A DAY IN THE LIFE OF A PATIENT ON DIALYSIS

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DISCLOSURES

We have no relevant financial or non-financial relationships to disclose.

GOALS AND OBJECTIVES

- To identify the differences between hemodialysis versus peritoneal dialysis.
- To discuss fistulas: what are they, types of fistulas, how are they made, and complications.
- To explore the day-to-day management of dialysis patients including diet, weight checks, activities of daily living (bathing, dressing, toileting, etc.), skin care, etc.
CHRONIC KIDNEY DISEASE & DIALYSIS

INCIDENCE OF CKD:
- 10% of adults (more than 20 million) in United States estimated to have CKD
- Kidney Disease = 9th leading cause of death in the country
- Diabetes & Hypertension are leading causes of End Stage Renal Disease (ESRD)
- African Americans 3.5 times more likely to develop ESRD than Caucasians
- Hispanics 1.5 times more likely to develop ESRD than non-Hispanics
- Men with CKD are 50% more likely than women to develop kidney failure

DIALYSIS:
- More than 650,000 patients in United States have ESRD
- 468,000 individuals on dialysis
- 90% of dialysis patients are on hemodialysis

WHAT IS DIALYSIS?
Dialysis = treatment that filters blood to:
- get rid of waste, salt, & extra water
- help maintain safe level of electrolytes
- control blood pressure

WHEN TO START DIALYSIS?
- Indications:
  - Urgent Indications: Uremic Pericarditis, Uremic Encephalopathy
  - Declining nutritional status (GFR < 15, anorexia, weight loss, poor caloric intake)
  - Volume overload
  - Fatigue
  - Mild cognitive impairment
  - Electrolyte abnormalities that are not resolving

MOST COMMON REASONS TO START DIALYSIS ARE ANOREXIA, NAUSEA, AND WEIGHT LOSS.
TYPES OF DIALYSIS

- **Hemodialysis**
  - Hemodialyzer serves as artificial kidney to remove waste, chemicals, and extra fluid from blood
  - Access via blood vessels: (1) Fistula (2) Graft (3) Catheter
  - Typically done in dialysis center
  - 3 times per week, 4 hours/time

- **Peritoneal Dialysis**
  - Inside lining of belly acts as natural filter
  - Sterile cleansing fluid put into abdomen via catheter
  - Access via catheter placed in abdomen surgically
  - Can be done at home
  - Two Types:
    - Continuous Ambulatory Peritoneal Dialysis
    - Automated Peritoneal Dialysis

VASCULAR ACCESS FOR HEMODIALYSIS

- **Fistula** = access by joining artery to vein in arm
  - Creates large blood vessel with fast flow
  - 1st choice
  - Usually lasts longer (years)
  - Less infection & clotting
  - Placed a few months before dialysis via surgical procedure
  - Complications of Fistulas:
    - Infection
    - Bleeding
    - Clot

- **Graft** = access by using soft tube to join artery to vein in arm

- **Catheter** = access by soft tube in large vein, usually in neck

HEMODIALYSIS

[Image: https://www.trianglevascular.com/dialysis-access-management.php](https://www.trianglevascular.com/dialysis-access-management.php)
LOCATIONS – WHERE DO PEOPLE GET DIALYSIS?

- 10x more people receive dialysis at centers than at home

LOCATIONS – WHERE DO PEOPLE GET DIALYSIS?

![Diagram of dialysis modalities]

- Number of ESRD Patients by Treatment Modality
  - Hemodialysis
  - Peritoneal Dialysis
  - Home hemodialysis
  - Home peritoneal dialysis
  - In-center HD

![Graph showing distribution of dialysis modalities]

LOCATIONS – WHERE DO PEOPLE GET DIALYSIS?

- 10x more people receive dialysis at centers than at home
MYTH VS FACTS

- Myth: Dialysis is painful.
- Myth: Dialysis is a death sentence.
- Myth: Dialysis patients can't travel.
- Myth: Dialysis patients do not have the time or energy to be active and/or volunteer.
- Myth: Dialysis patients have no say in their treatment.
- Myth: I am now just a burden.

POSSIBLE COMPLICATIONS OF DIALYSIS

- Low blood pressure
- Malnutrition
- Infection
- GI bleeding
- Muscle cramps
- Irregular heartbeats
- Blood clot in graft/fistula
- Cardiovascular disease
- Inadequate filtering (long-term)

TOP FIVE SIDE EFFECTS

- Low Blood Pressure
- Nausea and vomiting
- Dry and/or itchy skin
- Restless leg syndrome
- Muscle cramping
CARE RELATED TO SIDE EFFECTS

Low Blood Pressure
- Monitor healthy fluid drinking levels (one quart) daily and avoid salty foods

Nausea and Vomiting
- Report to dialysis unit so machine can be adjusted
- Anti-nausea meds

Dry or itchy skin
- Take phosphate binders as prescribed, follow diet plan, use soaps and lotions for sensitive skin, avoid fragrances

Restless Leg syndrome
- Put on list for next doctor’s appointment for a diagnosis and a prescription to address the specific cause

Muscle cramping
- Stretching cramped muscles, hot packs, drinking small amounts of tonic water or apple vinegar. Knowing what that particular resident finds helpful
PRACTICAL CONSIDERATIONS FOR CARE

Number One: Dialysis does not define the person.
- Watch for signs of depression. Let them voice sadness/challenge with changes.
- Keeping appointments on time
- Transportation
- Food/Diet
- Lunch on dialysis days
- Warmth
- Dealing with Nausea
- Skin Care
- Bathing
- Exercise and activities on non-dialysis days

DIET ON DIALYSIS

A dietician may prepare a personalized meal plan. In general:
- Eat more high protein foods, 8-10 ounces daily
- Continue less phosphorus, potassium, and sodium items
- Eat cereals, breads and grains unless limiting for weight loss and/or blood sugar control—No whole grains and high fiber foods.
- Dairy-limited to one serving per day as generally very high in phosphorus
- Fruits and veggies-see handout.

Regular tests are done at the dialysis center, with results reviewed with patients. Important to receive copies.
LIVING ON DIALYSIS

- Average life expectancy 5-10 years but can be longer.
- What are other medical conditions?
- Depends on how well treatment plan is followed.

DECIDING TO STOP DIALYSIS

- What to expect:
  - Loss of appetite
  - Fluid overload
  - Restlessness
  - Visions of people who don't exist
  - Disorientation, confusion, failure to recognize familiar faces
  - Changes in breathing
    - Elevating head or turning to side may increase comfort
  - Congestion
    - Raising head may be helpful
  - Changes in color and skin temperature

DECIDING TO STOP DIALYSIS

- Again education is power. Knowing what to expect and having conversations in advance are key to this being a period of time that can be experienced well.
- Talk about how to be respectful/inclusive of loved ones.
- Consider how to be respectful of the resident's decision, especially if you don't agree.
- Acknowledge staff's need to talk/process.
REFERENCES

- The National Kidney Foundation [https://www.kidney.org/]
- UpToDate [http://www.uptodate.com/home]
- MedLine Plus [https://medlineplus.gov/kidneyfaktures.html]

ANY QUESTIONS?