



**PERITONEAL DIALYSIS UNIT RENAL DEPARTMENT
SGH WPI 145 Workplace Instruction**

**PERITONEAL DIALYSIS – FLUID SPECIMEN COLLECTION VIA CONTINUOUS
AMBULATORY PD (CAPD) FREELINE SOLO EXCHANGE**

1. Purpose	To ensure the collection of PD fluid specimen via CAPD Freeline Solo exchange procedure is performed according to best practice guidelines reducing the risk of infection and ensuring patient safety
2. Employees it Applies to	Registered Nurses (RN) Enrolled Nurses (EN or EEN)

3. PROCESS

Refer to [SGH BR 442 Peritoneal Dialysis - Peritonitis Management and Treatment](#) and [SGH PD WPI 217 Continuous Ambulatory Peritoneal Dialysis \(CAPD\) Freeline Solo Exchange Procedure](#)

3.1 DEVICES

3.1.1 Equipment

- Trolley
- Micropore tape
- Sterile gloves
- Non – sterile gloves
- Blood culture set (self – vacuumed aerobic and anaerobic bottles)
- Specimen container (yellow top jar)
- 20 ml syringe
- 2 x 10 ml syringes
- 3 x 21 gauge needles
- Blue clamp
- 5 x alcohol or alcohol with chlorhexidine swabs

3.1.2 Other equipment

- Portable IV pole
- Patient labels
- Pathology form indicating test/s required
- PPE as per [NSW Health PD2023_025 Infection Prevention and Control in Healthcare Settings](#)

3.1.3 Key parts

- Flexicap
- Minicap
- Peritoneal dialysis fluid (Freeline Solo Bag or CAPD bag)

3.1.4 Key Site

- Abdominal PD catheter



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3.2 PROCEDURE

1. Wear PPE as per [NSW Health PD2023_025 Infection Prevention and Control in Healthcare Settings](#)
2. Explain procedure to patient
3. Confirm with patient/carer if peritoneal cavity is empty or full
4. Warm the selected peritoneal dialysis (PD) fluid (freeline solo bag) on the warmer
 - a. Select appropriate PD fluid strength by conducting a fluid assessment on patient 30 minutes prior to CAPD procedure. **Note:** PD fluid takes 30 minutes to warm
5. Perform hand hygiene
6. Clean trolley/work surface with detergent
7. Identify and gather equipment for procedure
8. Wash the blue clamp and dry thoroughly
9. Perform hand hygiene
10. Prepare general aseptic field with equipment and key parts
11. Use the sharp edge of the blue clamp to open outer pouch of the dialysis bag. **DO NOT USE SCISSORS OR KNIVES**
12. Place the opened bag on top of the clean trolley and ensure the lines are facing up
13. Check the bag strength, volume, expiry, colour and for leakage
14. Prepare the patient:
 - a. Perform hand hygiene
 - b. Don non – sterile gloves
 - c. Expose the PD catheter
 - d. Keep PD catheter away from clothing
15. Remove gloves and perform hand hygiene
16. Don sterile gloves
17. Perform connection procedure as per [SGH PD WPI 217 Continuous Ambulatory Peritoneal Dialysis \(CAPD\) Freeline Solo Exchange Procedure](#) ensuring all key parts/sites are protected
 - a. Remove the coloured cap from the patient line and remove minicap from the catheter;
 - b. Use non-touch connection technique to connect catheter to the patient line;
 - c. Hang the full bag on an IV pole and place the empty drain bag on the floor;
 - d. Ensure all lines are not kinked or pulling from the exit site. Ensure catheter dressing remains intact;
 - e. Break the green stick to flush and prime the lines for 5 seconds then clamp the inflow line with a blue clamp
18. Twist open the catheter valve to commence drain (drain time is approximately 15 to 20 minutes).
Note: Compare drain volume to previous fill volume. Drain volume should be more than the previous fill volume
19. Remove gloves and perform hand hygiene
20. When the drain line is cool, fill the patient:
 - a. Close the blue clamp on the outflow line;
 - b. Remove the blue clamp on the inflow line;



