

PD Procedures

CT Peritoneography for Peritoneal Dialysis Leak

1.0 Practice Standard

The Registered Nurse and or Licensed practical nurse who have received education and training and who work in peritoneal dialysis will use the following outlined procedure to prepare a patient for CT peritoneography.

2.0 Definitions & Abbreviations

CT peritoneography involves computerized tomography of the abdomen and pelvis after the administration of a mixture of contrast and dialysate fluid into the peritoneal cavity. Intraperitoneal contrast will help demonstrate loculated fluid collections and will indicate adhesions by means of uneven distribution of the contrast in the dialysate fluid. CT peritoneography reliably shows the site of dialysate leakage and allows for differentiations of a leak from a hernia.

This test maybe ordered when patients experience:

- Flank and back subcutaneous fluid leaks
- Abdominal wall or genital soft tissue edema
- Localized bulging of the abdomen (suspected hernia)
- Difficulty with dialysis exchanges and fluid flow in and out of abdomen
- Poor dialysis ultrafiltration

3.0 Equipment

- Contrast material: Omnipaque 350 mg/ml. (provided by radiology)
 - Dose: 1mL/kg i.e. if the patient weights 50 kg than give 50 mL of contrast
- 1.5% 2L dialysis solution
- 1 x 60 ml syringe
- 1 x 18g needle
- Alcohol swab
- Clamps
- Masks
- Mini cap

4.0 Procedure and Rationale

PROCEDURE	RATIONALE
1. Obtain an order for CT with intraperitoneal contrast. Home PD unit or inpatient unit must be aware of booking appointment	The date/time of the test must be coordinated with the PD program. The contrast material is instilled by PD trained staff prior to the scan.
2. At least 1 hour prior to the procedure, gather CAPD supplies as per <i>CAPD Exchange Procedure</i> using : <ul style="list-style-type: none"> 1.5% 2L dialysis solution 	It is preferred that the patient fill and dwell 2 L of dialysis solution to make the leak more visible on the scan unless a smaller volume is ordered because of patient circumstances
3. Follow: <i>Adding Medication procedure</i> . draw up the correct amount of contrast ordered for the patient using aseptic technique.	Check patient allergies to contrast material Dose: Omnipaque 1mL/kg (of patient body weight)
4. Inject the contrast into the 1.5% 2L dialysis fill bag using aseptic technique.	
5. Infuse the dialysis solution bag with contrast into the patient's peritoneal cavity as per <i>CAPD Exchange Procedure</i> . Allow to dwell.	
6. While the solution is dwelling, instruct patient to move as much as possible (walk, bend, strain, roll around) .	To promote intraperitoneal mixing and to raise intra abdominal pressure to drive the contrast into the source of the leak
7. Send the patient for procedure.	
8. When patient returns from CT scan, drain the patient of the contrast/dialysate mixture and resume dialysis.	
9. Chart care provided	

Disclaimer: The procedure steps may not depict actual sequence of events. Patient/client/PD program specifics must be considered when implementing protocols

5.0 Patient Teaching Considerations

PATIENT TEACHING	RATIONALE
1. Instruct patient to arrive to the PD unit at least 1 hour prior to the booked time of the CT scan	Adequate time is required to instill the contrast material and have it dwell prior to the scan.
2. Instruct the importance of moving as much as possible following the instillation of the contrast and the dialysis solution	
3. Patient to report any allergies related to contrast material	

6.0 Documentation Considerations

Document in the patient's health record:

- Contrast material and dose used
- Volume and percentage of dialysis solution used
- Patient tolerance
- Length of contrast dwell

7.0 References

Vancouver Coastal Health Standard Operating Procedure (SOP) for CT Scan for Peritoneal Dialysis Leakage, 2014

City Wide Peritoneal Dialysis Interest Group (CW-PDIG), 2007

Fraser Health, Computerized Tomography (CT) Peritoneography Patient Preparation, 2013

Murphy A, Al Khadar M, Thabet O. CT peritoneography. Retrieved from internet January 21, 2019: <http://www.radiopaedia.org>

Cochran S, Do H, Ronaghi A, et al. Complications of Peritoneal Dialysis Evaluation with CT Peritoneography. RadioGraphics. Volume 17, Number 4. July-August 1997. <https://doi.org/10.1148/radiographics.17.4.9225389>

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