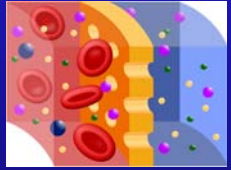


Peritoneal Dialysis

What Is Peritoneal Dialysis (PD)?

- Uses peritoneum as a filter
 - Lining around organs in abdomen with tiny blood vessels; holds organs in place
 - Smaller waste products pass through but larger blood cells don't
- Most people do PD **at home** by themselves

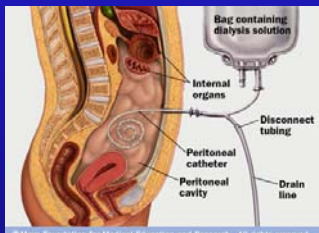
Semi-permeable membrane



Freemsm at en.wikipedia

How Does PD Work?

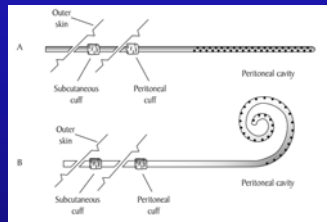
1. Dialysis fluid (dialysate) drains into peritoneal cavity through a PD catheter
2. Dialysate dwells long enough to remove excess fluid/wastes through peritoneal membrane without being re-absorbed
3. Used fluid is drained



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No blood is out of the body

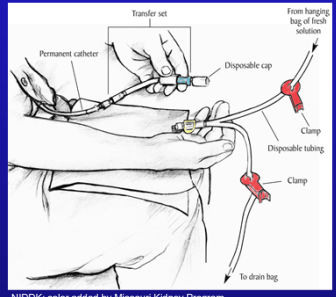
What Does a PD Catheter Look Like?



NIDDK

- ¼ inch flexible tubing with tiny holes along it
- Only 4-6 inches are outside body
- Clothes hide it

What Does a Transfer Set Look Like?



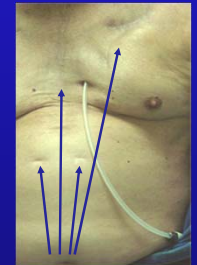
NIDDK, color added by Missouri Kidney Program

Where Can PD Catheters Be Placed?

Conventional PD catheter



Presternal PD catheter



Notice scars; not all surgeries prevent PD

How Is a PD Catheter Placed?

- Minor surgery, local or light general anesthetic
- Near your belly button or mid-chest
- Before surgery, show your surgeon where you wear your belt to avoid rubbing exit site
- End of the catheter is low in the pelvic area
- 2 cuffs sewn to tissue to stop it pulling out

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How Do I Care for a PD Access?

- No sharp objects near catheter
- PD belt can secure catheter
- Avoid constipation to keep catheter flowing
- Clean exit site regularly & keep dry
- Use topical antibiotic cream if directed
- Wear dressing over the site as directed
- Use sterile technique **every time** for exchanges
- Check for signs of infection

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What Are the Types of PD?

- **Continuous ambulatory peritoneal dialysis (CAPD)** by hand, uses gravity
- **Automated PD (APD)**, also called continuous cycling peritoneal dialysis (CCPD) uses cycler machine while sleeping

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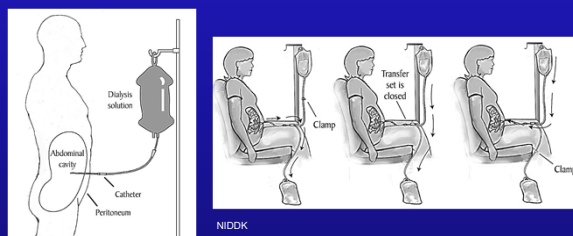
What Is Continuous Ambulatory Peritoneal Dialysis (CAPD)?

- Uses gravity for exchanges
- Solution drains in, dwells, and is drained out every 4-6 hours (often breakfast time, lunchtime, dinnertime, bedtime)
- While fluid dwells, do normal activities (work, school, TV, drive, hobbies, sports, eat, sleep)
 - Dwells 4-6 hours between daytime exchanges
 - Sleep dwell time is longer

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How Would I Do CAPD?



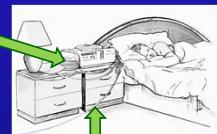
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How Would I Do Automated Peritoneal Dialysis (APD)?

- You would use PD cycler to:
 - Warm dialysate
 - Fill & drain while you sleep
 - Measure fluid in & out
 - Track time dialysate dwells
 - Drain used dialysate & waste to toilet, sink, tub, or shower
- Just needs grounded outlet



Note: Adding extension line(s) can let you move around more

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What Do APD Cyclers Look Like?

- Different manufacturers make cycler machines that look different but do essentially the same thing
- Some can transfer data to your clinic



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Why Learn Both CAPD & APD?

- Electricity may go out
- Cyclers might break
- Easier travel without a machine
- May need both to get good dialysis
- Might want to switch in future

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What Does PD Do?

