PERITONEAL DIALYSIS (PD) CATHETER – POST INSERTION CATHETER CARE, DRESSING AND MANAGEMENT, ST GEORGE HOSPITAL (SGH)

1. Purpose	A guideline and procedure to protect a newly inserted, replaced or repositioned PD catheter from contamination or infection according to best practice guidelines.
2. Risk Rating	Medium
3. National Standards	1 – Clinical Governance 3 – Preventing and Controlling Healthcare Associated Infection 4 – Medication Safety 6 – Communicating for Safety
4. Employees it Applies to	Registered Nurses (RN) trained in peritoneal dialysis Enrolled Nurses (EN) trained in peritoneal dialysis Medical Officers (MO) trained in peritoneal dialysis

Contents

5. PROCESS

Refer to the following local documents:

SGH BR 402 *Peritoneal Dialysis Catheter – Daily Care, Dressing and Management*
SGH BR 433 *PDC Infection – Exit Site and Tunnel Infection Management And Treatment*
SESLHDPR/750 *Wound - Antiseptic Dressing*

Definitions

PD catheter (PDC) – a flexible tubing inserted into the peritoneal cavity to facilitate peritoneal dialysis.

Exit site – is where the PDC exits the body after being surgically implanted into the peritoneal cavity. Exit site is typically located on the lower abdomen.

Midline wound – is the vertical incision made in the midline for the surgical insertion and implantation of PDC into the peritoneal cavity. This is usually located 2 – 3 cm below the umbilicus and ~5 cm long.

Peritoneal dialysis (PD) – a renal replacement therapy utilising the peritoneal membrane for the removal of solutes (through diffusion and convection) and removal of water (through osmosis and

ultrafiltration) after the infusion and during the dwell of a sterile PD fluid/solution into the peritoneal cavity through a catheter.

5.1 BACKGROUND

Patients with newly inserted, replaced or repositioned peritoneal dialysis catheters are prone to post procedure complications and infections, hence, it is crucial to protect the catheter and exit site to prevent complications and PD-related infection.

5.2 SAFEGUARDS

- It is recommended that screening, decolonisation and eradication treatment for nasal Staphylococcus Aureus are completed prior to PDC insertion to prevent PDC exit site infection as per SGH BR 434 *Peritoneal Dialysis Catheter (PD) – Nasal Swab And Mupirocin (Nasal Staphylococcus Aureus Eradication Treatment)* and SESLHDPR/681 *Staphylococcus aureus (MSSA and MRSA) decolonisation*
- Assess PDC and exit site immediately after the insertion, replacement or repositioning procedure. Ensure the occlusive and antimicrobial dressing are covering the exit site and titanium connector and a minicap is securing the tip of the PDC.
- Closely assess and monitor the PDC exit-site and midline wound for excessive bleed, bruising or leak. Document the assessment findings and report to PD, renal and/or surgical teams immediately.
- Closely assess, monitor and manage the PDC exit-site and midline wound for signs and symptoms of infection as per SGH BR 433 *PD Catheter Infection – Exit Site and Tunnel Infection Management and Treatment* and SESLHDPR/297 *Wound – Assessment and Management*
- Post insertion care, dressing and management is to be carried out for minimum of 3 weeks from time of PDC insertion, replacement or reposition, longer for slow-healing wounds.
- Newly inserted, replaced or repositioned PD catheters must be immobilised and exit site to be kept dry to promote healing, this is facilitated through:
  - Weekly change of PDC exit site dressing for minimum of 3 weeks from time of PDC insertion, or longer for slow healing wounds
  - Note: Change or reinforce dressing immediately if dressing is displaced or wet. PDC exit site dressing may need to be changed more frequently if exit site or midline wound is bleeding or leaking excessively.
  - No bathing or showering for 3 weeks from time of PDC insertion, longer for slow healing wounds.
  - Securing PDC tip to abdomen with tape or under the dressing.
- Accreditation requirement must be complied with prior to dressing procedure (as per Appendix B). Post insertion dressing change can only be carried out by PD accredited RN/EN or RN/EN under the supervision of PD accredited RN.
- Educate and remind patient on the importance of:
  - Not showering and weekly dressing change for minimum of 3 weeks from time of PDC insertion.
  - Monitoring PDC exit site and mid-line wounds for bleed, leak or presence of bruising and to report concerns to healthcare team immediately and/or present to emergency department (ED) if worsening.
  - Present to PD unit or ED (after – hours) immediately if dressing is displaced or wet.

