1. Introduction and Who Guideline applies to

This guideline is to support the care of patients on peritoneal dialysis in cleaning and dressing the peritoneal dialysis tube exit site.
A high standard of personal hygiene is essential for peritoneal dialysis patients to help reduce the risk of exit site infection and peritonitis [The International Society for Peritoneal Dialysis (ISPD) 2011].
Patients affected by infection may risk catheter removal or other serious complications.

2. Guideline Standards and Procedures

2.1 Following catheter insertion the exit site should be kept dry for a minimum of four weeks (ISPD 2011). The catheter should be securely taped ensuring that the weight of the tubing cannot cause trauma to the exit site. A well healed exit site looks clean and dry with no sign of redness, swelling or exudate. The dressing should be changed by a renal nurse.
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2.2 When established on PD, a competent patient or carer, following training, should change the exit site dressing either daily or on alternate days.

2.3 Showering

After keeping the exit site dry for a minimum of 4 weeks post insertion, showering is the preferred method of cleansing the exit site, as opposed to taking a deep bath.

- Remove the covering dressing and inspect the exit site for any discharge, erythema, or tenderness. Advise patient to seek medical advice from unit or Renal Community Nurse if any signs are present. (see separate guideline 'PD catheter exit site infection')
- Patients may use a 'Activity Pouch' - a durable pouch designed for peritoneal dialysis patients to shower, bathe and swim - when showering
- Otherwise ensure the catheter is anchored positioned downwards using the patient's preferred type of tape. This will help to secure the tube and prevent movement. Anchoring the tube reduces torque movements and has been shown to reduce exit site infection.
- Stand with back to the cascade of the shower; do not direct jet of shower directly onto exit site as this may cause irritation.
- If washing hair in the shower, tilt the head backwards to ensure water flows down the back not over the exit site.
- Use a mild shower gel/soap (not alcohol or oil base) to reduce the risk of skin irritation which may cause skin damage and predispose to bacterial colonization.
- Wash the top half of the body before the exit site then wash hands. Use antibacterial soap to gently cleanse around the exit site working away from the exit site and rinse off
- Continue to wash the lower half of the body.
- Wash hands, apply alcohol hand rub, [ISPD 2011] and ensure the exit site is thoroughly and carefully dried using either sterile gauze, paper towel or, if not available, a clean flannel (only to be used once and for this purpose). Do not use a bath towel.
- Dry away from the exit site and ensure the area is dry underneath the catheter. Apply a fresh 'anchor' tape and dressing.
- Change disconnect cap.changed unless activity pouch has been used

2.4 Bathing

Bathing with a peritoneal catheter in situ is not recommended. However, if there is no alternative to bathing then:-

- Wash hands, apply alcohol hand rub, remove the PD exit site dressing and inspect the exit site for any signs of discharge, erythema, or tenderness. Advise patient to seek medical

advice from unit or Renal Community Nurse if any signs are present. (If any of the above signs are present review separate guideline 'PD catheter exit site infection')

- Cover the exit site with a transparent waterproof Tegaderm dressing, ensuring the catheter is anchored down with tape. Alternatively use an 'Activity Pouch' - a durable pouch designed for peritoneal dialysis patients to shower, bathe and swim.
- Preferably fill the bath to a level below the catheter site (shallow bath) to avoid submerging the catheter in the water to reduce the risk of bacteria from the water entering the exit site.
- Wash the body but not the exit site.
- After bathing remove Tegaderm dressing or activity pouch and follow procedure for caring for exit site as detailed at 3.6.
- Change disconnect cap unless activity pouch has been used

2.5 Cleansing the exit site if a bath or a shower is not available – follow the 'Exit Site Care in the Clinical Setting detailed below or the exit site can be cleansed by using Normasol (Normal saline) and sterile gauze swabs.

- Remove the PD dressing and inspect for any discharge, erythema, or tenderness. Advise patient to seek medical advice from unit or Renal Community Nurse if any signs are present. (If any of the above signs are present review separate guideline 'PD catheter exit site Infection Trust Ref: C22/2003).
- Gather together Normasol, sterile gauze and new dressing. Perform a 2 minute hand wash.
- Use Normasol and gauze to cleanse around the exit site, working away from the exit site
- Ensure the exit site is thoroughly and carefully dried using sterile gauze. Dry away from the exit site and ensure the area is dry underneath the catheter.
- Apply mupiricin around exit site as prescribed
- Apply a fresh 'anchor' tape and exit site dressing.

