



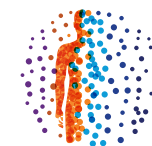
# PERITONEAL DIALYSIS CATHETER INSERTION AND CARE RECOMMENDATIONS

For successful peritoneal dialysis (PD) as kidney replacement therapy, access to the peritoneal cavity must remain safe, functional, and durable. These recommendations aim to reduce the risk of post-operative catheter-related complications

FOR HEALTHCARE PROFESSIONALS ONLY

The materials provided in this resource are for informational purposes only and are not intended as medical advice, or as a substitute for the medical advice of a physician/healthcare professional

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PD ACADEMY

# PERITONEAL DIALYSIS CATHETER INSERTION AND CARE RECOMMENDATIONS: EXIT-SITE PLACEMENT



## RECOMMENDATIONS FOR EXIT-SITE PLACEMENT

- Determine the location and size of the exit site. The placement should provide durable, long-term access to the peritoneal cavity while being visible to the patient to facilitate site maintenance
  - Ensure that the patient can easily see and access the exit site while seated<sup>1</sup>
  - Avoid placing the exit site on:<sup>1,2</sup>
    - Skin creases
    - Fat folds
    - The patient's beltline
  - Consider placing the exit site in a location that is:
    - >2 cm beyond the superficial cuff<sup>3</sup>
    - Lateral or downward facing (if possible)<sup>1,4</sup>
  - The exit-site skin hole should be as small as possible according to catheter size<sup>5</sup>
  
- Confirm catheter placement and mark the exit site before the procedure



## INTRODUCTION

The objective of this checklist is to provide a summary of the key steps for healthcare professionals to determine the optimal location for a PD catheter exit site

### References

1. Crabtree JH et al. *Perit Dial Int* 2019;39:414-36; 2. Crabtree JH. *Kidney Int Suppl* 2006:S27-37; 3. Pommer W et al. *Am J Kidney Dis* 1998;32:752-60; 4. Abdel-Aal AK et al. *Perit Dial Int* 2014;34:481-93; 5. Crabtree JH et al. *Perit Dial Int* 2006;26:677-83.

# PERITONEAL DIALYSIS CATHETER INSERTION AND CARE RECOMMENDATIONS: PRE-OPERATIVE RECOMMENDATIONS



## INTRODUCTION

The objective of this checklist is to provide the key steps for healthcare professionals and patients in preparing for PD catheter insertion

### References

1. Crabtree JH et al. *Perit Dial Int* 2019;39:414–36; 2. Vijt D et al. *EDTNA ERCA J* 2004;30:91–6; 3. Singharetnam W et al. *Perit Dial Int* 1996;16:423–5; 4. Leaper D et al. *BMJ* 2008;337:a1924; 5. Rouse J et al. *Perit Dial Int* 1996;16:186–7; 6. Gadallah MF et al. *Am J Kidney Dis* 2000;36:1014–9; 7. Crabtree JH et al. *ASAIO J* 2005;51:743–7.

## PRE-OPERATIVE RECOMMENDATIONS

### PREPARING THE PATIENT

#### Before admission

- Confirm that the patient has started a bowel program to prevent peri-operative constipation<sup>1–3</sup>

#### On the day of the procedure

- Use chlorhexidine soap to wash the surgical site<sup>1,4</sup>
- Remove body hair using electric clippers (if necessary)<sup>1,4</sup>
- Remind patients to empty their bladder before the procedure or insert a Foley catheter if not possible<sup>1,5</sup>
- Administer a pre-operative dose of prophylactic anti-staphylococcal antibiotic<sup>6</sup>

### PREPARING THE HEALTHCARE PROVIDER

#### Before admission

- Ensure that a pre-operative assessment has been carried out by a multidisciplinary PD access team to select the most appropriate catheter type, implantation technique, insertion site, and exit-site location<sup>7</sup>

#### On the day of the procedure

- Ensure that operative personnel wear a cap, mask, sterile gown, and gloves<sup>1,4</sup>
- Prepare the surgical site with chlorhexidine gluconate scrub, povidone-iodine (gel or scrub), or another suitable antiseptic agent<sup>4</sup>
- Apply sterile drapes around the surgical field<sup>1</sup>

# PERITONEAL DIALYSIS CATHETER INSERTION AND CARE RECOMMENDATIONS: POST-OPERATIVE EXIT-SITE CARE



## INTRODUCTION

The objective of this checklist is to provide the key steps for healthcare professionals in performing post-operative checks on patients after the PD catheter insertion procedure

### References

1. Gokal R et al. *Perit Dial Int* 1998;18:11–33;
2. Crabtree JH et al. *Perit Dial Int* 2019;39:414–36;
3. Chow KM et al. *Perit Dial Int* 2023;43:201–19;
4. Twardowski ZJ et al. *Perit Dial Int* 1996;16 [Suppl 3]:S32–s50;
5. Prowant BF et al. *Perit Dial Int* 1993;13:149–54;
6. Lin et al. *Perit Dial Int* 2020;40:164–70;
7. Szeto CC et al. *Perit Dial Int* 2017;37:141–54;
8. Bender FH et al. *Kidney Int Suppl* 2006;S44–54;
9. Piraino B et al. *Perit Dial Int* 2005;25:107–31;
10. Prowant BF et al. *Perit Dial Int* 1996;16 [Suppl 3]:S94–s9;
11. Counts CS. Core Curriculum for Nephrology Nursing [6th Edition]. *American Nephrology Nurses' Association* 2015.

