

# Kidney Dialysis Replacement Options and Diet

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# When You Arrive To Class

- Please sign in
- Breaks as needed
- Review and keep as a reference your individual education packet

## After Class

- Please complete your quiz and evaluation form and turn in to the speaker
- Be sure and mark which form of dialysis you would choose if you needed to start now

# General Presentation

- This class presents **general information** on treatment options for kidney disease and may not address individual concerns or answer all of your questions.
- **More detailed information** is available on a one-to one basis with the office Nurse Practitioner . Please let your doctor know if you are interested in this one-to-one education meeting.

# Goals for Discussion

- Renal replacement therapy: Hemodialysis (in-center, home, and nocturnal)
- Renal replacement therapy: Peritoneal dialysis
- Offer options available to you when kidneys stop working (personal, financial, and emotional aspects)
- Importance of diet

# Dialysis Treatment Options for Kidney Replacement Therapy

Lets talk about dialysis options  
Which one would you choose if  
needed?

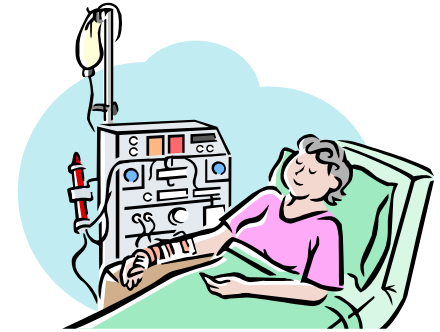


# Treatment Options

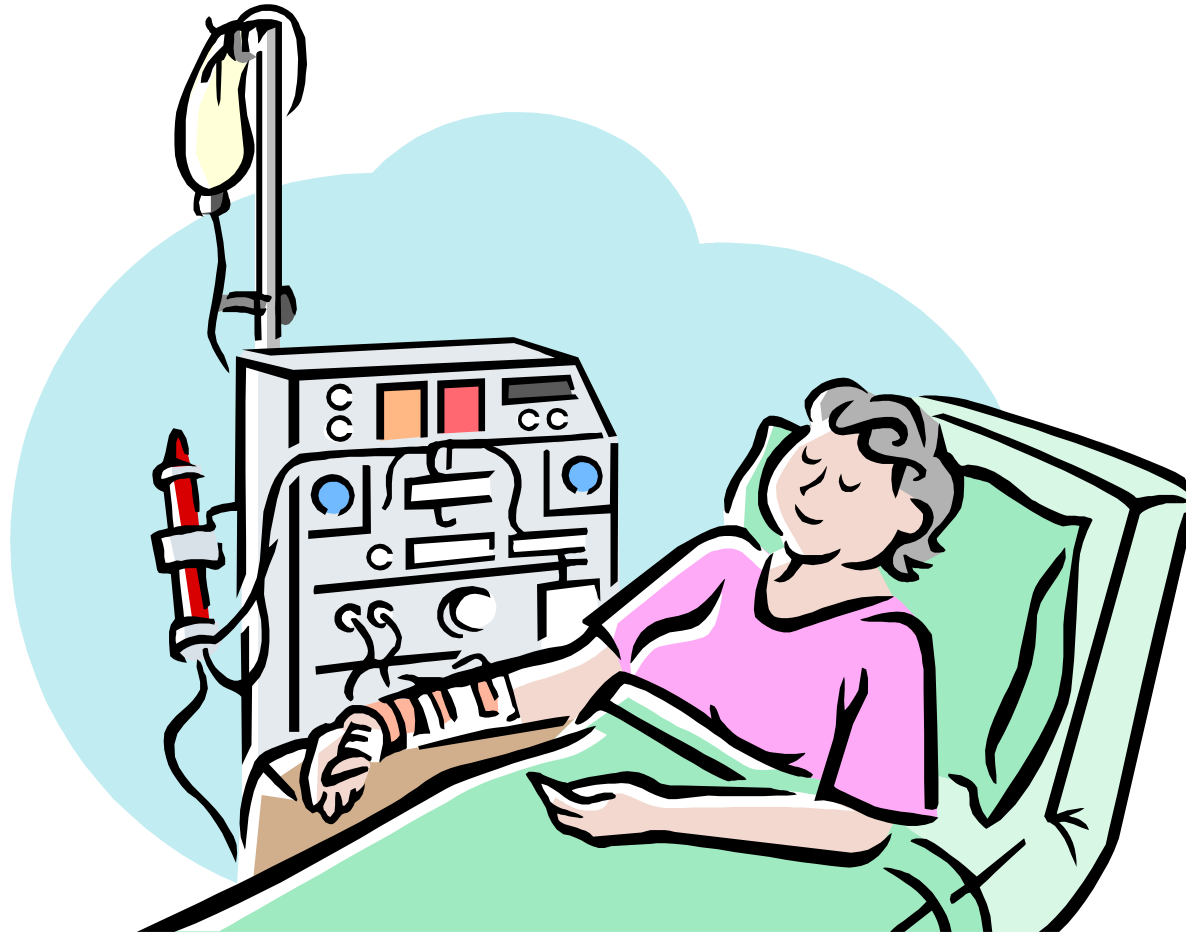
- Hemodialysis  
In-center, home,  
Nocturnal
- Peritoneal Dialysis
- No Treatment



