PERITONEAL DIALYSIS (PD) – COMMENCEMENT AND MANAGEMENT OF PD PATIENTS AT HOME

1. Purpose	A workplace instruction (WPI) to describe the process for the care and management of new and existing peritoneal dialysis patients at home
2. Employees it Applies to	All Clinical Staff

BACKGROUND

- Patients are fully trained and supported by the PD nurses to manage their own treatment at home for Continuous Ambulatory Peritoneal Dialysis (CAPD) and/or Automated Peritoneal Dialysis (APD).
- PD nurse support begins at the time patient is enlisted on the PD pathway and ends after PD is ceased.
- PD nurse support are provided by phone (9113 3770) or home visit or in PD unit during operating hours – Monday to Friday, 0730 to 1600. Patients can contact Baxter Healthcare Technical Support toll free number 1800 229 837 (option #4 then option #2) for afterhours machine related issues and technical support and 4 South (9113 33458 or 9113 33446) for after – hours clinical support.

3. PROCESS

Note: All patient encounters must be captured in eMR Scheduling and documented in eMR Powerchart under clinical notes

3.1 PRE – PD SUPPORT

- Patients on the PD pathway are scheduled for pre- PD assessment and education prior to PD catheter (PDC) insertion. Assessment result and action plan are forwarded to the nephrologist and relevant disciplines

3.2 PD CATHETER (PDC) INSERTION

- PDC insertion is a surgical procedure performed by the Vascular surgeon in the Operating Theatre in either public or private hospital under general anaesthesia. Patients will need a review from the Vascular surgeon for PDC suitability.
- For urgent PDC insertion (PDC insertion within 6 weeks from PD nurse review):
  1. Inform vascular surgeon and request for urgent patient review
  2. Arrange and send nephrologist referral to vascular surgeon
  3. Liaise with vascular surgeon, nephrologist and patient for PDC insertion timing

3.3 AFTER PDC INSERTION

1. Review patient to assess PDC and exit site
2. Flush PDC as per post procedure instruction from Vascular surgeon i.e. 1 Litre flush as per SGH PD WPI 053 *Peritoneal Dialysis – 1L Flush on a Peritoneal Dialysis Catheter* or small flush as per SGH PD WPI 137 *Peritoneal Dialysis Catheter (PDC)- Simple/Small flush on Peritoneal Dialysis*.
3. Change exit site dressing as per SGH CLIN 414 *Peritoneal Dialysis Catheter (PDC) - Post insertion Catheter Care, Dressing and Management*

THIS DOCUMENT BECOMES UNCONTROLLED WHEN PRINTED
DISCARD PRINTED DOCUMENTS IMMEDIATELY AFTER USE

4. Heparin lock new PDC as per SGH CLIN 364 *Peritoneal Dialysis Catheter (PDC) – Heparin lock*
5. Schedule patient for weekly PDC exit site dressing change, PDC flush and heparin locks as per SGH CLIN 364 *Peritoneal Dialysis Catheter (PDC) – Heparin lock*, SGH CLIN 414 *Peritoneal Dialysis Catheter (PDC) - Post insertion Catheter Care, Dressing and Management*, *SGH PD WPI 053 Peritoneal Dialysis – 1L Flush on a Peritoneal Dialysis Catheter* and/or SGH PD WPI 137 *Peritoneal Dialysis Catheter (PDC)- Simple/Small flush on Peritoneal Dialysis* for 3 weeks or more whilst resting PDC
6. Add 'Invasive Procedure/Surgery Alert' in eMR stating: "Peritoneal Dialysis patient - **will need prophylactic antibiotics and nystatin before invasive procedure or surgery as per SGH Clinical Business Rule CLIN 396 in St George Hospital policy website under 'Peritoneal Dialysis' (please contact patient's nephrologist/renal team or PD nurses ph 9113 3770 or page 1091 for more information)" as per SGH CLIN 396 *PD Patients- Preparation for invasive procedures or surgery*

3.4 URGENT DIALYSIS

- For patients requiring urgent dialysis prior to PD training, Renal team is to decide between haemodialysis or PD. If for urgent PD, manage PD as per SGH PD WPI 144 *Peritoneal Dialysis (PD) - Management of patients requiring intermittent peritoneal dialysis* and/or SGH PD WPI 141 *Break-In Management For Patients Requiring Urgent PD with Newly Inserted PD Catheter*

3.5 PD TRAINING

- Schedule and tailor daily PD training appropriate to the patient's learning needs once patient is stable and PDC is ready for dialysis:
  1. APD – 8 am to 2 pm everyday Monday to Friday for 2 weeks or more
  2. CAPD – to come at 8 am then again at 2pm everyday Monday to Friday for 1 week or more

