

**PERITONEAL DIALYSIS CATHETER (PDC) – HEPARIN LOCK**

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| <p><b>Cross References</b><br/>(including NSW Health/ SESLHD policy directives)</p> | <p><a href="#">NSW Health PD2013_043 Medication Handling in NSW Public Health Facilities</a><br/> <a href="#">NSW Health PD2017_013 Infection Prevention and Control Policy</a><br/> <a href="#">NSW Health PD2016_058 User applied Labelling of Injectable Medicines, Fluids and Lines</a><br/> <a href="#">NSW Health PD2017_026 Clinical and Related Waste Management for Health Services</a><br/> <a href="#">SGH-TSH CLIN027 Aseptic Technique</a><br/> <a href="#">SGH CLIN538 Peritoneal Dialysis Catheter - Poor Flow or No Flow Management</a><br/> <a href="#">SGH Renal WPI 137 Peritoneal Dialysis Catheter (PDC) – Simple/Small Flush on a Peritoneal Dialysis</a></p> |
| <p><b>1. What it is</b></p>                                                         | <p>A guideline and procedure for the safe administration of a anticoagulant lock in a peritoneal dialysis catheter</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <p><b>2. Risk Rating</b></p>                                                        | <p>Low</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <p><b>3. Employees it Applies to</b></p>                                            | <p>Registered Nurses (RN) trained in peritoneal dialysis<br/> RN trained in accessing peritoneal dialysis catheters<br/> Medical Officers (MO) trained in accessing peritoneal dialysis catheters</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

**4. Process**

**4.1 RECOMMENDED HEPARIN LOCK DOSE AND USAGE**

- A heparin lock is recommended for the following situations:
  - Weekly to maintain the patency of new PD catheter (< 3 weeks from insertion)
  - Weekly or fortnightly to maintain the patency of a PD catheter not in use
  - To resolve a blocked or poor flowing PD catheter
- Heparin lock dose is 5000units/5mL mixed with 15mL 0.9% sodium chloride.
- Heparin lock must be prescribed on a medication chart, it is not nurse initiated.
- Heparin lock is **not recommended** for:
  - Patients with or at risk of heparin induced thrombocytopenia and thrombosis syndrome (HITTS)
  - Patients with signs of acute bleed from a non-compressible site, including post-operative, cerebral, GI, haemothorax and haemorrhagic pericarditis.
  - Patients with known allergy or hypersensitivity to heparin or pork products

**4.2 DEVICES**

**4.2.1 Equipment**

- Trolley
- Dressing pack
- Sterile gloves

#### 4.2.2 Key parts

- Drawing-up needle (18G)
- 20mL syringe
- 0.9% Sodium chloride - 10mL ampoules x 2
- Minicap
- Heparin 5000units/5mL ampoule

#### 4.2.3 Key site

- Abdominal PD catheter

#### 4.3 PROCEDURE

1. Educate the patient and/or carer on the importance of PDC heparin lock
2. Perform hand hygiene
3. Identify and gather equipment and key parts for procedure
4. Check expiry dates on all equipment and key parts
5. Clean trolley/work surface with detergent
6. Perform hand hygiene
7. Don gloves
8. Prepare general aseptic field equipment and key parts at the patient's bedside
9. Prepare the heparinised saline lock using aseptic technique ensuring all the key parts are protected:
  - a. Attach drawing up needle to 20mL syringe;
  - b. Alcohol swab the Heparin and saline ampoules;
  - c. Open the 5000units/5mL ampoule and aspirate all content into the 20mL syringe;
  - d. Open normal saline ampoules and aspirate 15mL into the 20mL syringe
10. Place the PD catheter over sterile towel
11. Perform the PDC heparin lock using aseptic technique ensuring all the key parts are protected:
  - a. Using dry gauze, remove minicap from PDC
  - b. Connect the Heparinised saline syringe to end of PDC
  - c. Open the PDC valve
  - d. Push all the Heparinised saline solution into the PD catheter
  - e. Close the PDC valve
12. Disconnect syringe from PDC and apply new minicap
13. Secure the end part of the PD catheter to the abdomen with a micropore tape
14. Discard used equipment as per [NSW Health PD2017\\_026 Clinical and Related Waste Management for Health Services](#)
15. Remove gloves
16. Perform hand hygiene
17. Clean trolley after use and perform hand hygiene
18. Document procedure on clinical notes
19. Handover to the next shift