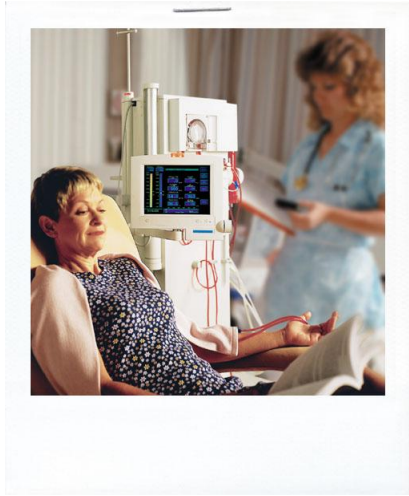
VIRTUALMD



# Hemodialysis



# What is hemodialysis?

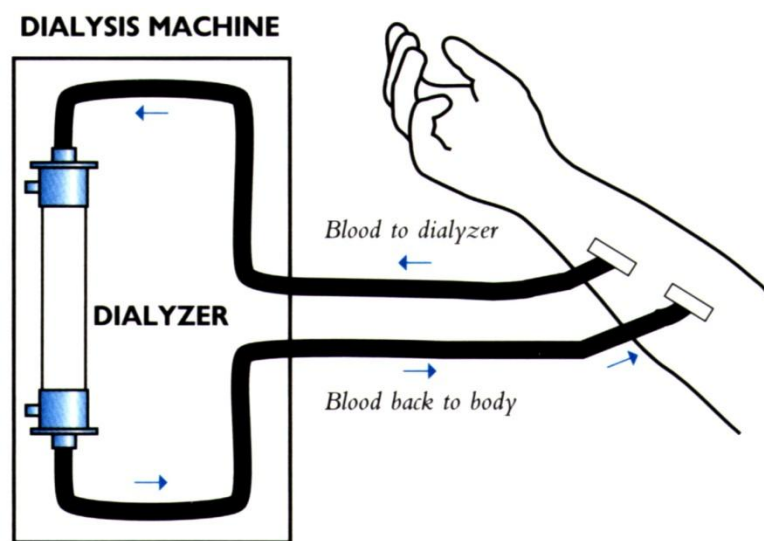


- The word “hemo” refers to blood, hemodialysis is a process which balances blood chemistry (electrolytes) and filters wastes and fluids from the blood
- The blood travels from you by means of an **access**, through a tubing and passes through a filter on a dialysis machine
- The filter cleans the blood
- The clean blood is returned to your body





# What happens during hemodialysis?



- The dialysis machine pumps the blood through the filter - called a dialyzer
- Two needles are inserted into your arm (**Access**) for each treatment
  - One withdraws the blood
  - One returns the filtered blood to your body

# The Dialysis Machine

- Blood flows from you through a tubing that is attached to the machine
- A filter cleans the blood of wastes and toxins
- Medication can be added if needed (epo, heparin, iron, and vitamin D)
- Monitors treatment and blood pressure
- Solution called dialysate helps clean the blood