  Note: Book an interpreter as required

3.6 DURING PD TRAINING

1. Perform Rapid Antigen Test (RAT) on patient as per most recent COVID guidelines and recommendation for dialysis patients in St George Hospital:
   - COVID positive RAT result, manage patient as per SGH WPI 138 *PD – Managing Unwell Outpatients in the PD Unit*
   - COVID negative RAT result, proceed with PD training
2. Attend to and document routine observations and weight (including blood sugar level for patients with diabetes)
3. Request for and monitor results of blood tests i.e. FBC, UEC and etc as necessary
4. For patients requiring top-up dialysis, arrange a hospital admission for inpatient IPD as per SGH PD WPI 144 *Peritoneal Dialysis (PD) - Management of patients requiring intermittent peritoneal dialysis* or haemodialysis (HD) sessions in 4 West HD unit if patient was transferred from HD
5. Establish PD prescription for training and for home. Set-up APD prescription and Patient Activation Code in Sharesource for APD patients
6. Discuss the importance of suitable area to dialyse and to store dialysis equipment and supplies:

THIS DOCUMENT BECOMES UNCONTROLLED WHEN PRINTED
DISCARD PRINTED DOCUMENTS IMMEDIATELY AFTER USE

   a. Dialysis area should have adequate space for PD equipment, close to a sink or basin for hand hygiene, well – ventilated, away from pets, pest – free and clean.
   b. Dialysis storage area should be away from direct sunlight & moisture, well – insulated, well – ventilated, away from pets, pest – free and clean

7. Refer to the renal dietitian for education and review during patient training
8. Provide patient the shopping list to set-up home for PD (refer to Appendix A)
9. Discuss PD stocktake process and organise delivery of PD supplies with Baxter Healthcare
10. Provide the following contact details and encourage patient to call for any dialysis related issues or problems:
    a. PD unit ph 9113 3770 for clinical and technical support during business hours Monday to Friday, 0730 – 1600 hours
    b. 4 South (9113 3458 or 9113 3446) for afterhours clinical support
    c. Baxter Healthcare toll free number 1800 229 837 for 24 hours a day, 7 days a week for technical support (option #4 then option #2) and for stocktake and delivery (option #2 for Homecare section) during business hours Monday to Friday, 0800 – 1630 hours
11. Provide PD problem-solving guide and technical troubleshooting education
12. Provide education on how to prepare for invasive procedures or surgery as per SGH CLIN 396 *PD Patients- Preparation for invasive procedures or surgery*
13. For patients with diabetes:
    a. Monitor blood sugar level (BSL) during training
    b. Advise patient to consult and update their Endocrinologist
    c. Refer to and organise a diabetes education centre appointment
    d. Advise patient to continue to monitor their BSL at home and after PD training
14. Document daily training progress in eMR

3.7 PD TRAINING COMPLETION

- Educate and provide patient the PD prescription (Patient Activation Code for APD patients) for home
- Schedule an initial home visit to assist patient with home set-up for PD (same day or day after PD training completion)
- Book a renal clinic appointment for nephrologist to review patient within 2 – 6 weeks
- Provide a pathology request form for blood tests as per Appendix B (i.e. FBC, UEC, LFT, hepatitis serology and etc) prior to renal clinic appointment
- Schedule peritoneal equilibration and dialysis adequacy tests in 4 to 8 weeks as per SGH PD WPI 096 *Dialysis Adequacy Tests (Creatinine Clearance and Kt/V)* and SGH PD WPI 097 *Peritoneal Equilibration Test (PET)*
- Document PD training and home visit completion in eMR and inform the nephrologist

3.8 DATA COLLECTION AND PD OUTCOME MONITORING

- New PD patients' clinical and dialysis details are entered into the: eMR, renal folder (RISCDOC), national registry (ANZDATA), PD spreadsheets (Patient Flow, Infection Rates, Biochem Main, PDC insertion, Consultant numbers, Postcodes, Admission Workbook, Daily Movement Sheet and PD regimen) and ANZDATA Acceptance Main Worksheet

THIS DOCUMENT BECOMES UNCONTROLLED WHEN PRINTED
DISCARD PRINTED DOCUMENTS IMMEDIATELY AFTER USE

3.9 PD AT HOME SUPPORT

1. Phone follow-up and home visits to continue as required including clinical and technical troubleshooting over the phone from PD nurses, Baxter or 4 South (afterhours)
2. Nephrologist and PD nurses to review patient in renal clinic every 8-12 weeks or as required
3. Provide pathology request forms and reminder for routine blood tests (refer to Appendix B):
   - Quarterly CMP, FBC, UEC, LFT, Urate, Iron studies and PTH screening for all PD patients
   - Quarterly HbA1C for patients with diabetes
   - 6-monthly Troponin T and serology screening for all PD patients
   - 6-monthly fasting lipids screening for patients with history of cerebro-vascular, cardio-vascular and/or peripheral vascular disease.
4. Remind patient to inform surgeon or proceduralist of the need for prophylactic antibiotics and anti-fungal to prevent PD related infection when scheduled for invasive procedures or surgery. Remind patient to inform nephrologist and PD team once procedure and/or surgery is booked.