2.6 Exit site care in the clinical setting

- Assemble equipment – Alcohol wipe, sachet of 'Normasol', PD dressing, alcohol hand rub, sterile dressing pack or 1 packet of sterile gauze swabs and sterile gloves, the patients preferred 'anchor' tape.
- Wash hands for 2 minutes and apply hand rub
- Clean work surface with alcohol wipe, apply hand rub
- Open gauze packet or dressing pack – apply hand rub.
- Separate the gauze into two sections, 3 onto paper side of packet and 2 in the plastic pocket using a non -touch technique.
- Open the 'Normasol' and pour contents onto the gauze which is lying in the plastic pocket. If using a dressing pack use the gallipot.
- Remove the PD dressing and inspect for any signs of infection as above and if present see separate guideline 'PD catheter exit site infection' for the appropriate action. This includes checking if the tunnel or exit site are exuding pus and taking a swab for culture.
- Apply hand rub.
- Put on sterile gloves.
- Use the wet gauze to clean around the exit site working away from the exit site and only use each piece of gauze once.
- Repeat the process using the dry gauze and ensure it is dry underneath the tube.
- Apply mupirocin around exit site as prescribed
- Apply the PD dressing to the exit site and replace the anchor tape.

2.7 Prophylactic use of antibiotics

2.7.1 The use of antibiotic protocols to prevent catheter infections has been recommended to reduce the instance of staphylococcus aureus and pseudomonas aeruginosa exit site infection (ISPD, 2016). The use of topical antibiotic at the exit site, intranasal or both, has been considered. Based upon ISPD (2016) the Renal Association (2010) recommends that patients should use topical Mupirocin as an ESI prevention strategy and that Gentamicin cream should also be considered for patients with a history of Pseudomonas infection.

The ISPD (2016) recommends daily topical application of antibiotic to the exit site, either Mupirocin or Gentamicin. (Most new catheter insertions have Mupiricin nasal ointment applied to exit site on alternate days. Established patients can continue to use it if appropriate).

Prevention strategies should be discussed locally and agreed with clinicians and the microbiology team.

2.7.2 Preparations containing polyethylene glycol bases should be avoided as they can cause deformation and rupture of polyurethane catheters [ISPD 2011].

2.8 Overgranulation

- Overgranulation may lead to discomfort & ESI.
- Ensure any signs of infection are treated as per PD catheter exit site infection.
- Consider stopping mupiricin and using pressure dressing +/- inadine
- Treat as per medical advice.

3. Education and Training

All nursing staff from the nephrology or transplant service caring for patients with peritoneal dialysis
should be familiar with this guideline and be able to train patients or carers in following this guidance before they care for the exit site independently.

4. Monitoring Compliance

What will be measured to monitor compliance	How will compliance be monitored	Monitoring Lead	Frequency	Reporting arrangements
Audit of exit site infection and peritonitis rates.	Infection rate, causative organism, treatment and outcomes.	PD leads in each area	Monthly	HCT data folder, Monthly MDT.

Nonocclusive gauze dressings are preferred because drainage is wicked away from the insertion incision and exit site (132,133)

Transparent occlusive dressings should not be used alone because drainage tends to pool underneath them. The dressing must be large enough to cover the insertion incision and exitsite and contribute to immobilizing the catheter tubing to prevent traction injury. The transfer/extension set should be taped securely to the abdomen

5. Supporting References (maximum of 3)

- The International Society of Peritoneal Dialysis 2011. Piraino et al. ISPD position statement on reducing the risks of peritoneal dialysis-related infections. Peritoneal Dialysis international, Vol 31, pp 614-630 doi:10.3747/pdi.2011.00057
- The International Society of Peritoneal Dialysis 2016. Kam-Tao et al. ISPD Peritonitis recommendations:2016 update on prevention and treatment. Peritoneal Dialysis International Sept – Oct vol.36 no.5 pp481-508
- The Renal Association 2017 Woodrow G, Davies S. Peritoneal Dialysis in CKD Clinical Practice Guideline Peritoneal Dialysis in Adults and Children. https://renal.org/wp-content/uploads/2017/06/final-peritoneal-dialysis-guideline 667ba231181561659443ff000014d4d8.pdf [last accessed 21.10.20]

6. Key Words

Peritoneal dialysis, exit site.

CONTACT AND REVIEW DETAILS	
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Details of Changes made during review: Update to new template, inclusion of mupirocin use, inclusion of overgranulation advice.	