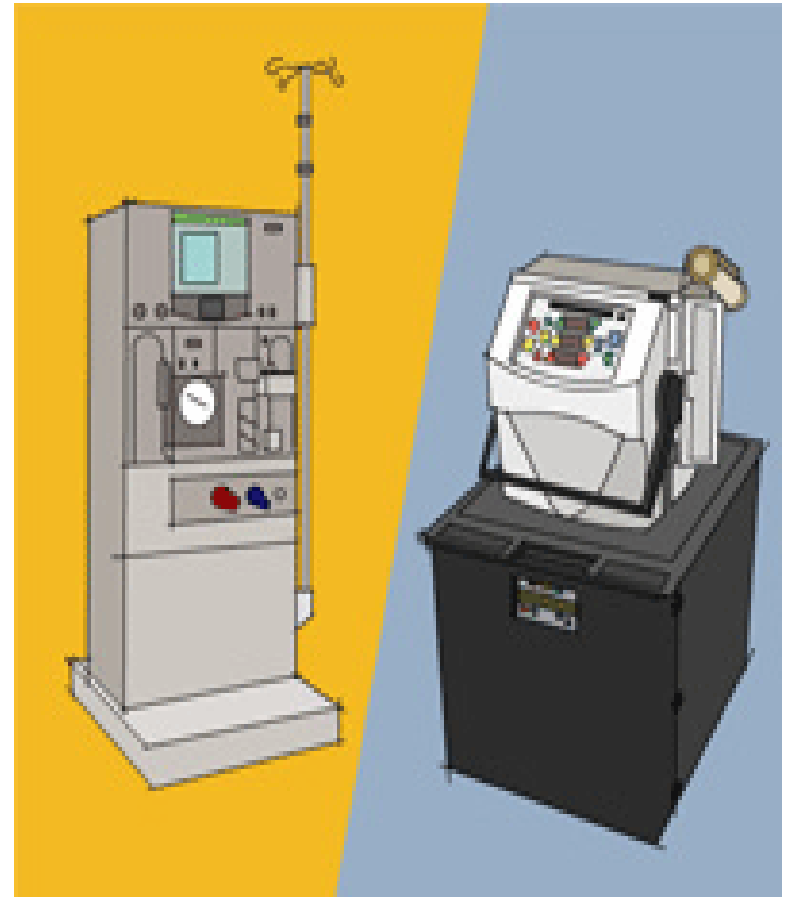


Hemodialysis machine

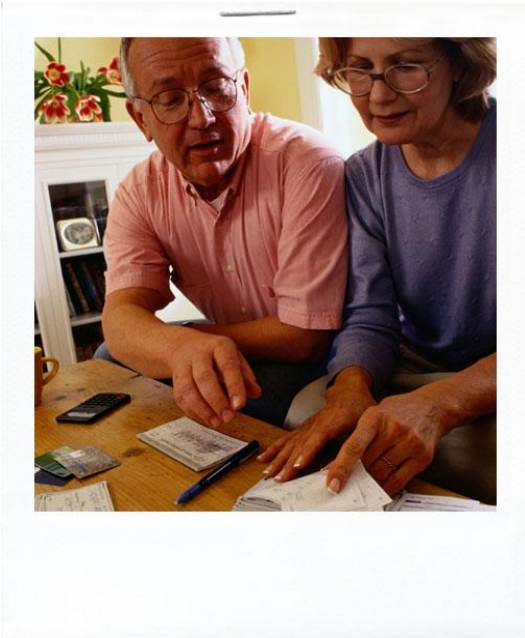


# Hemodialysis Options

- This therapy is performed at a dialysis center or in your own home.
- Can be during the day, evening or night (nocturnal)



# Traditional In-Center Hemodialysis Schedule



- 3 days a week
- Average time is 4 hours per treatment
- Typical schedule is either Monday-Wednesday-Friday or
- Tuesday-Thursday-Saturday
- Start times : 6:00 am,  
11am to 1 pm  
5pm to 6pm

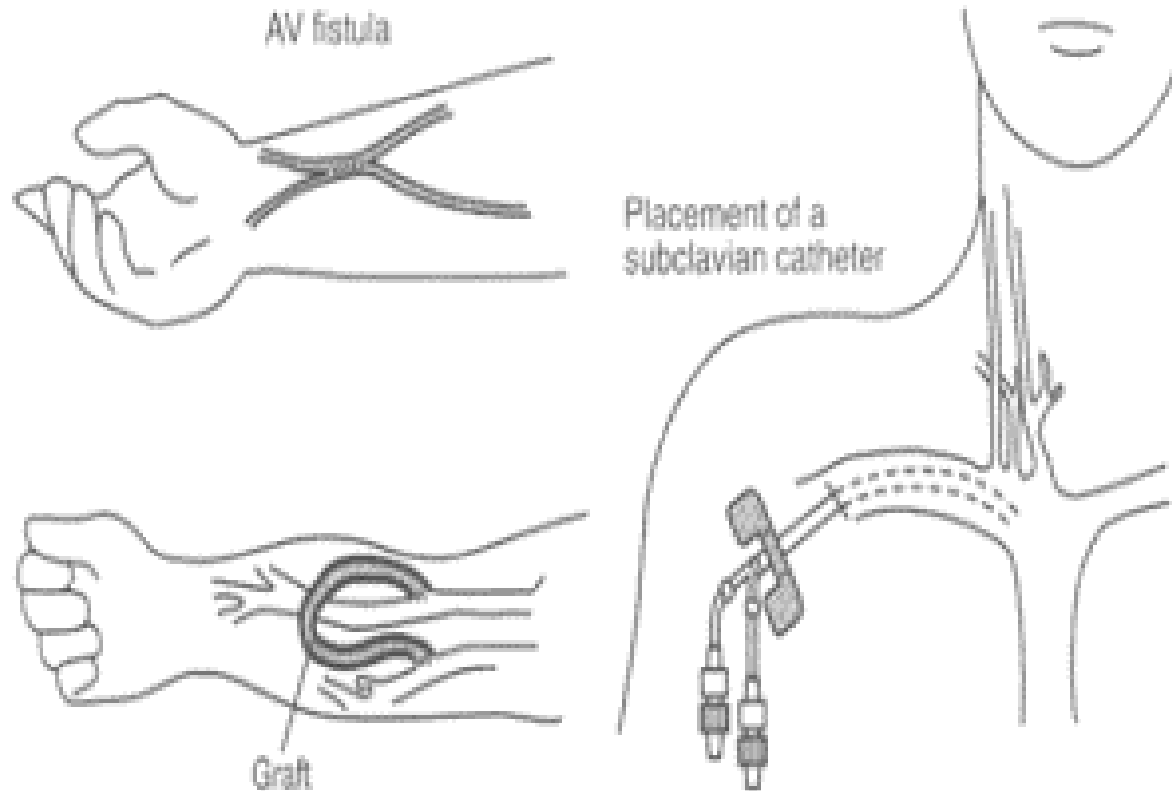
# Nocturnal Dialysis

- Offers greater flexibility in your daytime schedule
- Can be done at home or in-center
- Good for those who are employed
- Average time for nocturnal dialysis is 6-8 hours and average start time is 8:00 pm.
- Due to longer treatment times a more liberal potassium, phosphorus and fluid intake is usually allowed.