- Monitoring for signs and symptoms of infection, abdominal pain or pain on catheter wound and to report concerns to healthcare team immediately and/or present to ED if not resolving or worsening.
- Maintaining regular bowel movements for PDC patency. To use laxatives if necessary and clinically indicated. Preferred laxatives for PD patients are: osmotic laxatives (lactulose or macrogol), stool softener (docusate sodium) and/or stimulants (senna or bisacodyl).
- Ensuring the PD catheter is only accessed, dressed and managed by PD accredited nursing and medical staff.
- Attending the weekly dressing and PDC flushes appointments provided by nursing staff.
- Always securing and taping down the tip of PDC to abdomen to prevent from dangling.

5.3 DEVICES

5.3.1 Equipment

- Trolley
- Blue Sheet
- Non – sterile gloves
- Micropore tape
- PPE as per NSW Health PD2023_025 *Infection Prevention and Control in Healthcare Settings*
- Sterile Gloves

5.3.2 Key parts

- AMD Antimicrobial sponge (Excilon)
- Occlusive film dressing (IV 3000 or Asguard Clear Film)
- White gauze
- 0.9% sodium chloride
- Betadine solution
- Dressing Pack
- Add the following for suspected exit site infection:
  - Sterile swab stick (for bacterial swab)
  - Mupirocin ointment

5.3.3 Key Site

- PD catheter

5.3.4 Procedure

1) Wear PPE as per NSW Health PD2023_025 *Infection Prevention and Control in Healthcare Settings*
2) Explain procedure to the patient
3) Perform hand hygiene
4) Don non sterile gloves
5) Secures end of catheter with tape away from the dressing
6) Remove old dressing and review PDC exit site and midline wound condition

Note: If exit site is red or exudate is present, collect a wound swab for MCS, notify the PD and renal teams and commence treatment as per SGH BR 433 *PD Catheter Infection – Exit Site and Tunnel Infection Management and Treatment*

Note: If midline wound is red or exudate is present, collect a wound swab for MCS, notify the PD and renal teams. If midline wound is actively bleeding, leaking, bruised or haematoma is present, notify renal and surgical teams immediately.

7) Perform hand hygiene
8) Identify and gather equipment and key parts for procedure
9) Clean trolley/work surface with detergent
10) Perform hand hygiene
11) Set-up general sterile field with equipment and key parts at the bedside
12) Perform hand hygiene
13) Don sterile gloves
14) Clean exit site and change dressing using sterile technique:
    a. Clean around the exit site with normal saline twice
    b. Dry exit site thoroughly with gauze
    c. Apply mupirocin ointment to exit site (if clinically indicated)
    d. Cover exit site with Excilon
    e. Loop the PD catheter, aligning the titanium connector beside the exit site as per Appendix A
    f. Cover the entire area including the titanium connector with occlusive film dressing as per Appendix A
15) Clean midline wound and change dressing using sterile technique
    a. Clean around the midline wound with betadine solution twice
    b. Dry midline wound thoroughly with gauze
    c. If required, cover midline wound with gauze and occlusive dressing
16) Immobilise tip of PDC with micropore tape
17) Discard all equipment as per NSW Health PD2020_049 *Clinical and Related Waste Management for Health Services*
18) Document the procedure in eMR/clinical notes
19) Handover to the next shift
20) Inform the PD nurses

6. Cross References	NSW Health PD2023_025 *Infection Prevention and Control in Healthcare Settings* NSW Health PD2020_049 *Clinical and Related Waste Management for Health Services* Australian Commission on Safety and Quality in Health Care National Standard for User Applied labelling of Injectable Medicines, Fluids and Lines Australian Commission on Safety and Quality in Health Care National Standard for Medication Safety Standard NHMRC Australian Guidelines for the prevention and control of Infection in Healthcare SESLHDPR/297 *Wound – Assessment and Management*