   Provide instructions on how to prepare for invasive procedures or surgery as per SGH CLIN 396 PD *Patients- Preparation for invasive procedures or surgery*
5. Schedule repeat dialysis adequacy testing every year or as required as SGH PD WPI 096 *Dialysis Adequacy Tests (Creatinine Clearance and Kt/V)*
6. Schedule PD catheter extension set change every year or as required as per SGH PD WPI 093 *Changing PD Catheter Extension Set*
7. Schedule peritoneal equilibration testing as needed or as requested by nephrologist as per SGH PD WPI 097 *Peritoneal Equilibration Test (PET)*
8. Renal dietitian to review patient every 6 months or as required

3.10 LONG TERM PD PATIENT (≥2YEARS)

- Patients who have been on PD for 2 years or over are to be categorised, reviewed and supported as per PD risk assessment and management (RAM) pathway and flowchart in SGH PD WPI 095 *Transitioning from PD*

THIS DOCUMENT BECOMES UNCONTROLLED WHEN PRINTED
DISCARD PRINTED DOCUMENTS IMMEDIATELY AFTER USE

3.11 APPENDIX A

Shopping List: To set-up your home for Peritoneal Dialysis

Ongoing purchase:

1. Paper towel (preferably with dispenser or holder)
2. Antibacterial soap in a pump bottle (*Do not refill pump bottle)
3. 1 bottle Methylated Spirit
   (Mix one part of Methylated Spirit to 4 parts of water in the spray bottle)

One-off purchase:

1. Spray bottle or container
2. 20 Litre white bucket with lid (for APD patients)
3. Wheeled trolley for bucket (for APD patients)
4. Coat hook or hook stand (for CAPD patients)
5. Digital weighing scale (for daily weight monitoring)
6. Blood pressure machine (for daily BP monitoring)
7. Work tray (plastic or stainless steel for daily PDC exit site care & dressing)
8. Full or half body mirror (for daily PDC exit site care & dressing change in front of mirror)
7. Appropriate sized table (glass-top, glossed or stainless table) to perform dialysis. For APD patients: Table must fit the APD machine and should be the same height as patient's bed to reduce APD alarms.

3.12 APPENDIX B

ROUTINE BLOODS for Peritoneal Dialysis Patients

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
UEC	UEC	UEC	UEC	UEC	UEC	UEC	UEC	UEC	UEC	UEC	UEC
Ca, PO4, Mg	Ca, PO4, Mg	Ca, PO4, Mg	Ca, PO4, Mg	Ca, PO4, Mg	Ca, PO4, Mg	Ca, PO4, Mg	Ca, PO4, Mg	Ca, PO4, Mg	Ca, PO4, Mg	Ca, PO4, Mg	Ca, PO4, Mg
FBC	FBC	FBC	FBC	FBC	FBC	FBC	FBC	FBC	FBC	FBC	FBC
LFT's	LFT's	LFT's	LFT's	LFT's	LFT's	LFT's	LFT's	LFT's	LFT's	LFT's	LFT's
Urate	Urate	Urate	Urate	Urate	Urate	Urate	Urate	Urate	Urate	Urate	Urate
			HBsAg (yearly if core positive) Anti-HBs						HepCAb HBsAg (yearly if core positive) Anti-HBs		
Tissue Typing*	Tissue Typing*	Tissue Typing*	Tissue Typing*	Tissue Typing*	Tissue Typing*	Tissue Typing*	Tissue Typing*	Tissue Typing*	Tissue Typing*	Tissue Typing*	Tissue Typing*
Troponin T*						Troponin T*					
Fe studies*			Fe studies*			Fe studies*			Fe studies*		
PTH			PTH			PTH			PTH		
HbA1c (only diabetic patients)			HbA1c (only diabetic patients)			HbA1c (only diabetic patients)			HbA1c (only diabetic patients)		
			Fasting lipids - Total Cholesterol, HDL, LDL & Triglycerides* only in high risk patients						Fasting lipids - Total Cholesterol, HDL, LDL & Triglycerides* only in high risk patients		

Tissue typing for patients on transplant list. Performed before 20th of each month and repeated 2 weeks after a blood transfusion.

