pdi.2010.00087 Firanek, C. & Guest, S. (2011). Hand Hygiene in Peritoneal Dialysis. *Peritoneal Dialysis International*. 31(4):399-408

	Gokal, R., Alexander, S., Ash, S., Chen, T.W., Danielson, A., Holmes, C., Joffe, P., Moncrief, J., Nichols, K., Piraino, B., Prowant, B., Slingeneyer, A., Stegmayr, B., Twardowski, Z., and Vas, S. (1998). Peritoneal catheters and exit-site practices toward optimum peritoneal access: 1998 update. *Peritoneal Dialysis International*. 18(1), 11-33. Kim, Y., Song, Y. R., Kim, J.-K., Kim, H. J., Kim, S., & Kim, S. G. (2014). Use of a New Connector Decreases Peritoneal Dialysis-Related Peritonitis. *Peritoneal Dialysis International*, 34(1), 128-130. doi: 10.3747/pdi.2012.00329 Li, P. K.-T., Szeto, C. C., Piraino, B., de Arteaga, J., Fan, S., Figueiredo, A. E., . . . Johnson, D. W. (2016). ISPD Peritonitis Recommendations: 2016 Update on Prevention and Treatment. *36*(5), 481-508. doi:10.3747/pdi.2016.00078 Piraino, B., Bernardini, J., Brown, E., Figueiredo, A., Johnson, D. W., Lye, W.-C., . . . Szeto, C.-C. (2011). ISPD Position Statement on Reducing the Risks of Peritoneal Dialysis–Related Infections. *Peritoneal Dialysis International*, 31(6), 614-630. doi: 10.3747/pdi.2011.00057 Prowant, B. F., & Ryan, L. P. (1989). Peritoneal dialysis transfer set change procedures study. *American Nephrology Nurses Association Journal*, 16(1), 23-26. Szeto, C.-C., Li, P. K.-T., Johnson, D. W., Bernardini, J., Dong, J., Figueiredo, A. E., . . . Brown, E. A. (2017). ISPD Catheter-Related Infection Recommendations: 2017 Update. *Peritoneal Dialysis International, 37*(2), 141-154. doi:10.3747/pdi.2016.00120 Walker, A., Bannister, K., George, C., Mudge, D., Yehia, M., Lonergan, M., & Chow, J. (2014). KHA-CARI Guideline: peritonitis treatment and prophylaxis. *Nephrology (Carlton), 19*(2), 69-71. doi:10.1111/nep.12152
5. Specialty/department committee approval	Peritoneal Dialysis Committee Franziska Pettit, Staff Specialist Date: 15.05.20
6. Department head approval	George Mangos, Department Head Renal Services Date: 20.05.20
7. Executive sponsor approval – Nurse Manager	Christine Day, Nurse Manager Medicine Date: 21.05.20

Revision and Approval History

Date published	Revision number	Author (Position)	Date revision due
Feb 2017	1	Anna Claire Cuesta (PD CNC)	Feb 2020
May 2020	2	Anna Claire Cuesta (PD CNC)	May 2023