

## PERITONEAL DIALYSIS (PD) – INTRAPERITONEAL HEPARIN ADMINISTRATION

<b>Cross References</b> (including NSW Health/ SESLHD policy directives)	<a href="#">NSW Health PD2013_043 - Medication Handling in NSW Public Health Facilities</a> <a href="#">NSW Health PD2007_036 - Infection Control Policy</a> <a href="#">SGH-TSH CLIN027 - Aseptic Technique - Competency and Education Requirements</a> <a href="#">Renal SGH WPI_063 Peritoneal Dialysis – CAPD Freeline Solo Exchange</a> <a href="#">WPI - Peritoneal Dialysis – APD Set-up and Connection Procedure – HomeChoice Dialysis Machine</a> <a href="#">SGH CLIN Peritoneal Dialysis (PD) – Peritonitis Management And Treatment</a> Peritoneal dialysis (PD) Catheter: Management of Poor Flow/No Flow; SGH Renal Department Flowchart
<b>1. What it is</b>	A clinical business rule to ensure the administration of intraperitoneal Heparin is performed according to best practice guidelines reducing the risk of infection and ensuring patient safety
<b>2. Risk Rating</b>	High
<b>3. Employees it Applies to</b>	Registered Nurses (RN) trained in peritoneal dialysis Medical Officers (MO) trained in peritoneal dialysis

## 4. Process

### 4.1 Recommended Intraperitoneal Dose and Usage

- Heparin is recommended to be added to the dialysate to:
  - Maintain the patency of a new PD catheter (< 3 weeks from time of insertion)
  - Resolve a blocked PD catheter
  - Dissolve fibrin formation on PD effluent
- Note: Monitor patient for bleed or bloody PD effluent as an adverse effect from the use of Heparin
- Intraperitoneal Heparin dose is: 500 UNITS in every 1 Litre PD fluid
- Intraperitoneal Heparin must be prescribed on a medication chart, it is not nurse initiated.

### 4.2 Devices

#### 4.2.1 Equipment

- Trolley
- Alcohol swabs
- Blue clamp

#### 4.2.2 Key parts

- Heparin 5000 UNITS in 5 mL ampoule
- Drawing-up needle (18G)
- 21 G needle
- 5 mL syringe
- Minicap
- PD fluid

#### 4.2.3 Key site

- Rubber bung on PD fluid
- Abdominal PD catheter

### 4.3 Procedure

1. Warm the selected PD fluid on the warmer or PD HomeChoice machine
  - a. Select appropriate PD fluid strength by conducting a fluid assessment on patient 30 minutes prior to PD procedure
  - b. Note: PD fluid takes 30 minutes to warm.
2. Ensure the “5 Rights” of Principles for Safe Medication Administration is observed with second person check
3. Perform hand hygiene
4. Identify and gather equipment and key parts for procedure
5. Check expiry dates on Heparin ampoule and PD fluid
6. Clean trolley/work surface with detergent
7. Perform hand hygiene
8. Don gloves
9. Prepare general aseptic field equipment and key parts near the patient’s bedside
10. Use the sharp edge of the blue clamp to open outer pouch of the dialysis bag. **DO NOT USE SCISSORS OR KNIVES**
11. Place the opened bag on top of the clean trolley and ensure the lines are facing up
12. Recheck the dialysis bag strength, volume, expiry, colour and for leakage
13. Prepare Heparin using aseptic technique ensuring all the key parts/sites are protected
  - a. Alcohol swab the Heparin ampoule/s and break top to open;
  - b. Attach drawing up needle to 5 mL syringe;
  - c. Aspirate all content from Heparin ampoule into the 5 mL syringe;
  - d. Replace drawing-up needle with 21G needle.
14. Administer Heparin into the dialysis fluid using aseptic technique ensuring all the key parts/sites are protected
  - a. Alcohol swab the rubber bung on dialysis fluid;
  - b. Push needle into the centre of the dialysis fluid bung and inject appropriate Heparin dosage into PD fluid (i.e. Heparin 1000 UNITS / 1mL / 2 Litre PD fluid or Heparin 3000 UNITS / 3 mL / 6 Litre PD fluid).