Fe studies performed 2 weeks after completing a course of IV Fe.

HIV tesing is performed at commencement of dialysis.

Fasting Lipids only for patients with a history of, or at risk of, CAD, CVD, PVD or diabetes.

Troponin T : Twice per year

Hepatitis B testing - refer to protocol. Core positive patients only require yearly antigen testing

Blood Borne Viruses: Initial testing for HIV, Anti-HCV, HBsAg, Anti-HBs, Anti-HBc (informed consent required)

Hepatitis B surface antibody (Anti-HBs) level 4-8 weeks post vaccination course

Dialysis Adequacy (Kt/V and Ccl) - Annual tests

THIS DOCUMENT BECOMES UNCONTROLLED WHEN PRINTED
DISCARD PRINTED DOCUMENTS IMMEDIATELY AFTER USE

4. Cross References	SGH CLIN 364 *Peritoneal Dialysis Catheter (PDC) – Heparin lock* SGH CLIN 414 *Peritoneal Dialysis Catheter (PDC) - Post insertion Catheter Care, Dressing and Management* SGH CLIN 396 PD *Patients- Preparation for invasive procedures or surgery* SGH PD WPI 144 *Peritoneal Dialysis (PD) - Management of patients requiring intermittent peritoneal dialysis* SGH PD WPI 141 *Break-In Management For Patients Requiring Urgent PD with Newly Inserted PD Catheter* SGH PD WPI 096 *Dialysis Adequacy Tests (Creatinine Clearance and Kt/V)* SGH PD WPI 097 *Peritoneal Equilibration Test (PET)* SGH PD WPI 095 *Transitioning from PD* SGH PD WPI 053 *Peritoneal Dialysis – 1L Flush on a Peritoneal Dialysis Catheter* SGH PD WPI 137 *Peritoneal Dialysis Catheter (PDC)- Simple/Small flush on Peritoneal Dialysis* SGH PD WPI 093 *Changing PD Catheter Extension Set* SGH WPI 138 PD *Managing Unwell Outpatients in the PD Unit*
5. Keywords	Peritoneal Dialysis, Starting Dialysis, Home Dialysis
6. Document Location	Peritoneal Dialysis in SGH-TSH Business Rule Webpage
7. External References	1. Arramreddy, R., Zheng, S., Saxena, A. B., Liebman, S. E., & Wong, L. (2014). Urgent-Start Peritoneal Dialysis: A Chance for a New Beginning. *Am J Kidney Dis, 63*(3), 390-395. doi: 10.1053/j.ajkd.2013.09.018 2. Bento, C., Fuerbringer, R., Tabisz, A., & Riella, M. (2016). Live or let die: when intermittent peritoneal dialysis is the only plausible solution for survival. *Minerva Urol Nefrol, 68*(1), 45-46. 3. Blake, P. G., Bargman, J. M., Brimble, K. S., Davison, S. N., Hirsch, D., McCormick, B. B., . . . Tonelli, M. (2011). Clinical Practice Guidelines and Recommendations on Peritoneal Dialysis Adequacy 2011. Perit Dial Int, 31(2), 218-239. doi: 10.3747/pdi.2011.00026 4. Chan, GC, Wong, SH, Ng, JK, et al. (2021) Risk of peritonitis after gastroscopy in peritoneal dialysis patients. *Perit Dial Int*. Epub ahead of print 25 May 2021. DOI: 10.1177/08968608211018608. 5. Fan, PY, Chan, MJ, Lin, SH, et al. (2019) Prophylactic antibiotic reduces the risk of peritonitis after invasive gynecologic procedures. *Peritoneal Dialysis International*; 39(4): 356–361. 6. Figueiredo, A. E., Bernardini, J., Bowes, E., Hiramatsu, M., Price, V., Su, C., . . . Brunier, G. (2016). A Syllabus for Teaching Peritoneal Dialysis to Patients and Caregivers. *Peritoneal Dialysis International*, 36(6), 592-605. doi: 10.3747/pdi.2015.00277 7. Ghaffari, A. (2012). Urgent-start peritoneal dialysis: a quality improvement report. *Am J Kidney Dis, 59*(3), 400-408. doi: 10.1053/j.ajkd.2011.08.034 8. Groenhoff, C., Delgado, E., McClernon, M., Davis, A., Malone, L., Majirsky, J., & Guest, S. (2014). Urgent-start peritoneal dialysis: nursing aspects. *Nephrology nursing journal : journal of the American Nephrology Nurses' Association, 41*(4), 347-352; quiz 353. 9. Li PK-T, Chow KM, Cho Y, et al. (2022) ISPD peritonitis guideline