	SESLHDPR/437 *Wound – Managing Pain at Dressing Change* SESLHDPR/547 *Wound – Skin Assessment and Care/Management* SESLHDPR/750 *Wound - Antiseptic Dressing* SESLHDPR/681 *Staphylococcus aureus (MSSA and MRSA) decolonisation* SGH-TSH BR027 *Aseptic Technique - Assessment and Education Requirements* SGH BR 345 *Peritoneal Dialysis - Inpatient Management* SGH BR 402 *Peritoneal Dialysis Catheter – Daily Care, Dressing and Management* SGH BR 442 *Peritoneal Dialysis - Peritonitis Management and Treatment* SGH BR 433 *PD Catheter Infection – Exit Site and Tunnel Infection Management and Treatment* SGH BR434 *Peritoneal Dialysis Catheter (PD) – Nasal Swab And Mupirocin (Nasal Staphylococcus Aureus Eradication Treatment)*
7. Keywords	Peritoneal dialysis, PD catheter, Post PDC insertion, Dressing
8. BR Location	Under "P" in Peritoneal Dialysis section – SGH-TSH Business Rule Webpage
9. External References	1. Campbell, D. J., Johnson, D. W., Mudge, D. W., Gallagher, M. P., & Craig, J. C. (2014). Prevention of peritoneal dialysis-related infections. Nephrology Dialysis Transplantation. doi: 10.1093/ndt/gfu313 2. Cha, R. R., Park, S. Y., Camilleri, M., & Constipation Research Group of Korean Society of Neurogastroenterology and Motility (2023). Constipation in Patients With Chronic Kidney Disease. *Journal of neurogastroenterology and motility*, *29*(4), 428–435. https://doi.org/10.5056/jnm23133 3. Chow, K. M., Li, P. K., Cho, Y., Abu-Alfa, A., Bavanandan, S., Brown, E. A., Cullis, B., Edwards, D., Ethier, I., Hurst, H., Ito, Y., de Moraes, T. P., Morelle, J., Runnegar, N., Saxena, A., So, S. W., Tian, N., & Johnson, D. W. (2023). ISPD Catheter-related Infection Recommendations: 2023 Update. *Peritoneal dialysis international : journal of the International Society for Peritoneal Dialysis*, *43*(3), 201–219. https://doi.org/10.1177/08968608231172740 4. Crabtree JH, Shrestha BM, Chow K-M, and et al. (2019). Creating and Maintaining Optimal Peritoneal Dialysis Access in the Adult Patient: 2019 Update. *Peritoneal Dialysis International*; 39(5):414-436. 5. Figueiredo, A. E., de Mattos, C., Saraiva, C., Olandoski, M., Barretti, P., Pecoits Filho, R., de Moraes, T. P., & all BRAZPD II Investigators (2017). Comparison between types of dressing following catheter insertion and early exit-site infection in peritoneal dialysis. *Journal of clinical nursing*, *26*(21-22), 3658–3663. https://doi.org/10.1111/jocn.13738 6. Hayat A, Walker RC, Viecelli AK, et al. (2023) Range and consistency of gastrointestinal outcomes reported in peritoneal dialysis trials: A systematic review. *Peritoneal Dialysis International*; 43(4):315-323. doi:10.1177/08968608221126849 7. Kosmadakis, G., Albaret, J., Da Costa Correia, E., Somda, F., & Aguilera, D. (2019). Constipation in Peritoneal Dialysis Patients. *Peritoneal dialysis international : journal of the International Society for Peritoneal Dialysis*, *39*(5), 399–404.

