

PERITONEAL DIALYSIS CATHETER (PD) – NASAL SWAB AND MUPIROCIN (NASAL STAPHYLOCOCCUS AUREUS ERADICATION TREATMENT)

1. Purpose	A guideline and procedure to reduce the risks of PD catheter related infections through screening and eradication treatment of nasal Staphylococcus Aureus carriage or colonisation
2. Risk Rating	Low
3. National Standards	1 – Clinical Governance 4 – Medication Safety 5 – Comprehensive Care
4. Employees it Applies to	Registered Nurses Medical Officers

5. PROCESS

Nasal Staphylococcus aureus (S. aureus) carriage/colonization is a major risk factor for PD catheter related infection. Screening, decolonisation and eradication treatment for nasal S. aureus are recommended to reduce PD catheter exit site infections

5.1 RECOMMENDATIONS

- Pre dialysis patients on PD pathway are to be screened for nasal S. aureus carriage preferably prior to PD catheter insertion
- Existing PD patients are to be routinely screened for nasal S. aureus carriage once every year as nasal colonisation can be community acquired resulting in intermittent nasal S. aureus carriage
- Existing or upcoming PD patients with nasal carriage or colonisation of S. aureus have to undergo decolonisation as per [SESLHDPR/681 Staphylococcus aureus \(MSSA and MRSA\) decolonisation](#) and nasal eradication treatment with topical intranasal mupirocin
- Complete eradication of nasal S. aureus is preferred which may require repeat nasal screening and treatment

5.1.1 Equipment

- Sterile transport swab
- Normal saline
- Non-Sterile gloves
- Patient label
- Pathology request form

5.1.2 Nasal Screening/Swab Procedure

1. Educate the patient and/or carer on the importance of screening and treatment for nasal S. aureus carriage
2. Perform hand hygiene
3. Wear PPE and don non-sterile gloves
4. Advise patient to clear their nose
5. Prepare the sterile swab by moistening cotton tip with normal saline

6. Insert the moistened swab to right nostril and swab
7. Insert same moistened swab to left nostril and swab
8. Place swab into canister
9. Remove gloves
10. Perform hand hygiene
11. Send labelled swab to pathology with a completed and labelled pathology request form
12. Monitor the results

5.1.3 Nasal Eradication with Mupirocin Treatment

1. Once nasal *S. aureus* carriage/colonisation is confirmed through a positive culture result, notify the patient's nephrologist and/or renal team
2. Advise patient to present to the PD unit or renal clinic to immediately commence nasal eradication treatment as well as the decolonisation treatment as per [SESLHDPR/681 *Staphylococcus aureus* \(MSSA and MRSA\) decolonisation](#) (preferably prior to PDC insertion for pre dialysis patients)
3. Educate patient and/or carer on the eradication treatment with topical nasal mupirocin application and the need for a repeat nasal screening/swab:
 - a) Topical nasal mupirocin application (using cotton buds) twice a day for 7 days
 - b) Repeat nasal screening/swab 7 days after the last application/dose of topical nasal mupirocin
4. For repeat nasal screening/swabs confirming further *S. aureus* carriage/colonisation (i.e. positive culture), repeat steps 2 and 3 until complete eradication is evident (i.e. negative culture result on repeat nasal screening/swabs)

Note: Routine screening through yearly nasal swabs and repeat decolonisation and eradication treatment with topical nasal mupirocin may be necessary
5. Provide patient with topical nasal mupirocin prescription from renal doctor
6. Provide patient with decolonisation instructions and Patient Factsheet for Preparing your skin for surgery: Reducing *Staphylococcus aureus* and MRSA on your skin as per [SESLHDPR/681 *Staphylococcus aureus* \(MSSA and MRSA\) decolonisation](#)
7. If clinically indicated, review patient's PD catheter exit site, obtain PD catheter exit site swab to send for microscopy, culture and sensitivity (MCS), and commence antibiotic treatment as per [SGH CLIN433 *Peritoneal Dialysis \(PD\) Catheter Infection – Exit Site and Tunnel Infection Management and Treatment*](#).