# Home Dialysis Treatments

- Offer more flexible treatment times and days
- Fewer diet and fluid restrictions
- Fewer peaks and valleys (blood pressures, fluid balance, general feeling of well being)
- Alternate treatment times 5-6 short day treatments of 2-3 hours each, or a longer nocturnal hours of 6-8.
- Fewer clinic visits, blood draw and physician visit usually once a month
- Care partner & space for supplies required
- Portable unit makes traveling easier

# Vascular Access



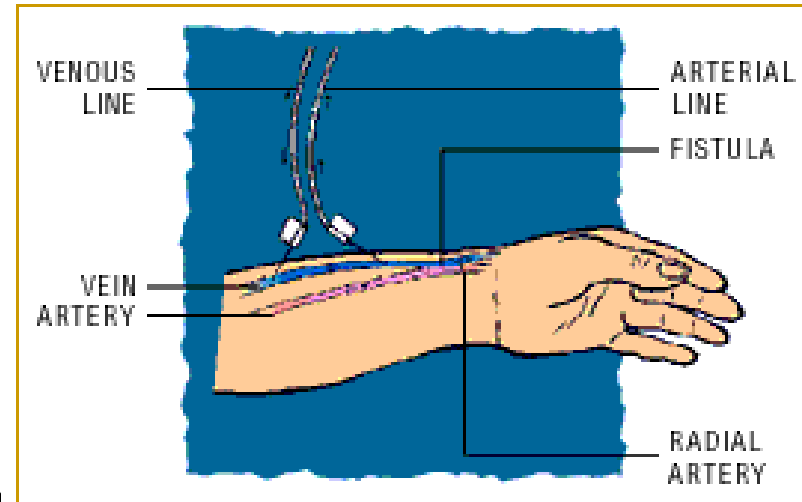
# AV Fistula





# Fistula or Graft

- Access created through surgery
- Access is under the skin
- Fistula = your natural vein + artery (not always possible to create)
- Graft = artificial vein
- Fistulas and grafts take about 3 months to “mature” – meaning they cannot be used until then
- Make it very important to make the decision for HD early



# Access Care

If you have a dialysis access:

- What you can do – feel for “thrill” daily (like a strong pulse) avoid pressure from clothing or jewelry, no blood pressures or needle sticks in this arm
- Monitor for infection – watch for warmth, redness, swelling, soreness, drainage
- Protect your access

# Temporary Access



- Catheter
- Plastic tube inserted in vein in neck
- Sticks out from the body
- Risk of infection
- Cannot shower or get catheter wet

# Advantages of HD

- Trained personnel perform your treatment and monitor you during each HD session
- 4 days off a week without any treatment at all
- No equipment or supplies at home
- Hemodialysis centers are all over the country (and on cruise ships)!
- Hemodialysis in other countries is possible
- Hemodialysis can be at home, with varied hours and days, or all night at home or in a dialysis center

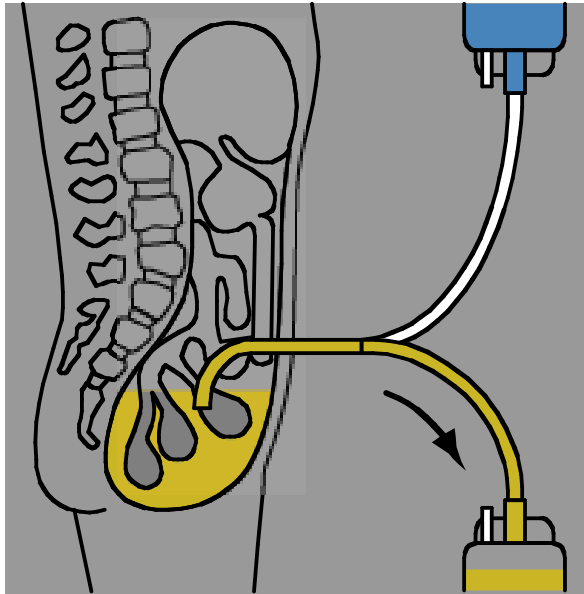
# Disadvantages of HD

- You MUST make the trip to a dialysis center 3 times a week
- Some patients feel “washed out” after their treatments
- Sometimes you can experience low blood pressure, nausea, cramps and headache with treatment (although the chance of these occurring is less if you follow the kidney team directions)