	8. Lee, A. (2011). Constipation in patients on peritoneal dialysis a literature review. *Renal Society of Australasia Journal, 7*(3), 122-129. 9. Li PK-T, Chow KM, Cho Y, et al. (2022). ISPD peritonitis guideline recommendations: 2022 update on prevention and treatment. *Peritoneal Dialysis International*; 42(2):110-153. doi:10.1177/08968608221080586 10. Perl, J., Fuller, D. S., Bieber, B. A., Boudville, N., Kanjanabuch, T., Ito, Y., Nessim, S. J., Piraino, B. M., Pisoni, R. L., Robinson, B. M., Schaubel, D. E., Schreiber, M. J., Teitelbaum, I., Woodrow, G., Zhao, J., & Johnson, D. W. (2020). Peritoneal Dialysis-Related Infection Rates and Outcomes: Results From the Peritoneal Dialysis Outcomes and Practice Patterns Study (PDOPPS). *American journal of kidney diseases : the official journal of the National Kidney Foundation*, *76*(1), 42–53. https://doi.org/10.1053/j.ajkd.2019.09.016 11. Ponce, D., Nitsch, D., & Ikizler, T. A. (2023). Strategies to Prevent Infections in Dialysis Patients. *Seminars in nephrology*, *43*(5), 151467. https://doi.org/10.1016/j.semnephrol.2023.151467 12. Sachar, M., & Shah, A. (2022). Epidemiology, management, and prevention of exit site infections in peritoneal dialysis patients. *Therapeutic apheresis and dialysis : official peer-reviewed journal of the International Society for Apheresis, the Japanese Society for Apheresis, the Japanese Society for Dialysis Therapy*, *26*(2), 275–287. https://doi.org/10.1111/1744-9987.13726 13. Sahlawi, M. A., Wilson, G., Stallard, B., Manera, K. E., Tong, A., Pisoni, R. L., Fuller, D. S., Cho, Y., Johnson, D. W., Piraino, B., Schreiber, M. J., Boudville, N. C., Teitelbaum, I., & Perl, J. (2020). Peritoneal dialysis-associated peritonitis outcomes reported in trials and observational studies: A systematic review. *Peritoneal dialysis international : journal of the International Society for Peritoneal Dialysis*, *40*(2), 132–140. https://doi.org/10.1177/0896860819893810 14. Saxena, A.B. (2023). Strategies to Avoid and Treat Peritoneal Dialysis Catheter Complications. In: Fadem, S.Z., Moura-Neto, J.A., Golper, T.A. (eds) Complications in Dialysis. Springer, Cham. https://doi.org/10.1007/978-3-031-44557-6_9 15. Tsai, C. C., Yang, P. S., Liu, C. L., Wu, C. J., Hsu, Y. C., & Cheng, S. P. (2018). Comparison of topical mupirocin and gentamicin in the prevention of peritoneal dialysis-related infections: A systematic review and meta-analysis. *American journal of surgery*, *215*(1), 179–185. https://doi.org/10.1016/j.amjsurg.2017.03.005
10. Consumer Advisory Group (CAG) Approval	Not Applicable
11. Aboriginal Health Impact Statement	The Aboriginal Health Impact Statement does not require completion because there is no direct or indirect impact on Aboriginal people. Post PD catheter – insertion catheter care, dressing and management process is similar for patients of aboriginal and non – aboriginal background.
12. Implementation and Evaluation Plan	**Implementation:** The document will be published on the SGH-TSH business rule webpage and distributed via the monthly SGH-TSH CGD report. Accreditation and training programs; Inservice and Education sessions; Local Champions. **Evaluation:** IMS + Monitoring, Review of document after 3 years
13. Knowledge Evaluation	**Q1: How long is the post PD catheter insertion period and care?**

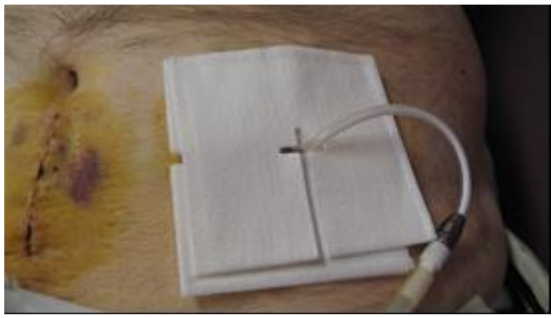
	A1: Minimum of 3 weeks from time of insertions and longer for slow healing wounds. **Q2: What must be checked and monitored after a new PD catheter is inserted?** *A2: Ensure appropriate occlusive and antimicrobial dressing are insitu and tip of PDC is secured with a minicap. Monitor wounds for signs and symptoms of bruising, excessive bleed, infection, leak or worsening pain. Monitor bowel activity as well, give laxatives if necessary.* **Q3: How often is post insertion exit site dressing changed?** *A3: Weekly for wounds without excessive bleed or leak. Immediate change for displaced or wet dressings or more frequent dressing change for bleeding or leaking exit site.*
14. Who is Responsible	Director of St George and Sutherland Renal Service. Nursing Unit Manager, Dialysis Unit