6. Cross References	National Health and Medical Research Council <i>Australian Guidelines for the Prevention and Control of Infection in Healthcare 2019</i> NSW Health PD2013_043 <i>Medication Handling in NSW Public Health Facilities</i> NSW Health PD2017_013 <i>Infection Prevention and Control Policy</i> SESLHDPR/681 <i>Staphylococcus aureus</i> (MSSA and MRSA) decolonisation Australian Commission on Safety and Quality in Healthcare <i>NSQHS Standards safety and quality improvement guide for preventing and controlling healthcare associated infections</i> SGH-TSH CLIN027 <i>Aseptic Technique - Competency and Education Requirements</i>
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	<p>SGH CLIN 414 Peritoneal Dialysis Catheter (PDC) – Post insertion Catheter Care, Dressing and Management</p> <p>SGH CLIN 402 Peritoneal Dialysis Catheter (PDC) – Daily Care, Dressing and Management</p> <p>SGH CLIN 433 Peritoneal Dialysis (PD) Catheter Infection – Exit Site and Tunnel Infection Management and Treatment</p> <p>SGH CLIN 442 Peritoneal Dialysis (PD) – Peritonitis Management and Treatment</p> <p>SGH WPI 142 Peritoneal Dialysis (PD) – Commencement and Management of PD Patients at Home</p>
7. Keywords	Peritoneal dialysis, Nasal screening, Nasal swab, Nasal Mupirocin
8. Document Location	Renal, Peritoneal Dialysis
9. External References	<p>Bode L., Kluytmans J., Wertheim H., Bogaers D., Vandenbroucke-Grauls C., Roosendaal R., Troelstra A., Box A., Voss A., van der Tweel L. and et al. (2010). Preventing surgical-site infections in nasal carriers of <i>Staphylococcus aureus</i>. <i>New England Journal Medicine</i> January 7; 362(1): 9-17</p> <p>Bonham, P. (2009). Swab Cultures for Diagnosing Wound Infections-A Literature review and Clinical Guideline. <i>Journal of Wound, Ostomy, and Continence Nursing</i> 36(4):389-395</p> <p>Campbell DJ, Mudge DW, Gallagher MP, et al. (2017) Infection Prophylaxis in Peritoneal Dialysis Patients: Results from an Australia/New Zealand Survey. <i>Peritoneal Dialysis International</i>.;37(2):191-197. doi:10.3747/pdi.2016.00037</p> <p>Crabtree JH, Shrestha BM, Chow KM, et al. (2019) Creating and Maintaining Optimal Peritoneal Dialysis Access in the Adult Patient: 2019 Update. <i>Peritoneal Dialysis International</i>; 39:414.</p> <p>Figueiredo, A., Goh, B.-L., Jenkins, S., Johnson, D. W., Mactier, R., Ramalakshmi, S., . . . Wilkie, M. (2010). Clinical Practice Guidelines for Peritoneal Access. <i>Peritoneal Dialysis International</i>, 30(4), 424-429. doi: 10.3747/pdi.2010.00087</p> <p>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. <i>Peritoneal Dialysis International</i>, 36(5), 481-508. doi: 10.3747/pdi.2016.00078</p> <p>Lin J, Ye H, Li J, et al. (2020) Prevalence and risk factors of exit-site infection in incident peritoneal dialysis patients. <i>Peritoneal Dialysis International</i>; 40:164.</p> <p>Nicolas, R., Carricajo, A., Morel, J., Rigaille, J., Grattard, F., Guezzou, S., . . . Botelho-Nevers, E. (2020). Evaluation of effectiveness and compliance with the mupirocin nasal ointment part of <i>Staphylococcus aureus</i> decolonization in real life using UPLC-MS/MS mupirocin quantification. <i>Journal of Antimicrobial Chemotherapy</i>, 75(6), 1623-1630. doi:10.1093/jac/dkaa025 %J Journal of Antimicrobial Chemotherapy</p> <p>Sakr, A., Brégeon, F., Rolain, J & Blin, O. (2019) <i>Staphylococcus aureus</i> nasal decolonization strategies: a review. <i>Expert Review of Anti-infective Therapy</i>, 17:5, 327-340, DOI: 10.1080/14787210.2019.1604220</p> <p>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. <i>Peritoneal Dialysis International</i>, 37(2), 141-154. doi: 10.3747/pdi.2016.00120</p> <p>Van Rijen M., Bonten M., Wenzel R. and Kluytmans J. (2008). Mupirocin</p>

SGH CLIN434 Clinical Business Rule

	ointment for preventing Staphylococcus aureus infections in nasal carriers. Cochrane Database Systematic Review October 8; (4): CD006216.
10. Consumer Advisory Group (CAG) approval	Not applicable
11. Implementation and Evaluation Plan	<p>Implementation: The document will be published on the SGH-TSH business rule webpage and distributed via the monthly SGH-TSH CGD report.</p> <p>Evaluation: IMS+ Monitoring</p>
12. Knowledge Evaluation	<p>Q1: When is nasal screening/swab required or repeated? <i>A1: - Before insertion of a PD catheter for pre-dialysis patients</i> <i>- Yearly for existing PD patients</i> <i>- 1 week after the last application/dose of nasal mupirocin</i></p> <p>Q2: Why is nasal swab required for pre dialysis or peritoneal dialysis patients? <i>A2: To reduce the risks of PD catheter related infections through S. Aureus nasal carriage/colonisation</i></p> <p>Q3: What is the eradication treatment for nasal S. Aureus carriage /colonisation? <i>A3: Topical nasal application of Mupirocin twice a day for seven days</i></p> <p>Q4: When is nasal S. Aureus eradication treatment completed? <i>A4: After a repeat nasal screening/swab returns a negative culture</i></p>
13. Who is Responsible	Director of St George and Sutherland Renal Service Nurse Manager, Medicine

Approval for: Peritoneal Dialysis Catheter – Nasal Swab And Mupirocin (Nasal Staphylococcus Aureus Eradication Treatment)	
Specialty/Department Committee	Committee title: Peritoneal Dialysis Committee Chairperson name/position: Franziska Pettit, Staff Specialist Date: 23.07.2021
Nurse Manager (SGH)	Name/position: Christine Day, Nurse Manager Medicine Date: 05.08.2021
Medical Head of Department (SGH)	Name/position: George Mangos, Department Head Renal Services Date: 29.07.2021
Executive Sponsor	Name/Position: George Mangos, Department Head Renal Services Date: 29.07.2021
Contributors to CIBR	Contribution: Franziska Pettit, Staff Specialist Suman Adhikari, Senior Pharmacist, AMS & Critical Care

Revision and Approval History				
Revision Date	Revision number	Reason	Coordinator/Author (Position)	Revision Due
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Aug 2021	1	Review - Major	Anna Claire Cuesta (PD CNC)	Aug 2024

General Manager's Ratification
Name: Paul Darcy (SGH) Date: 25.08.2021