1 BACKGROUND
Peritoneal dialysis (PD) relies on a patient’s peritoneal membrane to act as a natural semi-permeable dialysis membrane. A permanent flexible silastic catheter is placed surgically in the peritoneal cavity through an abdominal wall tunnel through which dialysis solution can be drained into the peritoneal cavity. Catheter types vary but most have three segments;

- the intra peritoneal segment which has numerous drainage holes and sits inside the peritoneal cavity.
- the intramural segment which has Dacron cuffs which secure the catheter into position, preventing leakage and infection.
- The outer segment which has a titanium adaptor to connect to the extension or solution transfer set.

![PD catheter - position inside the body](NKF, 2008)

The transfer set which is attached to the titanium adaptor will differ depending upon the type of PD or the company supplying the dialysis fluid. This set is changed routinely every 6 months to decrease the wear and tear of the PD catheter during the disconnection and connection procedures (Cabralda et al, 2001) and also whenever there is the possibility of touch contamination. If a patient accidentally touches the exposed end of their catheter...
they are advised to put on a new minicap if they have one and to contact the hospital to arrange a transfer set change BEFORE their next dialysis exchange. If they do not have a minicap they should come to hospital immediately. This needs to be performed by an experienced dialysis nurse using aseptic technique.

![Transfer set](image)

The Trust is committed to managing risk and ensuring effective and safe practice throughout dialysis therapy. The aim of this protocol is to ensure that there is a consistent approach to the management of peritoneal dialysis catheter care ensuring set changes are performed safely and effectively and minimising the risk of infection.

2 SCOPE

Clinical guidelines are ‘guidelines’ only. The interpretation and application of clinical guidelines will remain the responsibility of the individual practitioner. If in doubt consult a senior colleague or expert.

These guidelines are applicable to patients directly under the care of University Hospitals of Leicester NHS Trust. Local guidance (for example for the inpatient care of kidney patients not in a Leicester hospital) may also exist and take precedence.

3 POLICY

This protocol applies to all individuals employed by the University Hospital of Leicester NHS Trust including nursing, medical and allied healthcare professionals involved with the care of patients undergoing peritoneal dialysis in the hospital or community setting.
"It is the responsibility of staff at all levels to ensure that they are working to the most up to date and relevant procedural documents. By so doing the quality of services will be maintained and the risk of staff making erroneous decisions which may affect the patient, staff or visitor safety or give rise to complaint or grievance will be reduced."

Policy Statements:
Equality and Diversity: “This protocol has been assessed against the Equality Impact Assessment Tool as required by the Race Relations (Amendment) Act 2000”
Human Rights: "This procedural document has been developed and will be implemented in line with the requirements of the Human Rights Act 1998."

4 GUIDANCE

4.1 Indications
All patients who undergo peritoneal dialysis therapy will need:

- Routine transfer set change every 6 months
- Set change BEFORE next dialysis exchange if touch contamination suspected (antibiotic therapy should also be considered by medical team)
- Set change BEFORE next dialysis exchange if cap is dislodged or found to be missing at any time (antibiotic therapy should also be considered by medical team)
- Immediate set change if hole/tear occurs in PD catheter.

4.2 Contraindications
Lack of facilities for aseptic procedure.

4.3 Limitations of practice
This protocol should not be undertaken by an inexperienced nurse without direct supervision from a competent renal nurse.
4.4 Criteria for competence
This protocol is for the use of all medical staff and suitably qualified registered nurses, who have
achieved competency in peritoneal dialysis or are under direct supervision of a peritoneal dialysis
competent nurse.
Evidence of competence in peritoneal dialysis should be evidenced by completed and
signed peritoneal dialysis competencies within the practitioner’s portfolio.
The Nursing and Midwifery Council (2008), The Code: Standards of conduct, performance and
ethics for nurses and midwives states that:

- You must have the knowledge and skills for safe and effective practice when working
  without direct supervision
- You must recognise and work within the limits of your competence
- You must keep your knowledge and skills up to date throughout your working life
- You must take part in appropriate learning and practice activities that maintain and
develop your competence and performance.

Prophylactic antibiotics will be required if contamination has occurred and fluid has been drained
into peritoneal cavity. Recommendation would be to administer intra peritoneal stat dose of
Vancomycin 50mg and Gentamicin 10mg. (refer PD Peritonitis policy). Medical advice should
always be sought unless the patient is having a routine catheter change.

5 PROCEDURE

Equipment
- Alcohol based table wipe (Sani Cloth 2%)
- Replacement transfer set (Baxter or Fresenius)
- Baxter connection shield SysII - hinged shield containing an impregnated
  povidone-iodine sponge.
- White PD catheter clamp
- Dressing pack (with sterile gloves).
- Closure cap - impregnated povidone-iodine sponge(Baxter or Fresenius)
- Alcohol gel
Procedure

• Wash hands and apply apron.
• Clean table with Sani cloth 2%
• Place white clip on catheter between titanium and exit site.
• Open connection shield and place around titanium adapter, rest shield on wrapper if required.
• Leave in situ for 5 minutes
• Wash hands
• Open dressing pack and open sterile equipment (transfer set and minicap) onto sterile area.
• Place sterile field under connection shield.
• Remove connection shield and drop line onto sterile field without touching it or allowing clothing to contaminate the line.
• Alcogel hands and put on sterile gloves.
• Close roller clamp on new sterile transfer set and check tubing is securely clamped.
• Remove cover and put on new closure cap
• Disconnect old transfer set and replace with new set using aseptic technique (use sterile gauze to assist disconnection if problematic).
• Remove white clip.
• Check that PD fluid flows into the transfer set by opening roller clamp briefly.
• Close roller clamp before fluid reaches end of tubing.
• Anchor/secure transfer set to patient’s abdomen.
• Dispose of equipment as per waste disposal policy.
• If prophylactic intraperitoneal antibiotics have been prescribed then administer them into the dialysate bag, as per Trust peritonitis protocol and complete PD exchange.
• Discuss dialysis technique with patient if change necessary due to contamination.
• Discuss signs and symptoms of peritonitis and action to take if these are noticed.
• Document on PROTON and in medical/nursing notes.
6 REFERENCES


7 KEYWORDS
Peritoneal, Transfer, Set, Procedure

8 AUDIT INDICATORS
Exit site infections and peritonitis rates will be audited annually and results shared with the infection control department and the renal network. (Renal Association, 2008).
### PERITONEAL CATHETER TRANSFER SET CHANGE PROCEDURE

**Written by:** Nicky Nichols  
**Date:** April 2009  
**Title:** Specialist Sister Renal Community Team

**Reviewed by:** Nicky Nichols  
**Date:** 17th April 2019

**Ratified by:** RRCV Quality & Safety Board  
**Date:** April 2022

**REVIEW RECORD**

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Written: May 2009  
Contact: N Nichols, Home Care Team Leader  
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ALL PREVIOUS VERSIONS OF THIS DOCUMENT SHOULD BE DESTROYED