

**PERITONEAL DIALYSIS (PD) – INTRAPERITONEAL POTASSIUM CHLORIDE
ADMINISTRATION**

Cross References (including NSW Health/ SESLHD policy directives)	NSW Health PD2013 043 - Medication Handling in NSW Public Health Facilities NSW Health PD2007 036 - Infection Control Policy SGH-TSH CLIN027 - Aseptic Technique - Competency and Education Requirements SGH WPI - Peritoneal Dialysis – APD Set-up and Connection Procedure – HomeChoice Dialysis Machine SGH CLIN Peritoneal Dialysis (PD) – Peritonitis Management And Treatment
1. What it is	A clinical business rule to ensure the administration of intraperitoneal Potassium Chloride is performed according to best practice guidelines reducing the risk of infection and ensuring patient safety
2. Risk Rating	High
3. Employees it Applies to	Registered Nurses (RN) trained in peritoneal dialysis Medical Officers (MO) trained in peritoneal dialysis

4. Process

4.1 Recommended Intraperitoneal Dose and Usage

- It is recommended to replace Potassium Chloride intraperitoneally due to the rapid loss of Potassium Chloride during > 24 hour intermittent PD (IPD) therapy.
- Intraperitoneal Potassium Chloride is given for \geq 24 hour IPD therapy only.
- Intraperitoneal Potassium Chloride is not proven effective in APD or CAPD therapy.
- Intraperitoneal Potassium Chloride must be prescribed on a medication chart, it is not nurse initiated.
- Serum Potassium Chloride level must be checked.
- Intraperitoneal Potassium Chloride dose:

Serum Potassium Chloride (mmol/L)	K added / L	K added / 5 L
Greater than or equal to 5mmol	nil	nil
Less than 5mmol and greater than 3mmol	3mmol / L	18mmol / 6 L
Less than or equal to 3mmol	4mmol / L	24mmol / 6 L

4.2 Devices

4.2.1 Equipment

- Trolley
- Alcohol swabs

- Blue clamp

4.2.2 Key parts

- Potassium Chloride 10 mmol in 10 mL ampoule
- Drawing-up needle (18G)
- 21 G needle
- 10 mL syringe
- 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 Potassium Chloride 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 Potassium Chloride using aseptic technique ensuring all the key parts/sites are protected
 - a. Alcohol swab the Potassium Chloride ampoule/s and break top to open;
 - b. Attach drawing up needle to 10 mL syringe;
 - c. Aspirate all content from Potassium Chloride ampoule into the 10 mL syringe;
 - d. Replace drawing-up needle with 21G needle.
14. Administer Potassium Chloride 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 Potassium Chloride dosage into PD fluid (i.e. Potassium Chloride 3mmol / 3mL / 1 Litre PD fluid or Potassium Chloride 18mmol / 18 mL / 6 Litre PD fluid).

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

15. Repeat procedure 13 and 14 to subsequent PD fluid bags
16. Administer Potassium Chloride intraperitoneally through \geq 24 hour IPD program only.
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

5. Keywords	Peritoneal Dialysis, Potassium Chloride, Hypokalaemia
6. Functional Group	Renal, Peritoneal Dialysis
7. External References	Amirmokri, P., Morgan, P., & Bastani, B. (2007). Intra-peritoneal administration of Potassium Chloride and magnesium: a practical method to supplement these electrolytes in peritoneal dialysis patients. <i>Renal Failure</i> , 29(5):603-5. PMID: 17654324 Xu, Q., Xu, F., Fan, L., Xiong, L., Li, H., & et al. (2014) Serum Potassium Chloride Levels and Its Variability in Incident Peritoneal Dialysis Patients: Associations with Mortality. <i>PLoS ONE</i> 9(1): e86750. doi:10.1371/journal.pone.0086750 Zanger, R. (2010). Hyponatremia and hypokalemia in patients on peritoneal dialysis, <i>Seminars in Dialysis</i> , 23(6):575-580
8. Consumer Advisory Group (CAG) approval of patient information brochure (or related material)	Not applicable
9. Implementation and Evaluation Plan Including education, training, clinical notes audit, knowledge evaluation audit etc	Inservices Publication on SGSHHS CIBR intranet page
10. Knowledge Evaluation	Q1: When is intraperitoneal Potassium Chloride required? A: Intraperitoneal Potassium Chloride is required for patients on \geq 24 hour IPD therapy when serum Potassium Chloride level is less than 5

	<p>mmol.</p> <p>Q2: What is the recommended intraperitoneal Potassium Chloride dosage?</p> <p>A: 3 mmol Potassium Chloride per litre of dialysis fluid for patients on > 24 hour IPD therapy with serum Potassium Chloride level 3.1 - 5 mmol/L. Or 4mmol Potassium Chloride per litre of dialysis fluid for patients on > 24 hour IPD therapy with serum Potassium Chloride level ≤3 mmol/L.</p> <p>Q3: What type of peritoneal dialysis can intraperitoneal Potassium Chloride be administered?</p> <p>A: For > 24 hour IPD therapy only. <u>Do not</u> give intraperitoneal Potassium Chloride in APD or CAPD therapy.</p>
11. Who is Responsible	Director of St George and Sutherland Renal Service. Nursing Unit Manager, Dialysis Unit
Approval for Peritoneal Dialysis (PD) – Intraperitoneal Potassium Chloride Administration	
*Specialty/Department Committee	Committee title Peritoneal Dialysis Committee Chairperson name/position Franziska Pettit, Staff Specialist Date: 24.01.17
*Nurse Manager	Name/position Christine Day, Nurse Manager Medicine Date: 13.02.17
*Medical Head of Department	Name /position Mark Brown, Department Head Renal Services Date: 24.01.17
*Drug and Therapeutics Committee (SGH)	Chairperson's Name: A/Prof Winston Liauw Date: 08.05.17
Contributors to CIBR development 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
February 2017	0	Anna Claire Cuesta (PD CNC)	February 2020

General Manager's Ratification

Name Leisa Rathborne	Date: 12.05.17
----------------------	----------------