# Peritoneal Dialysis

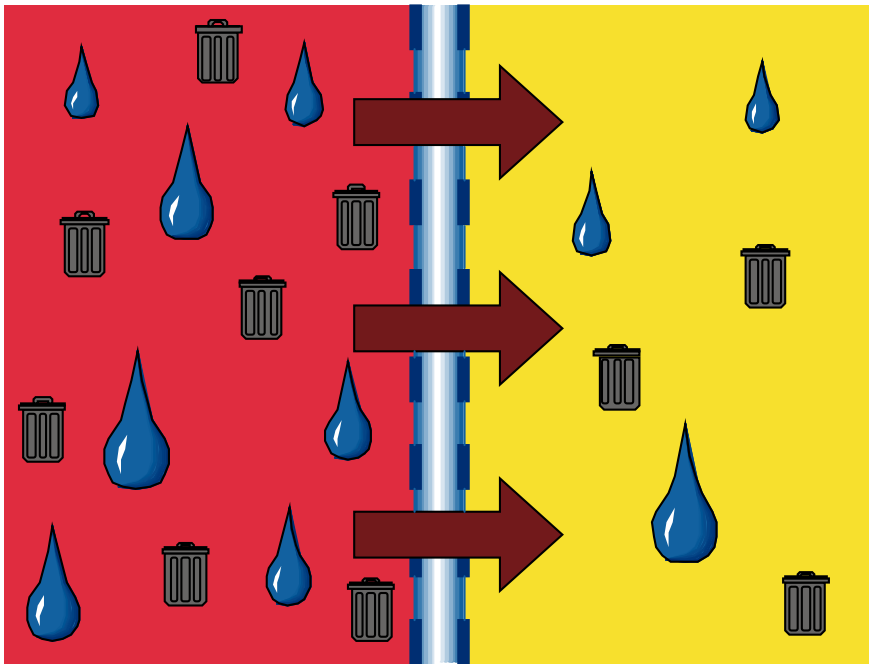


# How does peritoneal dialysis work?



- PD uses your peritoneal membrane - the lining of your abdomen - as the filter
- Solution is placed in the abdomen in contact with the peritoneal membrane for several hours
- Waste and fluids pass through the filter, then the solution and waste are drained from your abdomen

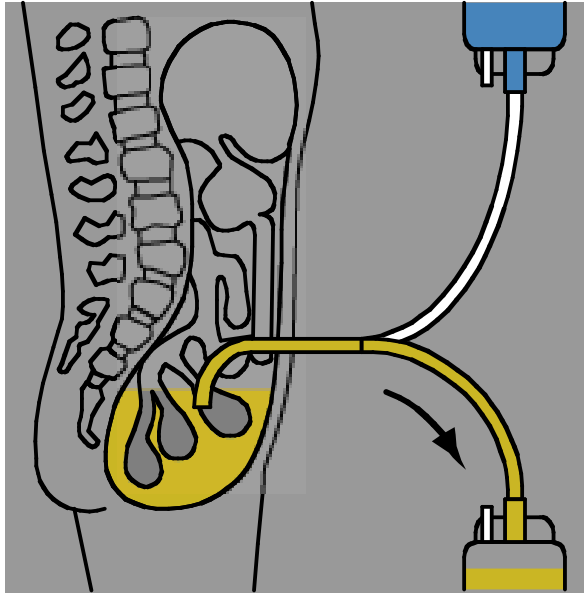
# What happens during peritoneal dialysis?



Waste products in blood (shown by trash cans) and excess water (shown as water drops) cross the membrane and are drawn into the dialysis solution (LIKE A MAGNET)



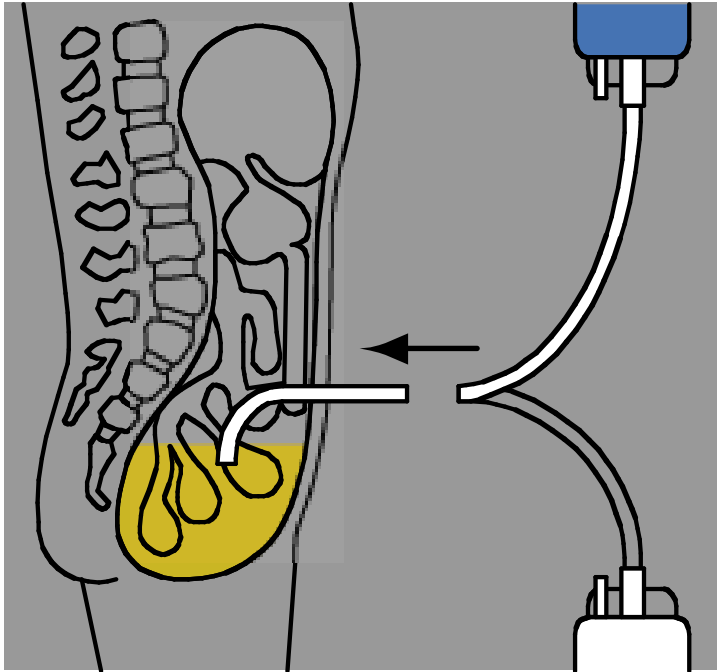
# How does peritoneal dialysis work?



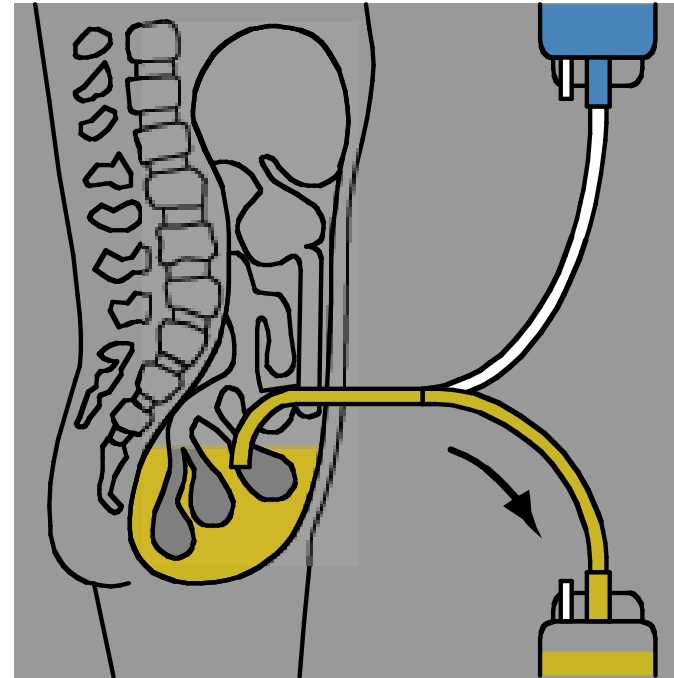
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# How do I perform a CAPD

(continuous ambulatory peritoneal dialysis) treatment?