- Removes wastes
 - **Kt/V** (periodic lab test) shows how well your PD is working with any natural kidney function you have
 - Your PD prescription depends on your **transport rate** (how the peritoneal membrane filters)
- Removes fluids
 - Weighing **daily** shows changes in fluid weight
 - Getting to your “**dry or target weight**” is the goal

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How Well Does PD Clean Blood & Remove Fluid?

It depends based on *your* prescription, which takes into account:

- How your membrane transfers wastes
- Remaining function (from natural kidneys)
- How much PD you need to get enough dialysis

**Starting on PD may keep
your kidneys working longer**

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Who Can Do PD? You Can!

- Anyone of any age or education
- If you are ready & willing to learn
- If you will do PD as prescribed
- If you need gentle dialysis for heart problems or diabetes
- There are assist devices for the blind & vibration devices for the hearing-impaired

PD may not work if your membrane doesn't filter well (usually due to complex abdominal surgery scarring)

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What Training Is Needed for PD?

- Most can learn in 1-3 weeks
- Nurse trains you (or helper if you can't do it)
 - To use sterile technique (pets out, close door, window & turn off fan, clean hands, mask)
 - To check vital signs
 - To keep records
 - To order supplies & store them safely
 - To order supplies & store them safely
 - To handle problems

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What Medications Will I Learn to Give Myself?

- Heparin
- Antibiotics
- Insulin (if diabetic)
- Epogen®, Aranesp®
- Others



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What Are Possible Problems?

- Peritoneum doesn't filter well
- Catheter issues:
 - Fill/drain problems
 - Placement problems
 - Clog
- Hernia
- Infection:
 - Exit site
 - Tunnel
 - Peritonitis

Tell your team if you have a problem

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What Are Signs of Infection?

- Exit site is:
 - Draining
 - Red
 - Swollen
 - Sore
- Cloudy dialysate (vs. stringy fibrin)
- Stomach is:
 - Hurting
 - Painful to the touch
 - Suddenly swollen
- Fever
- Nausea
- Vomiting

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What If I See Signs of Infection?

- **Call your kidney doctor/PD nurse right away!**
- Quick treatment can prevent sepsis – dangerous!
- Protect yourself:
 - You & all staff must use sterile technique – speak up, don't be shy
 - Check catheter, transfer set, lines & dialysate bags for flaws & leaks
 - Keep pets out for connects/disconnects



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What Follow-Up Care Will I Get?

- Home visits by PD nurse/other staff before you start & periodically afterwards
- Monthly clinic visits
- Plan of care meetings (in person/by phone)
- Contacts for questions or concerns 24/7
- PD nurse or cyclor company can answer questions about machine

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What Are My Clinic's Responsibilities?

- Providing for:
 - Cyclor delivery, installation, monitoring & repairs
 - Bags of dialysate
 - IV pole for CAPD
 - Most equipment & supplies
- Support:
 - Nurse, dietitian, social worker
 - Clinic visits
 - Plan of care mtgs.
- Medicare payment includes:
 - Dialysis
 - Specific labs/drugs



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How Do I Get My Supplies?

- Count & order supplies regularly
- Supplies will be:
 - Delivered & stacked where you want them
 - Rotated on delivery so older fluid used first
 - Delivered to travel destination, with advanced request

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How Much Space Will I Need for Supplies?

- CAPD – usually 4 feet x 4 feet
- APD – usually 6 feet x 6 feet
- 2-liter bag weights about 4.4 pounds so a box of 2-liter bags weighs about 30 pounds

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What Are My Responsibilities?

- Use sterile technique & do all exchanges prescribed (skipping can shorten your life)
- Keep enough supplies on hand
- Keep records for yourself & the clinic
- Come to clinic visits
- Keep staff informed of problems, concerns, insurance & contact info
- Eat right & take prescribed meds
- Stay as fit as you can



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Is There Anything Else I Should Know About PD?

- Take showers not baths or get a presternal catheter
- Follow kidney doctor/nurse's orders about swimming
- Avoid hernia – follow doctor's advice on lifting
- Avoid constipation
- Ask kidney doctor/nurse about exercise & activities

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What Are Disadvantages of PD?

- Daily treatment with no days off
- May not work as well as kidney function declines
- May have catheter problems
- Some risk of infection
- Some risk of hernia
- Some abdominal bulge
- Weight gain possible
- Requires storage space for supplies

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What Are Advantages of PD?

- May keep kidneys working longer
- Closer to normal kidney function than 3x/week hemodialysis (HD)
- More lenient diet than 3x/week HD
- No "dialysis hangover" some have w/3x/week HD
- Done at home; more freedom
- Flexible location/schedule
- Less travel to/from clinic
- Short training & can get Medicare right away
- No dialysis needles, no blood loss
- No partner, special plumbing/wiring needed
- APD may allow day to be dialysis-free

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You Can Live a Good Life With Peritoneal Dialysis!



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