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| <b>5. Keywords</b>                                                                                                                  | Peritoneal dialysis, Peritoneal dialysis catheter, Heparin lock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>6. Functional Group</b>                                                                                                          | Renal, Peritoneal Dialysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>7. External References</b>                                                                                                       | <p>Firaneek, C. &amp; Guest, S. (2011). Hand Hygiene in Peritoneal Dialysis. <i>Peritoneal Dialysis International</i>. 31(4):399-408</p> <p>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., Stegmayer, B., Twardowski, Z., and Vas, S. (1998). Peritoneal catheters and exit-site practices toward optimum peritoneal access: 1998 update. <i>Peritoneal Dialysis International</i>. 18(1), 11-33.</p> <p>Margetts, P. (2009). Heparin And The Peritoneal Membrane. <i>Peritoneal Dialysis International</i>, 29(1), 16-19.</p> <p>Ross, L. A., &amp; Labato, M. A. (2013). Current techniques in peritoneal dialysis. <i>Journal of Veterinary Emergency and Critical Care</i>, 23(2), 230-240. doi: 10.1111/vec.12035</p> <p>Schmidt, R.J. and Holley, J.L. (2012). Noninfectious complications of Peritoneal Dialysis Catheters. <i>Up to Date Online</i>.</p> <p>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. <i>Peritoneal Dialysis International</i>, 37(2), 141-154. doi: 10.3747/pdi.2016.00120</p> |
| <b>8. Consumer Advisory Group (CAG) approval of patient information brochure (or related material)</b>                              | Not Applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>9. Implementation and Evaluation Plan</b><br>Including education, training, clinical notes audit, knowledge evaluation audit etc | <p>Inservices</p> <p>Learning Packages</p> <p>Publication on SGSHHS CIBR intranet page</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>10. Knowledge Evaluation</b>                                                                                                     | <p>Q1: When is heparin lock required in a PD catheter?</p> <p>A: Post insertion of a new PD catheter<br/>Weekly or fortnightly when the PD catheter is not being used<br/>For blocked or poor flowing PD catheters</p> <p>Q2: Why do you instill a heparin lock into a PD Catheter?</p> <p>A: To maintain the patency and to resolve the blockage of a PD catheter</p> <p>Q3: How is heparin lock instilled into a PD catheter?</p> <p>A: Using aseptic technique according to the procedure for administration described in this clinical business rule</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>11. Who is Responsible</b>                                                                                                       | <p>Director of St George and Sutherland Renal Service.</p> <p>Nursing Unit Manager, Dialysis Unit</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| <b>Approval for Peritoneal Dialysis Catheter (PDC) – Heparin Lock</b>                                         |                                                                                                                                   |
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| <b>Specialty/Department Committee</b>                                                                         | Committee title: Peritoneal Dialysis Committee<br>Chairperson name/position: Franziska Pettit, Staff Specialist<br>Date: 03.04.19 |
| <b>Nurse Manager</b>                                                                                          | Name/position: Christine Day, Nurse Manager Medicine<br>Date: 02.04.19                                                            |
| <b>Medical Head of Department</b>                                                                             | Name /position: Dr George Mangos, Department Head Renal Services<br>Date: 04.04.19                                                |
| <b>Safe Use of Medicines Committee (SGH)</b>                                                                  | Chairperson's Name: A/Prof Winston Liauw Winston Liauw<br>Date: 31.10.19                                                          |
| <b>Contributors to CIBR development</b><br>e.g. CNC, Medical Officers<br>(names and position title/specialty) |                                                                                                                                   |

**Revision and Approval History**

| Date      | Revision number | Author (Position)             | Revision due |
|-----------|-----------------|-------------------------------|--------------|
| Jun 2016  | 0               | (Anna) Claire Cuesta (PD CNC) | Jun 2019     |
| Sept 2019 | 1               | (Anna) Claire Cuesta (PD CNC) | Sep 2022     |

| <b>General Manager's Ratification</b> |                |
|---------------------------------------|----------------|
| Name: Vicki Weeden (A/GM)             | Date: 01.10.19 |