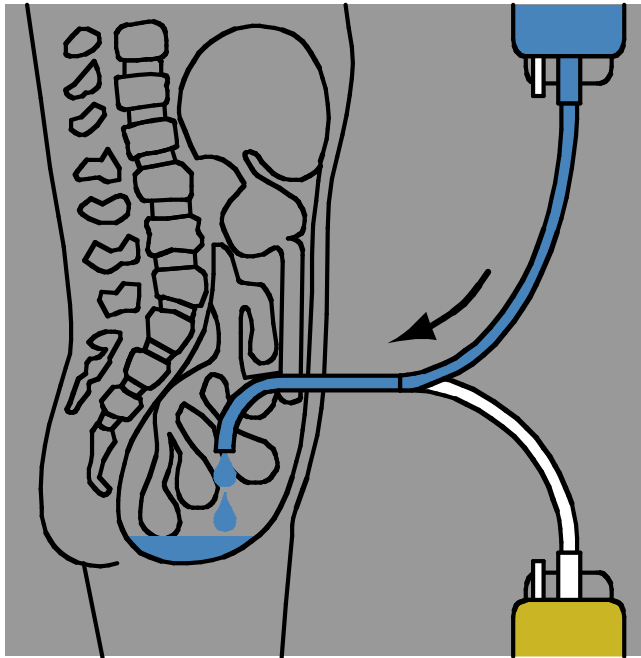


Connect

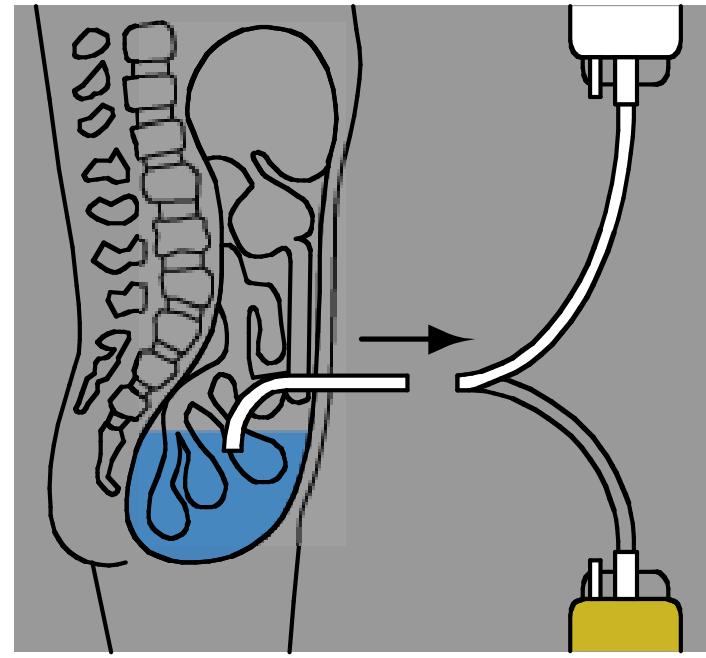


Drain

# How do I perform a CAPD treatment (cont.)



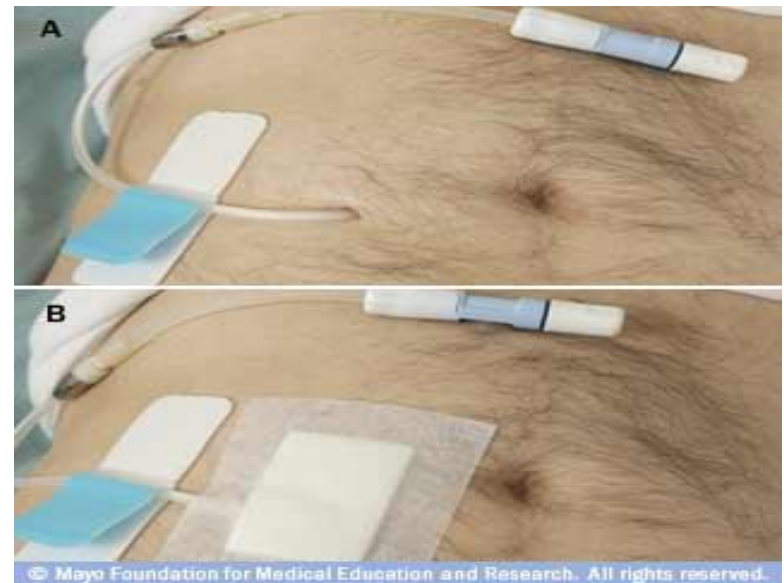
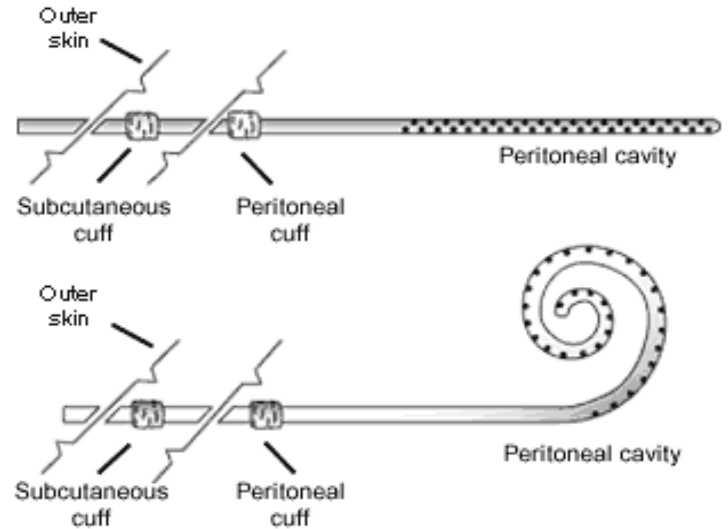
Fill



