



Peritoneal Dialysis Fact Sheet

**American
Nephrology
Nurses'
Association**

*Developed by:
ANNA Peritoneal Dialysis
Specialty Practice Network*

ANNA's Mission Statement

*ANNA promotes excellence in and
appreciation of nephrology nursing so
we can make a positive difference for
people with kidney disease.*

Additional Information:

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What is Peritoneal Dialysis?

Peritoneal dialysis (PD) is a dialysis option for patients with chronic kidney disease (CKD). This form of dialysis is usually performed by the patient at home. PD occurs inside the body using the peritoneal membrane as a filter. This membrane covers the organs that lie within the abdominal cavity, and is semipermeable, allowing certain size substances to pass through it.

How Peritoneal Dialysis Works

A soft catheter is surgically placed through the abdominal wall. The catheter can generally be used 2 weeks after it is inserted. Sterile dialysis solution (2-3 liters) is instilled into the peritoneum through the catheter. The volume of solution used depends upon the size of the patient. Through the process of diffusion, waste products are removed from the blood. Excess fluid is removed by the process of osmosis using a hypertonic solution. Both waste products and excess fluid are transported across the peritoneal membrane into the dialysis solution. The used dialysis solution is drained from the peritoneal cavity and replaced with new sterile solution.

Types of Peritoneal Dialysis

There are two types of PD. One is **CAPD** (continuous ambulatory peritoneal dialysis). The other is **APD** (automated peritoneal dialysis).

CAPD. This type of self-dialysis is done 7 days a week. Four to five exchanges of new solution are done each day. During an exchange, which takes about 30 minutes, the solution that was inside the peritoneal cavity is drained and new solution is instilled. The new solution remains in the cavity for 4 to 6 hours; this is called the **dwel**l time. The last evening's exchange dwells overnight to allow for an uninterrupted night's sleep.

APD. During this type of dialysis, the exchange of dialysis solution is performed by a machine while the patient sleeps. Each exchange is referred to as a "cycle." Patients are taught how to set up the machine and generally connect to the cycler at bedtime, 7 days a week, for 8 to 10 hours each night. The machine controls the three phases of the cycle: draining used solution, re-filling with new solution, and measuring the dwell time. In the morning, the machine does a "final fill," which remains in the patient throughout the day.

Advantages and Disadvantages of Peritoneal Dialysis

Advantages

- Patient involved in self-care
- Control over schedule/freedom to travel more easily
- Less restricted diet
- Typically, once a month clinic visits
- No needles
- More steady blood levels
- Preservation of kidney function

Disadvantages

- Four exchanges per day (CAPD)
- Nightly cycles with machine (APD)
- Permanent external catheter
- Some risks of infections
- Potential weight gain
- Storage space at home is needed
- Body image changes

PD as a Dialysis Option

What the Patient Needs to Know

- Options for renal replacement therapy (in-center and home hemodialysis, PD, and transplantation) should be presented by a knowledgeable professional who can address issues and questions about each option.
- The option of PD can be presented in either an individual or group setting, and should include family members and significant others.
- A description of PD should include:
 - Introduction to the supplies (bags, tubing, and catheter).
 - Demonstration of exchange.
 - Examples of exchange schedule and daily routines.
 - Less restrictive diet.
- Prospective patients should be offered the opportunity to network with established PD patients.

PD Patients: Who Are Likely Candidates?

- The success of PD depends on the patient's motivation, physical and mental capability to complete procedures, and the desire for independence. If there are any clinical or psychological contraindications, the nephrologist and PD nurse will discuss these concerns with the patient and family.
- Potential candidates can include but are not limited to patients who:
 - Choose PD.
 - Desire self-care and independence.
 - Are patients or caregivers who desire self scheduling for employment, travel, or flexibility
 - Have cardiovascular disease.
 - Have diabetes mellitus.
 - Are pediatric patients.
 - Are pre-transplant candidates.

Home PD: What the Patient Needs to Know

- Location and function of the peritoneal membrane
- Short and long-term complications of uremia
- Aseptic technique in the home
- Catheter and exit site care
- Dialysis solution exchange procedure
- Fluid balance guidelines
- Addition of medication
- Self-monitoring of vital signs (B/P and wt.) and maintaining home dialysis records
- Monthly clinic visits and review of current medications, procedures, and techniques
- Individual activity and exercise regimen
- Nutritional needs are assessed and modified by renal dietitian
- Social and emotional needs are assessed by renal social worker
- Incorporating the patient's need for relationships and sexual identity in plan of care
- Monitoring and inventory of supplies

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- Understanding and recognizing complications of PD:
 - fluid overload
 - dehydration
 - fibrin formation
 - bloody effluent
 - constipation
 - obstruction of flow
 - exit site infection
 - exit site leak
 - tunnel infection
 - peritonitis
 - catheter related pain

Caring for the PD Patient

The Role of the PD Nurse

The role of the PD nurse provides a unique opportunity to be an autonomous, innovative, and resourceful professional.

The PD nurse functions in several capacities:

- Educator
- Clinician
- Care coordinator
- Leader of health care team
- Patient advocacy and health
- The most consistent member of the health care team who is involved with the PD patient is the nurse. The relationship that develops is crucial for the well being of the patient and family and the success of PD for the patient.
- As a responsible professional, the PD nurse is pivotal in coordinating a consistent and clear plan of care for the patient.
- Using professional competency and communication skills, the PD nurse can establish a trusting relationship with the patient and the entire health care team.
- This commitment is crucial in empowering the PD patient.

Other Questions:

For questions and/or concerns please contact us at _____.

For more information about nephrology nursing, dialysis, transplantation or other renal disorders check out the American Nephrology Nurses' Association (ANNA) Web site at annanurse.org.

