PERITONEAL DIALYSIS (PD) CATHETER – DAILY CARE, DRESSING AND MANAGEMENT

1. Purpose	A guideline and procedure to protect the PD catheter from contamination or infection according to best practice guidelines.
2. Risk Rating	Low
3. National Standards	1 – Clinical Governance 3 – Preventing and Controlling Healthcare Associated Infection 4 – Medication Safety 5 – Comprehensive Care 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 414 Peritoneal Dialysis Catheter – Post Insertion Care, Dressing and Management

SGH BR 433 PDC Infection – Exit Site and Tunnel Infection Management And Treatment

SESLHDPR/750 Wound - Antiseptic Dressing

Definitions

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.

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.

5.1 BACKGROUND

A peritoneal dialysis catheter (PDC) exit site is presumed healed after 3 weeks from time of PDC insertion, however, patients with healed PDC exit site continues to remain at risk for catheter related complication. Hence, it remains crucial to protect the catheter and exit site to prevent complications, contamination, or infection.

5.2 SAFEGUARDS

- Patients with newly inserted PDC must not shower and have a weekly post insertion exit site dressing change for a minimum of 3 weeks as per SGH BR 414 Peritoneal Dialysis Catheter – Post Insertion Care, Dressing and Management
- PD nurses will review PDC and exit site to determine if exit site is completely healed and safe for patient to shower and change exit site dressing daily.
- Once PDC exit site is healed, patient will be advised to shower daily and will be educated on routine exit site care including daily dressing change as per Patient Guide – PDC Daily Exit Site Care and Dressing in Appendix B

Note: Healed PDC exit site is routinely cleansed after every shower, dried with white gauze, swabbed with betadine or chlorhexidine from exit site outwards, treated with mupirocin ointment and covered with island gauze dressings or film dressings

- Every PD patient has a distinct daily PDC exit site care and dressing regimen due to allergies and sensitivities, always confirm these with the patient/carer or PD nurses once patient is admitted to the hospital.

Note: It is essential to continue with the patient's usual PDC care and dressing daily or after every shower

Note: Wet dressings are to be replaced immediately to prevent fungal exit site infection

- Independent and mobile inpatients must be encouraged and provided with necessary equipment to shower and attend to own exit site dressing daily.
- For less mobile or immobile inpatients, nurses must attend to daily PDC exit site care and dressing as per patient's usual routine.
- Accreditation requirement must be complied with prior to dressing procedure (as per Appendix C). Daily PDC exit site dressing change can only be carried out by PD accredited RN/EN or RN/EN under the supervision of PD accredited RN
- Assess the PDC exit-site for signs and symptoms of infection and manage as per SGH BR 433 Peritoneal Dialysis (PD) Catheter Infection – Exit Site and Tunnel Infection Management and Treatment
- Notify PD and renal teams for any PDC or exit site related concerns
- Always immobilise and secure tip of PDC by taping down to abdomen to prevent from dangling, pulling or twisting which could result to exit site trauma
- 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

- It is also recommended that existing PD patients are routinely screened for nasal Staphylococcus Aureus carriage once every year as per SGH BR 434 Peritoneal Dialysis Catheter (PD) – Nasal Swab And Mupirocin (Nasal Staphylococcus Aureus Eradication Treatment)
- Mupirocin ointment or other topical antibacterial ointment/drops must be prescribed on eMeds/medication chart, it is not nurse initiated as per SESLHDPR/26 Medication Management Roles & Responsibilities of Clinicians

5.3 DEVICE CARE

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

- Occlusive island gauze or film dressing
- White gauze
- 0.9% sodium chloride
- Betadine or chlorhexidine swabs
- Dressing Pack
- Mupirocin ointment or other antibacterial ointment/drops as prescribed
- Add for suspected exit site infection:
  - Sterile swab stick (for bacterial swab)

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) Confirm usual PDC exit site care and dressing with patient/carer or PD nurses
3) Perform hand hygiene
4) Don non sterile gloves
5) Secure end of PDC with tape, away from the dressing
6) Remove old dressing and review PDC exit site condition

Note: If exit site is red, swollen, painful 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 irritation or allergic reaction from the current dressing is present, inform the renal and PD teams as dressing regimen may need to be changed

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) Soak 2 gauze squares in normal saline solution
15) 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. Clean around the exit site twice with betadine or chlorhexidine swabs; allow 2 minutes to dry naturally
    d. Apply mupirocin ointment or antibacterial drops/ointment to exit site as ordered
    e. Loop the PD catheter, aligning the titanium connector to exit site as per Appendix A
    f. Cover the exit site and the titanium connector with the occlusive island gauze or film dressing as per Appendix A
16) Immobilise and secure tip of PDC on the side or top of dressing 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/26 Medication Management Roles & Responsibilities of Clinicians 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 SGH-TSH BR 027 Aseptic Technique - Assessment and Education Requirements SGH BR 345 Peritoneal Dialysis - Inpatient Management

