

**PERITONEAL DIALYSIS (PD) PATIENTS: PREPARATION FOR INVASIVE PROCEDURES OR SURGERY**

<b>Cross References</b> (including NSW Health/SESLHD policy directives)	Peritoneal Dialysis Catheter (PDC) – Heparin Lock; Renal Medicine Clinical Business Rule (CBR)  Medication Handling in NSW Public Health Facilities; NSW Health PD2013_043  Infection Control Policy; NSW Health PD2007_036  Peritoneal Dialysis – 1 litre Flush On A PD catheter; Renal Department Workplace Instruction (WPI)  Peritoneal Dialysis – Simple/Small Flush On A Peritoneal Dialysis Catheter; Renal Department WPI
<b>1. What it is</b>	A clinical business rule (CBR) to describe the preparation required for patients on PD before an invasive procedure or surgery to reduce PD-related and post procedure complication and infection.
<b>2. Risk Rating</b>	Medium
<b>3. Employees it Applies to</b>	Nurses and medical officers (MO) across St George Hospital

**4. Background**

Peritonitis is a major complication of PD. Anecdotal and retrospective reports suggest patients on PD are at risk of having peritonitis as a complication after invasive procedures. Peritonitis can result from an invasive procedure through translocation or migration of bacteria by:

- Ascending (from gynaecologic source)
- Haematogenous (transient from dental procedure or intravascular device)
- Transmural (from the bowel wall)

**4.1 Process**

Objective	Surgery/Procedure	Pre-Procedure Preparation
To reduce complications and risk of enteric infection	GIT and Gynaecologic procedures i.e. Colonoscopy(+/- polypectomy), Endometrial biopsy, ERCP, Gastroscopy, Gastrostomy, Barium enema, Hysteroscopy, Liver biopsy, Cholecystectomy, Proctoscopy	<ul style="list-style-type: none"> <li>• Diet and Bowel preparation as instructed</li> <li>• Review patient. If clinically stable, patient may skip APD the night before due to frequent loose motions or convert APD patients to CAPD</li> <li>• Ensure dialysis fluid is drained prior to procedure</li> <li>• Administer prophylactic antibiotics as per 4.2 Antimicrobial prophylaxis recommendation (IV dose)</li> <li>• Recommence dialysis as usual after the procedure</li> </ul>
To reduce risk of infection	Invasive dental work i.e. tooth extraction, root canal treatment	<ul style="list-style-type: none"> <li>• Administer prophylactic antibiotics 2 hours before the procedure as per 4.2 Antimicrobial prophylaxis recommendation (oral dose)</li> <li>• Continue dialysis as usual</li> </ul>
To maintain PDC patency, reduce complications and	Kidney transplantation	<ul style="list-style-type: none"> <li>• Ensure dialysis fluid is drained prior to procedure</li> <li>• Heparin lock PDC as per PDC Heparin Lock CBR</li> <li>• Administer prophylactic antibiotics as per 4.2</li> </ul>

Objective	Surgery/Procedure	Pre-Procedure Preparation
reduce risk of enteric infection		Antimicrobial prophylaxis recommendation (IV dose)
To maintain PDC patency, reduce complications and reduce risk of enteric infection	Hernia repair	<ul style="list-style-type: none"> <li>• Ensure dialysis fluid is drained prior to procedure</li> <li>• Heparin lock PDC as per PDC Heparin Lock CBR</li> <li>• Administer prophylactic antibiotics as per 4.2 Antimicrobial prophylaxis recommendation (IV dose)</li> <li>• Patient is to rest from PD and may require weekly or fortnightly 1 Litre or Simple/Small PDC Flush</li> <li>• Recommence dialysis as per surgeon's recommendation or 6 weeks post- hernia repair</li> </ul>
To reduce complications and risk of enteric infection	PDC manipulation or reposition	<ul style="list-style-type: none"> <li>• Empty the abdomen of dialysis fluid (if possible) prior to procedure.</li> <li>• Administer prophylactic antibiotics as per 4.2 Antimicrobial prophylaxis recommendation (oral or IV)</li> <li>• After the procedure – 1 Litre PDC flush to check patency</li> <li>• If PDC is not flushing/working – heparin lock PDC and refer to vascular surgeon for possible PDC replacement or reinsertion</li> <li>• If PDC is patent – recommence dialysis</li> </ul>

#### 4.2 Antimicrobial Prophylaxis Recommendation

1. Oral nystatin (500,000 units tablet QID po) whilst patient is on antibiotics as prophylaxis for fungal peritonitis  
And
2. Antibiotics before the procedure:
  - a. Oral: Amoxicillin 2g single dose  
or
  - b. Intravenous: Ampicillin 1g plus a single dose of aminoglycoside (IV gentamicin 80 mg), with or without oral Metronidazole 400 mg

