

Policy

A registered nurse who has successfully completed the peritoneal dialysis education program requires a physician's order to add antibiotics to peritoneal dialysis solution.

Rationale

Contamination can lead to peritonitis. If contamination occurs by accidental disconnection during a PD treatment or if equipment failure (e.g. hole in the solution bag or tubing) occurs with an associated potential contamination, treatment should consist of both a sterile transfer set change and antibiotic prophylaxis as soon as possible to reduce the risk of peritonitis.

Note: Touch contamination before the infusion of dialysate can be treated with a sterile transfer set alone, if the clamp on the transfer set remains closed and no fluid has been infused. There is no need for prophylactic antibiotic usage in this case.

Supplies

70% alcohol and paper towel
Heated Twin Bags or Home Choice PRO set-up
Minicap
Clean towel or blue pad
Mask

You may choose to use either Twin Bags or the Home Choice PRO. If you use Twin Bags, you may need to use more than one bag depending on the Fill Volume. This will mean connecting and disconnecting more than once.

Procedure:

1. Immediately place a clamp on the PD catheter close to the skin. If on dialysis, stop and disconnect.
2. Close the twist clamp on the transfer set and cover with minicap.
3. Notify the physician/nephrologist on call. You may proceed with steps 2 to 4 while awaiting physician's response.
4. Obtain an effluent sample for cell count, microscopy and culture (as per "Obtaining a sample").
5. Do three dialysis exchanges without antibiotic and no dwell time (3 quick flushes). If you are using the cycler, bypass the dwell. If you are using Twin Bags, drain immediately after filling.
6. For inpatients, proceed to sterile transfer set change as per "Attachment of transfer set".

7. With physician's approval only:

- Give Cefazolin (Ancef) intraperitoneally 20mg/kg (to maximum dose 2g). Alternative if known colonization with MRSA or allergic – Give 30mg/kg (maximum 2g) Vancomycin intraperitoneally. (Refer to adding medications to dialysate policy).
- Leave to “dwell” for minimum 6 hours and then can continue with dialysis as normal (without antibiotics).
- Subsequent dosing of IP antibiotics at the discretion of the physician will be determined by the dialysate results.
- Note if more convenient, a 3-day course of oral first generation cephalosporin is also reasonable antibiotic prophylactic therapy as an alternative to IP antibiotics.

References:

1. Bender F, Bernardini J, Piraino B. Prevention of infectious complications in peritoneal dialysis: best demonstrated practices. *Kidney International*. 2006;70 (Suppl 103):S44-S54.
2. (ISPD 2011 PD-Peritonitis Guidelines)

Appendix: Antibiotic Delivery

Ensure that the patient receives the dose calculated above:

$\frac{\text{Dialysate bag size (L)}}{\text{Patient fill volume (L)}} \times \text{Patient antibiotic dose (mg)} = \text{Amount (mg) of antibiotic to be added to the dialysate bag.}$