Note: For accidental piercing of the bag or the side of the bung, discard the bag and use a new PD fluid bag

15. Repeat procedure 13 and 14 to subsequent PD fluid bags
16. Administer Heparin intraperitoneally through APD or CAPD as per Renal Department Protocol
17. Wear PPE
18. Discard bag and lines in the clinical waste bin, discard needles in sharps bin
19. Remove gloves and PPE
20. Perform hand hygiene
21. Clean trolley after use and perform hand hygiene
22. Sign and co-sign the medication chart
23. Document the procedure on the PD chart and patient notes
24. Handover to the next shift

<b>5. Keywords</b>	Peritoneal Dialysis, Heparin, PD catheter, Blocked PD catheter, Fibrin, Peritonitis
<b>6. Functional Group</b>	Renal, Peritoneal Dialysis
<b>7. External References</b>	<p>Ansari, N. (2011). Peritoneal Dialysis in Renal Replacement Therapy for Patients with Acute Kidney Injury. <i>International Journal of Nephrology</i> [cited 2015 March]; Article ID 739794, 10 pages; Available from <a href="http://dx.doi.org/10.4061/2011/739794">http://dx.doi.org/10.4061/2011/739794</a></p> <p>Campbell, D. J., Johnson, D. W., Mudge, D. W., Gallagher, M. P., &amp; Craig, J. C. (2014). Prevention of peritoneal dialysis-related infections. <i>Nephrology Dialysis Transplantation</i>. doi: 10.1093/ndt/gfu313</p> <p>Li, P. K., 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. <i>Peritoneal Dialysis International</i>. doi: 10.3747/pdi.2016.00078</p> <p>Sifil, A., Mermut, C., Yenicerioglu, Y., Cavdar C., Gumustekin, M., Celik, A., Yuksel, F., and Camsari, T. (2003). Intraperitoneal and subcutaneous pharmacokinetics of low molecular weight heparin in continuous ambulatory peritoneal dialysis patients. <i>Advances in Peritoneal Dialysis</i>, 19; 28-30. PubMed PMID: 14763030</p> <p>Strazdins, V., Watson, A., &amp; Harvey, B. (2004). Renal replacement therapy for acute renal failure in children: European Guidelines. <i>Pediatric Nephrology</i>, 19(2), 199-207. doi: 10.1007/s00467-003-1342-7</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> Including education, training, clinical notes audit, knowledge evaluation audit etc	Inservices Publication on SGSHHS CIBR intranet page
<b>10. Knowledge Evaluation</b>	Q1: When is intraperitoneal Heparin required? A: To dissolve fibrin in PD effluent, unblock PD catheter and maintain a new PD catheter's patency. Q2: What is the adverse effect of Heparin? A: Peritoneal bleed Q3: Is IP Heparin nurse-initiated? A: No. IP heparin must be prescribed on a medication chart by a medical officer
<b>11. Who is Responsible</b>	Director of St George and Sutherland Renal Service. Nursing Unit Manager, Dialysis Unit
<b>Approval for Peritoneal Dialysis (PD) – Intraperitoneal Actilyse Administration</b>	
<b>*Specialty/Department Committee</b>	Committee title Peritoneal Dialysis Committee Chairperson name/position Franziska Pettit, Staff Specialist Date: 24.01.17
<b>*Nurse Manager</b>	Name/position Christine Day, Nurse Manager Medicine Date: 13.02.17
<b>*Medical Head of Department</b>	Name /position Mark Brown, Department Head Renal Services Date: 24.01.17
<b>*Drug and Therapeutics Committee (SGH)</b>	Chairperson's Name: A/Prof Winston Liauw Date: 08.05.17
<b>Contributors to CIBR development</b> e.g. CNC, Medical Officers (names and position title/specialty)	Franziska Pettit, Staff Specialist Johneen Tierney, Director of Pharmacy

### Revision and Approval History

Date	Revision number	Author (Position)	Revision due
March 2017	0	Anna Claire Cuesta (PD CNC)	March 2020

<b>General Manager's Ratification</b>	
Name Leisa Rathborne	Date: 12.05.17