PD Catheter Contamination Management

Background

A contaminated peritoneal dialysis (PD) catheter and extension set can lead to peritonitis. There are several causes of PD catheter contamination:

- Disconnection of PD catheter extension set from titanium connector
- Accidental exposure of PD catheter extension set (i.e. minicap fell off)
- Accidental disconnection of PD catheter extension set from dialysis lines whilst on dialysis
- Accidental cutting, split or hole on PD catheter and/or PD catheter extension set
- Faulty PD catheter extension set
- Connection to faulty or contaminated dialysis lines

PD catheter decontamination must be performed immediately to reduce the risk of peritonitis.

Objective

Ensure the safe and timely management of contaminated PD catheter to prevent complications and peritonitis.

Protocol

1. During PD unit office hours (Monday to Friday, 0730-1600).
   1.1 When the patient contacts the PD unit, advise to:
   - Immediately place the blue clamp on the PD catheter closest to the skin;
   - STOP dialysis and disconnect;
   - Close the white valve on PD catheter extension set and cover with minicap;
   - Present to the PD unit immediately or present to emergency department (ED) if unwell

1.2 When the patient presents to the PD unit:
   - Notify the renal team to:
     - Order PD fluid for MCS;
     - Order intraperitoneal antibiotics:
       - Stat dose of IP vancomycin 30mg/kg (maximum 2g);
       - Stat dose of IP Gentamicin 40mg (refer to Drug Additives used in Peritoneal Dialysis i.e. Vancomycin and Gentamicin 40 mg protocol)
     - Change the PD catheter extension set and/or titanium (refer to Changing Extension Set or Changing titanium connector protocol)
     - Obtain PD fluid specimen for MCS from patient (refer to PD fluid specimen collection via CAPD protocol)
     - Give prophylactic antibiotics via CAPD freeline solo bag as per order/protocol.
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- Leave antibiotics indwelling for 6 hours
- If patient becomes unwell during the procedure: inform the renal team to review patient and organise direct admission. PACE criteria applies according to PD 208 and the adult observation chart.
- If patient remains well until the procedure is completed BUT peritoneal dialysis culture result revealed white cell count (WCC) greater than 100, inform the renal team to review patient and organise direct admission.
- If patient remains well until the procedure is completed and peritoneal dialysis culture WCC is less than 100: Discharge patient with post procedure instruction to dwell intraperitoneal antibiotics for 6 hours before connecting to APD or CAPD to drain out;
- Document procedure in the clinical notes;
- Follow-up the next day and until required;
- Book a repeat PD fluid culture one week after the last antibiotic dose

2. Afterhours, public holiday or weekend
   2.1 When patient contacts 4 South, staff must advise the patient to:
      - Immediately place the blue clamp on the PD catheter closest to the skin;
      - STOP dialysis and disconnect;
      - Close the white valve on PD catheter extension set and cover with minicap;
      - Present to 4 South immediately. After 2200hrs or if main door is closed, instruct patient to present to ED and advise ED Clerical staff to contact security for escort to 4South.

2.2 The In-charge RN must inform the AHSNM, Bed Manager, after-hours RMO and renal consultant-on-call of the expected admission.

2.3 When the patient presents to 4 South, the in-charge RN must initiate the admission process:
   - Complete the direct admission form (refer to afterhours-PDC contamination direct admission form) emphasising patient is to be admitted into the 4S overcensus (4SM_OVPD01) bed and send form to hotline (fax 33923);
   - Hotline patient through switch and generate front sheet and labels from IPM.

2.4 When the patient is admitted, notify the afterhours RMO to:
   - Order PD fluid for MCS;
   - Order intraperitoneal antibiotics;
     - Stat dose of IP vancomycin 30mg/kg (maximum 2g)
     - Stat dose of IP Gentamicin 40mg
       (refer to Drug Additives used in Peritoneal Dialysis i.e. Vancomycin and Gentamicin 40 mg protocol)
   - Document admission notes.

2.5 RN in charge or delegate performs the decontamination process:
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- Change the PD catheter extension set and/or titanium whichever is applicable (refer to Changing Extension Set or Changing titanium connector protocol);
- Obtain PD fluid specimen for MCS from patient (refer to PD fluid specimen collection via CAPD protocol);
- Give prophylactic intraperitoneal antibiotics via CAPD freeline solo bag as per protocol/order;
- Leave antibiotics indwelling for 6 hours.
- If patient becomes unwell during the procedure: inform the after-hours RMO, renal consultant on-call, AHSNM and/or Bed Manager. PACE criteria applies according to PD 208 and the adult observation chart;
- If patient remains well until the procedure is completed BUT peritoneal dialysis culture result revealed white cell count (WCC) greater than 100: inform the afterhours RMO, renal consultant-on-call, AHSNM and/or Bed Manager to convert patient to a long stay admission;
- If patient remains well until procedure is completed and peritoneal dialysis culture WCC is less than 100: discharge patient with post procedure instruction to dwell intraperitoneal antibiotics for 6 hours before connecting to APD or CAPD to drain out;
- Document procedure in the clinical notes;
- Forward relevant documents to the PD Unit;
- Notify the PD unit via voicemail X33770/33775;

2.6 PD nurses will:
  2.6.1 Follow-up patient the next day and until required;
  2.6.2 Copy relevant documents and file in patient’s PD folder;
  2.6.3 Send original copy of admission and clinical notes to medical records;
  2.6.4 Book a repeat PD fluid culture one week after the last antibiotic dose.

Note

- Contact PD unit on X33770/33775 or PD CNC on page 1091 during Monday-Friday, 0730-1600
- Contact 4South Renal ward X33458/32253 afterhours, public holidays and weekends
- Peritoneal dialysis protocols and afterhours-PDC contamination direct admission form are found on the renal website: http://stgrenal.med.unsw.edu.au/StGRenalWeb.nsf/page/Peritoneal+Dialysis+Protocols