<b>5. Keywords</b>	Peritoneal dialysis, Antimicrobial, Prophylaxis, Antibiotics
<b>6. Functional Group</b>	Renal, Peritoneal Dialysis
<b>7. External References</b>	<p>CARI. (2004). PD catheter related infection. Retrieved March 3, 2010, from <a href="http://www.cari.org.au/dialysis_ptp_publ2004.php">http://www.cari.org.au/dialysis_ptp_publ2004.php</a></p> <p>Li, P., Szeto, C., Piraino, B., Bernardini, J., Figueiredo, A., Gupta, A., et al. (2011) Peritoneal dialysis–related infections recommendations: 2010 update. <i>Peritoneal Dialysis International</i>, 30:393–423. [Erratum in: <i>Peritoneal Dialysis International</i>, 31:512]</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>MIMS. (2012). MIMS Online. <a href="http://www.ciap.health.nsw.gov.au/home.html">http://www.ciap.health.nsw.gov.au/home.html</a></p>

	<p>Piraino, B., Bailie, G., Bernardini, J., Boeschoten, E., Gupta, A., Holmes, C., Kuijper E., Li, P., Lye, W., Mujais S, et al. (2005) Peritoneal dialysis-related infections recommendations: 2005 update. <i>Peritoneal Dialysis International</i>, 25: 107-131.</p> <p>Piraino, B., Bernardini, J., Brown, E., Figueiredo, A., Johnson, D. W., Lye, W.-C., et al. (2011). ISPD Position Statement on Reducing the Risks of Peritoneal Dialysis-Related Infections. <i>Peritoneal Dialysis International</i>, 31:614-630.</p> <p>Poortvliet W, Selten H, Raasveld MH, Klemt-Kropp M. (2010) CAPD Peritonitis after colonoscopy: follow the guidelines. <i>The Netherlands Journal of Medicine</i> 68:377-378.</p> <p>Strippoli, G., Tong, A., Johnson, D., Schena, F., &amp; Craig, J. (2004) Antimicrobial agents to prevent peritonitis in peritoneal dialysis: a systematic review of randomized controlled trials. [Research Support, Non-U.S. Gov't Review]. <i>American Journal of Kidney Diseases</i>, 44(4):591-603.</p> <p>Yip, T., Tse, K., Lam, M., Cheng, S., Lui, S., Tang, S., et al. (2007). Risks and Outcomes of Peritonitis after Flexible Colonoscopy in CAPD Patients. <i>Peritoneal Dialysis International</i>, 27:560-564.</p>
<p><b>8. Consumer Advisory Group (CAG) approval of patient information brochure (or related material)</b></p>	<p>N/A</p>
<p><b>9. Implementation and Evaluation Plan</b> Including education, training, clinical notes audit, knowledge evaluation audit etc</p>	<ul style="list-style-type: none"> <li>- Inservice education by PD CNC/nurses to 4South and Emergency Department</li> <li>- PD tutorial to Junior Medical Officers by the PD CNC at the beginning of renal rotation</li> </ul>
<p><b>10. Knowledge Evaluation</b></p>	<p>Q1: Why are prophylactic antibiotics recommended for PD patients before an invasive procedure or surgery? A: To reduce the risk of PD-related and/or post procedure complication and infection</p> <p>Q2: What are the recommended prophylaxis? A: Oral nilstat whilst patient is on antibiotics and oral amoxicillin or IV ampicillin with IV gentamicin and possibly with oral Metronidazole</p> <p>Q3: How can peritonitis result from an invasive procedure or surgery? A: Through ascending, haematogenous and transmural migration or translocation of bacteria.</p>
<p><b>11. Who is Responsible</b></p>	<p>Director of St George and Sutherland Renal Service. Nursing Unit Manager, Dialysis Unit</p>
<p><b>Approval for Peritoneal Dialysis (PD) – Inpatient Management</b></p>	



<b>*Specialty/Department Committee</b>	Committee title: Peritoneal Dialysis Committee Chairperson name/position: Franziska Pettit, Staff Specialist Signature _____ Date _____
<b>*Nursing/Midwifery Co-Director</b>	Name/position: Christine Day, Nurse Manager Medicine Signature _____ Date _____
<b>*Medical Co-Director</b>	Name /position: Mark Brown, Department Head Renal Services Signature _____ Date _____
<b>*Drug and Therapeutics Committee (SGH)</b>	Chairperson's Name: Winston Liauw Signature _____ Date _____
<b>Executive Sponsor</b>	Name/Position: Clinical Group Manager Medicine & Critical Care Signature _____ Date _____
<b>Contributors to CIBR development</b> e.g. CNC, Medical Officers (names and position title/specialty)	CNC Renal

**Revision and Approval History**

Date	Revision number	Author (Position)	Revision due
July 2016	0	Anna Claire Cuesta (PD CNC)	July 2019

**General Manager's Ratification**

Name Leisa Rathborne	Signature _____	Date _____
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Approved by:

Date:

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