Disconnect/dwell

# The Catheter

- For PD, a tube called a catheter is surgically placed through the wall of your abdomen as a permanent access for PD (2-8 weeks to heal)
- About 6-10" of the catheter extends out of the body
- Take showers, no baths
- Swim in own pool only
- Clean catheter site daily



# When Are CAPD Exchanges Done?

- One exchange takes 20 – 30 minutes
- Use **clean**, draft-free, well lighted areas
- Supplies are mailed to your home
- 4 per day
  - When you wake up
  - Lunch time
  - Dinner time
  - Bed time





# What is APD?

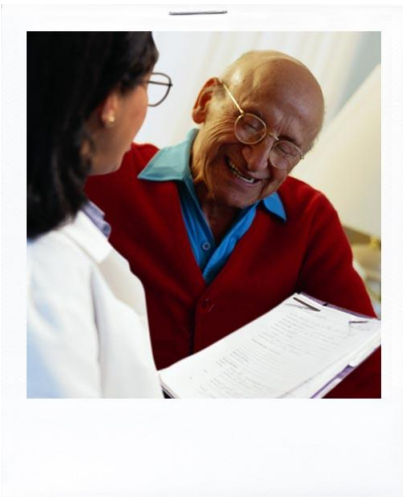
## Automated Peritoneal Dialysis



- Dialysis exchanges are done at home, with the help of a “cycler” machine
- 1 manual exchange during the day
- The cycler machine does exchanges while you sleep and can be used additionally during the day
- In the morning, you detach the tubing from the cycler



# How do I learn to do peritoneal dialysis?



During training you will learn how to:

- Do an exchange
- Take your blood pressure
- Check your weight and evaluate fluid
- Care for your exit site and catheter
- Understand your diet and medication
- Evaluate signs and symptoms of infection

# How does a patient get supplies?

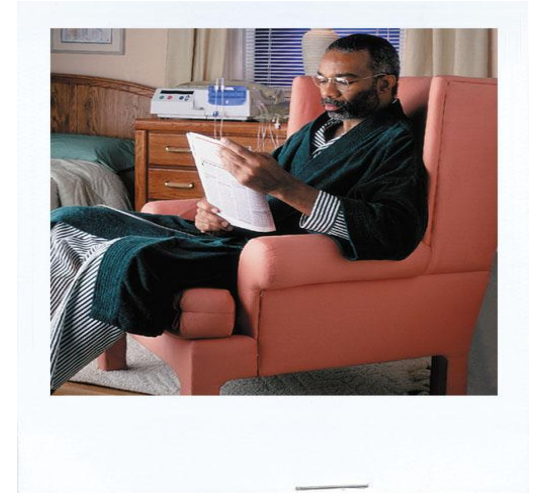


- Your physician writes your prescription
- You will learn how to order your supplies and arrange for delivery
- Supplies are delivered by a dialysis equipment and supply company
- A van driver delivers the supplies and carries them into your home



# Advantages of PD

- More involvement in your care
- More flexible lifestyle
- No needles or blood contact
- Less “washed out feeling”
- Supplies are delivered to you, wherever you are (given enough advance notice)
- Remaining kidney function lasts longer
- Fewer clinic visits



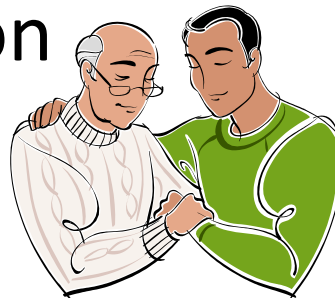
# Disadvantages of PD

- Catheter and body image
- Weight gain possible (extra 500 calories daily)
- Must do every day
- Need to store supplies
- The PD dialysate solution may affect your blood sugars due to the sugar in the solution
- Infection
  - Peritonitis – infection of the peritoneal membrane

# “No Treatment” Option for Kidney Failure

## What happens if I decide I don't want dialysis?

- If no treatment is chosen, a kidney failure patient does not have long to live
- Hospice referral
- Your kidney team and your family can help you with this decision



# Nutrition and Kidney Failure

What should I eat when my kidneys are not working right?