	SGH BR 414 Peritoneal Dialysis Catheter – Post Insertion Catheter Care, Dressing and Management SGH BR442 Peritoneal Dialysis - Peritonitis Management and Treatment SGH BR 433 PD Catheter Infection – Exit Site and Tunnel Infection Management and Treatment SGH BR 434 Peritoneal Dialysis Catheter (PD) – Nasal Swab And Mupirocin (Nasal Staphylococcus Aureus Eradication Treatment)
7. Keywords	Peritoneal dialysis, PD catheter, Daily care, 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. 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 6. 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 7. 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 8. 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 9. 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

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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. Daily PDC 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: Who can attend to daily PDC exit site dressing change?** *A1: Patient if able or PD accredited RN/EN or RN/EN under the supervision of PD accredited RN.* **Q2: What must be checked and monitored every PD catheter dressing change?** *A2: PDC exit site status and monitor for signs and symptoms of exit site infection.* **Q3: How often is healed PDC exit site dressing changed?** *A3: Daily to keep exit site clean and dry or after every shower. Wet dressings are to be replaced immediately to prevent fungal PDC exit site infection..*
14. Who is Responsible	Director of St George and Sutherland Renal Service. Nursing Unit Manager, Dialysis Unit

Approval for: PD Catheter – Daily Care, Dressing and Management	
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
Sep 2017	0	New	Anna Claire Cuesta (PD CNC)	Sep 2020
Jul 2020	1	Review due	Anna Claire Cuesta (PD CNC)	Jul 2023
Jul 2024	2	Major review: inclusion of Staph Aureus decolonisation	Anna Claire Cuesta (PD CNC)	Jul 2027

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

Appendix A

Appendix B

PATIENT NAME_____
MRN_____
DATE_____
or affix Patient Identification Label here

PATIENT GUIDE
PERITONEAL DIALYSIS CATHETER (PDC)
DAILY EXIT SITE CARE AND DRESSING

PDC is the only access you have to perform peritoneal dialysis (PD), therefore, it is a very important part of your body. It is essential to take care of and protect your PDC from infection or blockage that will result in inadequate dialysis. Both conditions can make you very unwell which could lead to hospital admissions. To protect your PDC, you must:

1. Maintain a daily bowel motion and avoid constipation to prevent PDC blockage. Use aperients or laxative as needed – ask your renal doctor or PD nurses for advice
2. Always immobilise and secure the tip of your PDC with tape to prevent from dangling, pulling or twisting
3. Shower daily to keep your body and PDC clean
4. Change your PDC exit site dressing daily or after every shower to keep it clean and infection–free. It is important to change wet dressing immediately and to keep the dressing dry all the time.

How to change your PDC exit site dressing daily:

1. Gather all equipment for your dressing change on a cleaned work tray, away from a wet area:
   a. Your dressing – Curapor, Cosmopor, Primapore, Asguard, Tegaderm or Mepore
   b. Betadine or Chlorhexidine swabs x 2
   c. Micropore, Transpore or Leukopor tape
   d. White gauze squares
   e. Antibacterial ointment (i.e. Bactroban or Mupirocin)

2. Secure the tip of the PDC on abdomen with tape.
3. Shower as usual, with PDC exit site dressing in place
4. After shower, dry self with towel
5. Prepare dressing supplies on the cleaned work tray:
   a. Open dressing and gauze, lay flat on tray
   b. Open betadine or chlorhexidine swabs x 2 and place on top of the inside of the dressing wrapper
   c. Squeeze out the bactroban ointment on top of the inside of the dressing wrapper

6. Remove wet tape from tip of PDC and replace with dry tape to secure PDC on your abdomen
7. Remove old and wet PDC exit site dressing

PATIENT NAME_____
MRN_____
DATE_____
or affix Patient Identification Label here

PATIENT GUIDE
PERITONEAL DIALYSIS CATHETER (PDC)
DAILY EXIT SITE CARE AND DRESSING

8. Perform 1 minute handwash with antibacterial liquid soap. Dry your hands thoroughly with paper towel.
9. Dry PDC exit site with gauze. **Do not use paper towel or cloth towel to dry your exit site.**
10. Review your PDC exit site (preferably in front of a full body mirror) and monitor for signs of infection i.e. redness, swelling, tenderness or pus/blood discharge.

    Note: Any signs or symptoms of infection, please report to the PD nurses immediately or present yourself to the SGH emergency department. Crusty exit site will also need closer examination by the PD nurses.

11. Clean your exit site with the first swab (starting from the exit site using a circular motion moving outwards)
12. Use the second swab to clean the exit site again (starting from the exit site using a circular motion moving outwards)
13. Wait for the exit site to dry naturally. **Do not fan or blow on your exit site. Do not use a blow dryer to dry your exit site.**
14. Once exit site is dry, apply antibacterial ointment using one piece of white gauze. **Do not use cotton buds to apply antibacterial ointment**
15. Loop the catheter to align titanium connector next to exit site. Cover both with the one dressing.

NOTE: Immediately report to PD nurses any allergic reaction (i.e. redness, itch, rash or blistering) to dressing, tape or swab. You will be provided with different dressing products to try.

16. Secure the tip of your catheter on the side or top of your dressing with tape.

Appendix C

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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