

# PD Procedures

## Peritoneal Dialysate Effluent Collection

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### 1.0 Practice Standard

The registered nurse and licensed practical nurse trained and competent in Peritoneal dialysis procedures will obtain peritoneal dialysate effluent samples for gram stain, culture and sensitivity and cell count in accordance with this document for accurate microbial identification.

The collection of dialysate effluent specimens requires meticulous care in order to avoid contamination of the fluid. Identification of appropriate antibiotic therapy is dependent on accurate collection methodology.

Reference to individual program procedures to determine appropriate specimen volumes and containers for each test is required prior to collection.

### 2.0 Definitions & Abbreviations

**Gram stain:** a lab test used to detect bacteria or fungi in a sample (dialysate effluent) taken from the site of a suspected infection. Distinguishes and classifies bacterial species into gram positive and gram negative

**Culture and sensitivity:** identification of microorganisms in a clinical specimen (dialysate effluent) to determine the type of microorganism present and the susceptibility of the microorganism to specific antibiotics

**Cell count:** a measure of the number of white blood cells in a specimen (dialysate effluent)

### 3.0 Equipment

- Masks
- Appropriate size syringe(s) and 1.5 inch needle(s)
- Sterile container(s)
- Alcohol/betadine swab
- Requisition(s) and label(s)

## 4.0 Procedure and Rationale

PROCEDURE for CAPD	RATIONALE
1. Mask and wash hands	
2. Assess the time of patient's last peritoneal dialysis exchange <ul style="list-style-type: none"> <li>• Obtain specimen(s) from drained peritoneal dialysate effluent provided by patient</li> <li style="text-align: center;">OR</li> <li>• if not available, collect specimen(s) from drained dialysate effluent post 2 hours dwell time</li> </ul>	<p>The patients first cloudy bag has the greatest probability of an accurate cell count. A minimum dwell time of at least 2 hours is preferred</p> <p><b>Note:</b> if patient is dry, instil minimum of 1 L dialysate and allow to dwell for 1-2 hours. Drain and collect specimen</p>
3. Swab sample port of dialysis solution drain bag with alcohol/betadine and allow to dry	Reduces external contaminants
4. Using aseptic technique, insert needle and withdraw appropriate volume of peritoneal dialysate effluent from sample port	<p>Use separate syringes to collect all specimens to ensure no contaminants in the culture specimen</p> <p>Refer to individual program procedures to determine appropriate specimen volumes</p>
5. Insert correct volume of dialysate effluent specimen into sterile specimen containers	Refer to individual program procedures to determine appropriate specimen containers
6. Label specimen(s) and send to the lab with appropriate requisition(s) STAT	
PROCEDURE for APD (CYCLER)	
1. Mask and wash hands	
2. Wait for initial drain to begin and wait approximately 2 minutes before collecting specimen	
3. Attach appropriate size syringe/ sterile container/sample bag to Y port on drain line	
4. Open white clamp and withdraw or drain appropriate volume of PD effluent into syringe/sterile container/sample bag	
5. Clamp drain line before disconnecting syringe/sterile container/sample bag and repeat process to collect required volume	

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6. Label containers and send to lab STAT	Identification of the various cell types can become quite difficult in peritoneal effluent samples that have been stored for an extended time period. Ideally the specimens should arrive at the laboratory within 6 hours of collection. Depending on patients place of residence, instruct the patient to keep the cloudy effluent bag in the refrigerator until they can bring the sample to the PD centre.
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*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. Educate patient to report changes in the appearance of effluent immediately to the PD program for assessment. The patient should go to the emergency department if the PD program is not available for direction	Prompt attention to changes in patient's health condition and appearance of effluent permits early intervention
2. Instruct patient to save and bring the first cloudy dialysate effluent bag to the PD program/emergency department for specimen collection	The patients first cloudy bag has the greatest probability of an accurate cell count. Depending on patients place of residence, instruct the patient to keep the cloudy effluent bag in the refrigerator until they can bring the sample to the PD centre.

## 6.0 Documentation Considerations

Document in the patient's health record:

- Date and time of specimen collection
- Type of specimen collected
- Length of dwell time of sample
- Physical assessment of patient
- Results
- Treatment
- Contributing factors if infection is suspected
- Patient education/retraining if required

## 7.0 Special Considerations: Interventional Guidelines

(do not replace individualized care and clinical expertise)

- WBC count depends on length of dwell
- If patient is dry, instill minimum of 1L of dialysate. Dwell for 1-2 hour(s). Drain and collect specimen

## 8.0 References

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Mujais S, Crabtree JH, Firanek CA et al. Access Care and Complications Management. Renal Division, Baxter Health Corporation, 2006.

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## 11.0 Created

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