## POST-OPERATIVE RECOMMENDATIONS

### CARE OF THE EXIT SITE

- Post-operative care should be provided by experienced PD Staff<sup>1–3</sup>
- Assess the exit site and wound for any:<sup>4</sup>
  - Redness, swelling, bleeding, drainage, or leakage
  - Pain or tenderness upon palpitation
- Use an aseptic technique with a mask and sterile gloves when changing the dressing<sup>1</sup>
  - Inspect and change the dressing weekly unless any signs of bleeding or infection are present<sup>2</sup>
  - A non-occlusive gauze dressing is preferred because it can absorb any fluid drainage from the insertion incision and exit site<sup>2,5</sup>
- Consider the following when choosing a skin-cleaning agent:<sup>1</sup>
  - Avoid irritating or toxic solutions
  - Normal saline can be used for post-implantation care
- Immobilize the catheter (according to clinic protocols) to prevent accidental trauma<sup>6,7</sup>
  - There should be minimal handling of the catheter until the exit site and tunnel are completely healed<sup>6</sup>
- Exit site dressing should be left intact for 7 days unless soiled<sup>3</sup>

### DISCHARGING PATIENTS

- Review the following post-procedure instructions with the patient:
  - Maintain the exit site with clean, dry, and securely taped sterile dressing
  - Protect the exit site from contamination and getting wet<sup>2</sup>
  - Immobilize the catheter<sup>2</sup>
  - While the area is healing:
    - Practice good hygiene, but avoid showering or bathing until completely healed<sup>3,8–10</sup>
    - Avoid heavy lifting, stair climbing, or overexertion<sup>11</sup>
  - Maintain regular bowel movements to prevent constipation<sup>2,11</sup>
  - Notify the dialysis unit:
    - If any blood or other fluids drain from the exit site<sup>11</sup>
    - If there is any pain or tenderness in the abdomen or if any trauma affecting the abdomen occurs<sup>11</sup>
- Schedule patients for clinical review according to the clinic protocol

# PERITONEAL DIALYSIS CATHETER INSERTION AND CARE RECOMMENDATIONS: LONG-TERM CARE OF THE EXIT SITE



## RECOMMENDATIONS FOR LONG-TERM CARE OF THE CATHETER EXIT SITE



### INTRODUCTION

The objective of this checklist is to help healthcare professionals educate patients about long-term care and maintenance of the catheter exit site

#### References

1. Firanek C *et al.* *Perit Dial Int* 2011;31:399–408; 2. Szeto CC *et al.* *Perit Dial Int* 2017;37:141–54; 3. Piraino B *et al.* *Perit Dial Int* 2005;25:107–31; 4. Chow KM *et al.* *Perit Dial Int* 2023;43:201–19; 5. Gokal R *et al.* *Perit Dial Int* 1998;18:11–33; 6. Prowant BF *et al.* *Perit Dial Int* 1996;16(Suppl 3):S94–9; 7. Lin J *et al.* *Perit Dial Int* 2020;40:164–70; 8. Bernardini J *et al.* *Am J Kidney Dis* 1996;27:695–700; 9. Chu KH *et al.* *Perit Dial Int* 2008;28:505–8; 10. Davenport A. *J Nephrol* 2012;25:819–24; 11. Lim CT *et al.* *Nephrol Dial Transplant* 2005;20:2202–6; 12. Mahajan S *et al.* *Perit Dial Int* 2005;25:473–7; 13. Tacconelli E *et al.* *Clin Infect Dis* 2003;37:1629–38; 14. Xu G *et al.* *Nephrol Dial Transplant* 2010;25:587–92; 15. Strippoli GF *et al.* *Am J Kidney Dis* 2004;44:591–603.

### EDUCATE PATIENTS ON THE FOLLOWING EXIT-SITE MAINTENANCE PROTOCOL:

- Perform thorough hand washing before caring for the exit site to reduce the possibility of cross-contamination<sup>1</sup>
- Inspect the exit site and tunnel daily<sup>2</sup>
- Cleanse the exit site at least twice per week using liquid antibacterial soap or non-cytotoxic antiseptic solutions.<sup>3,4</sup>  
When choosing a cleansing agent, consider the following:
  - Skin sensitivity
  - No cleansing agent has demonstrated superiority in preventing catheter-related infections<sup>2</sup>
- Soften any crusts or scabs using either saline or soap and water. Avoid removing them by force as this can cause trauma to the exit site<sup>5,6</sup>
- Do not refill cleansing agent containers to avoid cross-contamination<sup>5</sup>
- Immobilize the catheter with tape or an immobilizing device, as reducing mechanical stress may lower the risk of exit-site infection.<sup>7</sup>  
Additionally, it is important to:
  - Allow the catheter to lie in a natural position without tension
  - Avoid tight clothing over the exit site
  - Avoid using scissors or other sharp objects around the catheter
- Apply daily topical antibiotic cream or ointment to the catheter exit site<sup>2</sup>
  - Daily application of mupirocin cream or ointment to the skin around the exit site could prevent *Staphylococcus aureus* exit-site infection<sup>2,8–15</sup>
  - Application of topical gentamicin cream daily can be considered as an alternative to mupirocin<sup>2,9</sup>
  - Dressing cover over the exit site is not mandatory after exit site care and topical antibiotic application<sup>4</sup>
- During exit site infection, inspect and cleanse the exit site at least daily<sup>4</sup>