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- c. Run at least ≥ 1000 mL PD fluid into the patient (fill time is approximately 10-15 minutes)
21. When fill is complete, dwell PD fluid for 2 – 3 hours only:
 - a. Place a blue clamp on the inflow line;
 - b. Twist close the catheter valve until it clicks;
 - c. Note the starting and finishing time of PD fluid dwell on the CAPD chart
22. When PD fluid dwell is complete, drain the patient:
 - a. Open the blue clamp on the outflow line;
 - b. Twist open the catheter valve;
 - c. Compare drain volume to previous fill volume. Drain volume should be more than the previous fill volume
23. When the drain line is cool, close the blue clamp on the outflow line and twist close the catheter valve until it clicks
24. Perform disconnection procedure as per [SGH PD WPI 217 Continuous Ambulatory Peritoneal Dialysis \(CAPD\) Freeline Solo Exchange Procedure](#) ensuring all key parts/sites are protected
 - a. Open a new Flexicap
 - b. Open a new Minicap
 - c. Perform hand hygiene
 - d. Don sterile gloves
 - e. Disconnect patient using non-touch disconnection technique
 - f. Apply the new Minicap to catheter using non-touch technique
25. Apply the Flexicap to the line of the drain bag to prevent contamination & leaking of PD effluent
26. Secure the PD catheter on the abdomen with micropore tape
27. Weigh the drain bag, record the volume and PD effluent quality (i.e. colour, clarity and fibrin status)
28. Collect the PD fluid specimen from the drain bag using aseptic technique:
 - a. Attach the 3 x syringes to the 21 gauge needles
 - b. Clean the drain bag bung with alcohol, or alcohol with chlorhexidine swab, and allow to dry completely
 - c. Aspirate PD fluid from the drain bag bung using the 3 x syringes (2 x 10 ml and 1 x 20 ml)
Note: Clean the drain bag bung with alcohol, or alcohol with chlorhexidine swab, and allow to dry completely, for each aspiration/collection
 - d. Remove the cap of the blood culture bottles (self – vacuumed aerobic and anaerobic bottles), scrub the vial stoppers using alcohol, or alcohol with chlorhexidine swabs, and allow to dry completely.
 - e. Inject the first 10 ml PD fluid syringe to the self – vacuumed aerobic bottle
 - f. Inject the second 10ml PD fluid syringe to the self – vacuumed anaerobic bottle
 - g. Transfer the content of 20 ml PD fluid syringe into the specimen container (yellow top jar) and tightly secure the specimen container lid
29. Attach patient labels to specimen container and blood culture bottles
30. Write “PD fluid” on the patient labels ensuring patient details are not covered



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31. Place specimen container and blood culture bottles including the labelled pathology request form in a biohazard bag and send to the laboratory.

Note: If patient was given antibiotic/s prior to PD fluid specimen collection, note down all the antibiotics received on the pathology request form

32. Discard all equipment as per [NSW Health PD2020_049 Clinical and Related Waste Management for Health Services](#)

33. Remove gloves and PPE

34. Perform hand hygiene

35. Clean trolley after use and perform hand hygiene

36. Document the procedure on the patient notes

37. Inform the renal team and PD team (X33770 or page 1091)

38. Handover to the next shift

4. 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 NHMRC Australian Guidelines for the prevention and control of Infection in Healthcare SGH-TSH BR 027 Aseptic Technique - Assessment and Education Requirements SGH BR442 Peritoneal Dialysis - Peritonitis Management and Treatment SGH PD WPI 217 Continuous Ambulatory Peritoneal Dialysis (CAPD) Freeline Solo Exchange Procedure
5. Keywords	Peritoneal dialysis, PD fluid, culture, specimen collection, CAPD
6. Document Location	Under "P" in Peritoneal Dialysis section – SGH-TSH Business Rule Webpage
7. External References	<ol style="list-style-type: none"> 1. 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. <i>Peritoneal dialysis international : journal of the International Society for Peritoneal Dialysis</i>, 43(3), 201–219. https://doi.org/10.1177/08968608231172740 2. Crabtree JH, Shrestha BM, Chow K-M, and et al. (2019). Creating and Maintaining Optimal Peritoneal Dialysis Access in the Adult Patient: 2019 Update. <i>Peritoneal Dialysis International</i>; 39(5):414-436. 3. Li PK-T, Chow KM, Cho Y, et al. (2022). ISPD peritonitis guideline recommendations: 2022 update on prevention and treatment. <i>Peritoneal Dialysis International</i>; 42(2):110-153. doi:10.1177/08968608221080586 4. 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). <i>American journal of kidney diseases : the official</i>



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	<p><i>journal of the National Kidney Foundation</i>, 76(1), 42–53. https://doi.org/10.1053/j.ajkd.2019.09.016</p> <p>5. Ponce, D., Nitsch, D., & Ikizler, T. A. (2023). Strategies to Prevent Infections in Dialysis Patients. <i>Seminars in nephrology</i>, 43(5), 151467.</p> <p>6. 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. <i>Peritoneal dialysis international : journal of the International Society for Peritoneal Dialysis</i>, 40(2), 132–140. https://doi.org/10.1177/0896860819893810</p>
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Approval for: PERITONEAL DIALYSIS – FLUID SPECIMEN COLLECTION VIA CONTINUOUS AMBULATORY PD (CAPD) FREELINE SOLO EXCHANGE	
Specialty/Department Committee	Committee: Peritoneal Dialysis Committee Chairperson: Franziska Pettit, Staff Specialist Date: 27.06.2024
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Nurse Manager / Divisional Director	Lorena Matthews, Divisional Director, Medicine and Cancer Date: 03.07.2024
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Revision and Approval History				
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Jun 2017	0	New	Anna Claire Cuesta, PD CNC	Jun 2020
Jun 2020	1	Review	Anna Claire Cuesta, PD CNC	Jun 2023
Jul 2024	2	Major Review – major modification in the collection process	Anna Claire Cuesta, PD CNC	Jul 2029