THIS DOCUMENT BECOMES UNCONTROLLED WHEN PRINTED
DISCARD PRINTED DOCUMENTS IMMEDIATELY AFTER USE

recommendations: 2022 update on prevention and treatment. *Peritoneal Dialysis International*, 42(2):110-153. doi:10.1177/08968608221080586

10. 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. Peritoneal Dialysis International, 36(5), 481-508. doi: 10.3747/pdi.2016.00078
11. Manera, KE, Johnson, DW, Craig, JC, et al. (2019) Patient and caregiver priorities for outcomes in peritoneal dialysis multinational nominal group technique study. *Clin J Am Soc Nephrol*,14: 74–83.
12. Manera, KE, Johnson, DW, Craig, JC, et al. (2020)Establishing a core outcome set for peritoneal dialysis: report of the SONG-PD (Standardized Outcomes In Nephrology-Peritoneal Dialysis) consensus workshop. Am J Kidney Dis ; 75(3): 404–412.
13. Oei, E., & Fan, S. (2015). Peritoneal Dialysis Adequacy in Elderly Patients. Peritoneal Dialysis International, 35(6), 635-639. doi: 10.3747/pdi.2014.00336
14. Suzuki, Y, Mizuno, M, Kojima, H, et al. (2021) Oral antibiotics are effective for preventing colonoscopy-associated peritonitis as a preemptive therapy in patients on peritoneal dialysis. *Internal Medicine*; 60(3): 353–356.
15. 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
16. Virga, G., La Milia, V., Cancarini, G., & Sandrini, M. (2013). Dialysis adequacy in peritoneal dialysis. J Nephrol, 26 Suppl 21, 96-119. doi: 10.5301/jn.2013.11636
17. Wang, A. Y. M., Brimble, K. S., Brunier, G., Holt, S. G., Jha, V., Johnson, D. W., . . . Pecoits-Filho, R. (2015). ISPD Cardiovascular and Metabolic Guidelines in Adult Peritoneal Dialysis Patients Part I – Assessment and Management of Various Cardiovascular Risk Factors. Peritoneal Dialysis International, 35(4), 379-387. doi: 10.3747/pdi.2014.00279
18. Wang, A. Y. M., Brimble, K. S., Brunier, G., Holt, S. G., Jha, V., Johnson, D. W., . . . Pecoits-Filho, R. (2015). ISPD Cardiovascular and Metabolic Guidelines in Adult Peritoneal Dialysis Patients Part II – Management of Various Cardiovascular Complications. Peritoneal Dialysis International, 35(4), 388-396. doi: 10.3747/pdi.2014.00278
19. Woodrow, G., & Davies, S. (2011). Renal Association Clinical Practice Guideline on peritoneal dialysis. Nephron Clin Pract, 118 Suppl 1, c287-310. doi: 10.1159/000328073
20. Xu, Q., Xu, F., Fan, L., Xiong, L., Li, H., Cao, S., . . . Mao, H. (2014). Serum Potassium Levels and Its Variability in Incident Peritoneal Dialysis Patients: Associations with Mortality. PLoS ONE, 9(1), e86750. doi: 10.1371/journal.pone.0086750

THIS DOCUMENT BECOMES UNCONTROLLED WHEN PRINTED
DISCARD PRINTED DOCUMENTS IMMEDIATELY AFTER USE

Approval for: PERITONEAL DIALYSIS (PD) – COMMENCEMENT AND MANAGEMENT OF PD PATIENTS AT HOME	
Specialty/Department Committee	Committee: Peritoneal Dialysis Committee Dr Franziska Pettit, Staff Specialist Date: 23.03.2022
Department head approval	Prof George Mangos, Department Head Renal Services Date: 21.03.2022
Executive Sponsor – Nurse Manager	Christine Day, Divisional Director Medicine and Cancer Date: 14.04.2022
Contributors to WPI	

Revision and Approval History				
Revision Date	Revision number	Reason	Coordinator/Author (Position)	Revision Due
Aug 2017	1	NEW	Anna Claire Cuesta (PD CNC)	Aug 2020
Apr 2022	2	Review – to include COVID screening and management, change to eMR scheduling and notes and amend PDC insertion process	Anna Claire Cuesta (PD CNC)	Apr 2027

THIS DOCUMENT BECOMES UNCONTROLLED WHEN PRINTED
DISCARD PRINTED DOCUMENTS IMMEDIATELY AFTER USE