# Why is diet important?

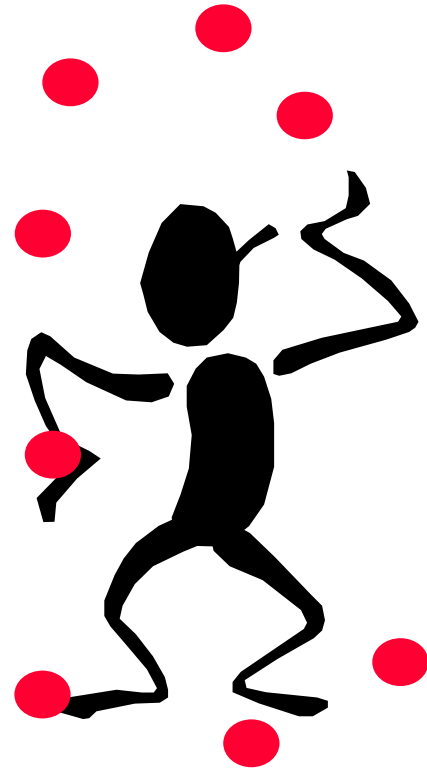
Affects how well you will feel

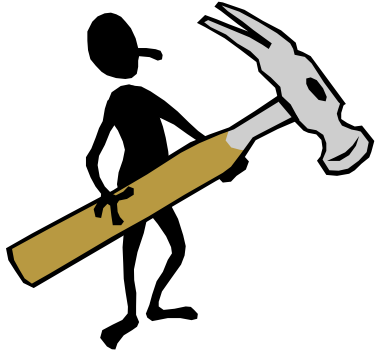
It is part of your treatment for kidney failure



# What are the important parts of my kidney diet?

- Protein
- Sodium
- Potassium
- Phosphorus
- Calories
- Fluid





## Protein – the body's building blocks

### **Protein heals and repairs the body**

- Sources: chicken, turkey, fish, pork, beef and eggs
- Albumin levels in you blood show if you are getting enough protein
- Good albumin levels help with fluid removal during dialysis
- Low albumin levels hold on to water in your tissues



Phosphorus – for strong bones, teeth, and healthy muscles



**Too much phosphorus can weaken bone and damage tissues**

- “Phosphate Binders” help remove phosphorus from the body
- Some high sources are dairy products, nuts and seeds, peanut butter, chocolate, liver, dried beans and peas, colas, whole grain breads and cereals.

# Calories – your body's fuel



## Calories keep your body working

- HD calorie needs about the same as usual
- PD usually need to limit calories
- Diabetics will need to carefully monitor blood sugars

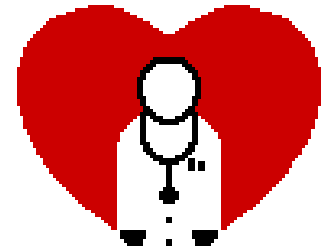
# Salt – more than just a way to flavor food



## **Salt can increase blood pressure and thirst**

- Salt and sodium will be limited in both HD and PD
- Salt is often hidden in many foods

Potassium – helping muscles and nerves  
work right



**Potassium keeps muscles like your heart working  
as they should**

- HD diet is limited to control potassium
- PD diet is not usually limited in potassium
- Some high sources are potatoes, tomatoes, oranges, bananas, tropical fruits, and melon
- No star fruit: has caused death for unknown reasons in dialysis patients

# Fluid – what does fluid do in your body?



## **Fluid can increase your blood pressure and weight**

- Too much fluid in your body is called edema
- HD fluid is usually limited to 50 ounces daily (or less)
- PD fluid is not usually limited
- Sources: water, soda, milk, ice, soup, ice cream, coffee, tea and gelatin

# How do we count fluid?

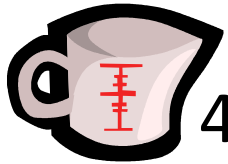
**Count anything that is liquid at room temperature**

1. Know your fluid limit!

2. Get an empty pitcher



3. Measure water to equal your fluid limit and put it in your pitcher



4. Remove fluid from your pitcher as you drink it



# Post Quiz



**Circle the best answers**

**1. A treatment for kidney failure that filters blood inside the body and can be done at home is called:**

- A. Hemodialysis
- B. Peritoneal Dialysis
- C. Plasma exchange

# Question #2 & #3

- 2. The best choice for a hemodialysis access is when they connect your natural artery to a vein. This type of access is called a:**
- A. Catheter
  - B. Graft
  - C. Fistula
- 3. A treatment for kidney failure that uses a machine to clean the blood outside of the body & can be done at home or in-center is called:**
- A. Hemodialysis
  - B. Blood transfusion
  - C. Transplant



# Question #4 & #5

**4. Advantages of home dialysis treatments include all but the following:**

- A. More liberal fluid intake and less dietary restrictions
- B. Treatments can be done in the comfort of your own home
- C. Less independence with treatments and less control over your life. Not suitable for people who work

**5. Advantages of in-center dialysis treatments include:**

- A. Professional staff is available to perform your treatments and monitor you during the procedure
- B. Four free days per week of no treatment at all
- C. Ability to set your own dialysis schedule and treatment time

# Questions # 5 & #6

## True or False

- 1. Dialysis catheters have higher rates of complications such as infection when compared to the fistula or graft.

True

False

- 2. Placement of a fistula or graft requires admission to the hospital for one week.

True

False

## Questions # 7 & #8

7. High protein foods include chicken, fish, egg beaters and Twinkies.

True or False

8. 3 ounces of meat is about the size of a deck of cards.

True or False

# Questions

- Questions on diet and kidney replacement therapy?
- Questions on dialysis options?
- Please complete your class evaluation and post test and turn it in to the presenter.
- Join us at our next class on Kidney Transplants and the Emotional and Financial aspects of CKD