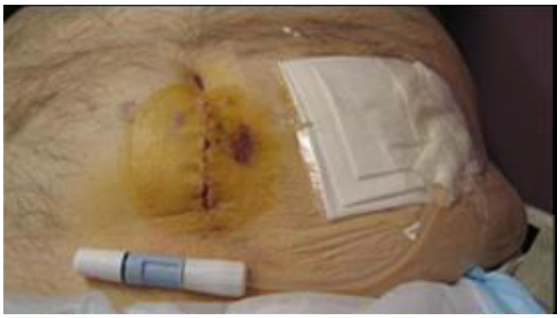
Approval for: PD Catheter – Post Insertion Catheter Care, Dressing and Management SGH	
Specialty/Department Committee	Committee: Peritoneal Dialysis Committee Chairperson: Franziska Pettit, Staff Specialist Date: 25.06.204
Nurse Manager / Divisional Director (SGH)	Lorena Matthews, Divisional Director, Medicine and Cancer Date: 03.07.2024
Medical Head of Department (SGH)	George Mangos, Department Head Renal Services Date: 20.06.2024
Executive Sponsor / s	Lorena Matthews, Divisional Director, Medicine and Cancer Date: 03.07.2024
Contributors to BR E.g., CNC, Medical Officers (name and position)	**Contribution** (previous version) Anna Claire Cuesta, PD CNC **Contribution** (current revision) Anna Claire Cuesta, PD CNC
	Consultation: Franziska Pettit, Staff Specialist

Revision and Approval History				
Revision Date	Revision number	Reason	Coordinator/Author	Revision Due
Aug 2017	0	New	Anna Claire Cuesta (PD CNC)	Aug 2020
Jul 2020	1	Review due	Anna Claire Cuesta (PD CNC)	Jul 2023
Jul 2024	2	Major Review – addition of bowel management and wound monitoring	Anna Claire Cuesta (PD CNC)	Jul 2027

General Manager's Ratification	
Angela Karooz (SGH)	Date: 29.07.2024

Appendix A





Appendix B

Peritoneal Dialysis Catheter (PDC) Exit Site Dressing Assessment Form

Limitations for Practice:

Registered Nurse

Enrolled Nurse

Objective:

To ensure PDC exit site dressing procedure is performed according to best practice guidelines reducing the risk of infection and ensuring patient safety.

Background:

1. Competency assessment and training is compulsory prior to attending to PDC exit site dressing.
2. Nursing staff with no exposure to PDC exit site dressing must undergo competency training and practice under the supervision of PDC exit site dressing competent nurse.
3. Competency assessment and training is to be carried out by a PDC exit site dressing competent nurse
4. Assessor may determine the number of practice sessions required prior to completion of competency assessment
5. Simulated PDC exit site dressing practice sessions are acceptable
6. Competency assessment is to be performed on a patient with new, replaced, or repositioned PD catheter.
7. Repeat competency assessment and training every Business Rule or Workplace Instruction update and/or every 5 years

Note:

1. Keep the original copy of your completed assessment form for your record.
2. Forward a copy of the completed assessment form to the CNE.
3. CNE to maintain competency record and update HETI.

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Peritoneal Dialysis Catheter (PDC) Exit Site Dressing Assessment Form

Name:_____ **Pay No:**_____
Print Signature

Please initial appropriate box

Action	P1	P2	P3	P4	P5	C
1. Ascertains type of PDC exit site dressing to do: Post-op or Regular Daily						
2. Refers and follows the appropriate exit site care PD CBRs/WPIs						
3. Wear PPE APP and explains procedure to patient						
4. Performs handwash and dons non-sterile gloves						
5. Secures end of PD catheter with tape						
6. Removes old dressing						
7. Reviews condition of exit site. Swabs as necessary and informs PD and renal team						
8. Performs handwash						
9. Cleans trolley and collects equipments						
10. Prepares equipment and sets-up sterile field						
11. Performs surgical handwash						
12. Dons sterile gloves						
13. Cleans exit site as per appropriate PD CBRs/WPIs						
14. Waits for exit site to dry. Applies topical antibiotics as indicated.						
15. Applies appropriate dressing. Ensures exit site and titanium are covered						
16. Secures PD catheter with tape						
17. Discards all equipments						
18. Documents the procedure						
19. Hands over to the next shift						

Practice 1 (P1) Assessor's name & initial_____Date_____

Practice 2 (P2) Assessor's name & initial_____Date_____

Practice 3 (P3) Assessor's name & initial_____Date_____

Practice 4 (P4) Assessor's name & initial_____Date_____

Practice 5 (P5) Assessor's name & initial_____Date_____

Competent (C) Assessor's name & initial_____Date_____

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