

# Dialysis: Understanding Infection Prevention

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\*Disclaimer



Dialysis is the process of removing excess water, solutes, and toxins from the blood in people whose kidneys can no longer perform these functions naturally. This is referred to as Renal Replacement Therapy.

\*Wikipedia

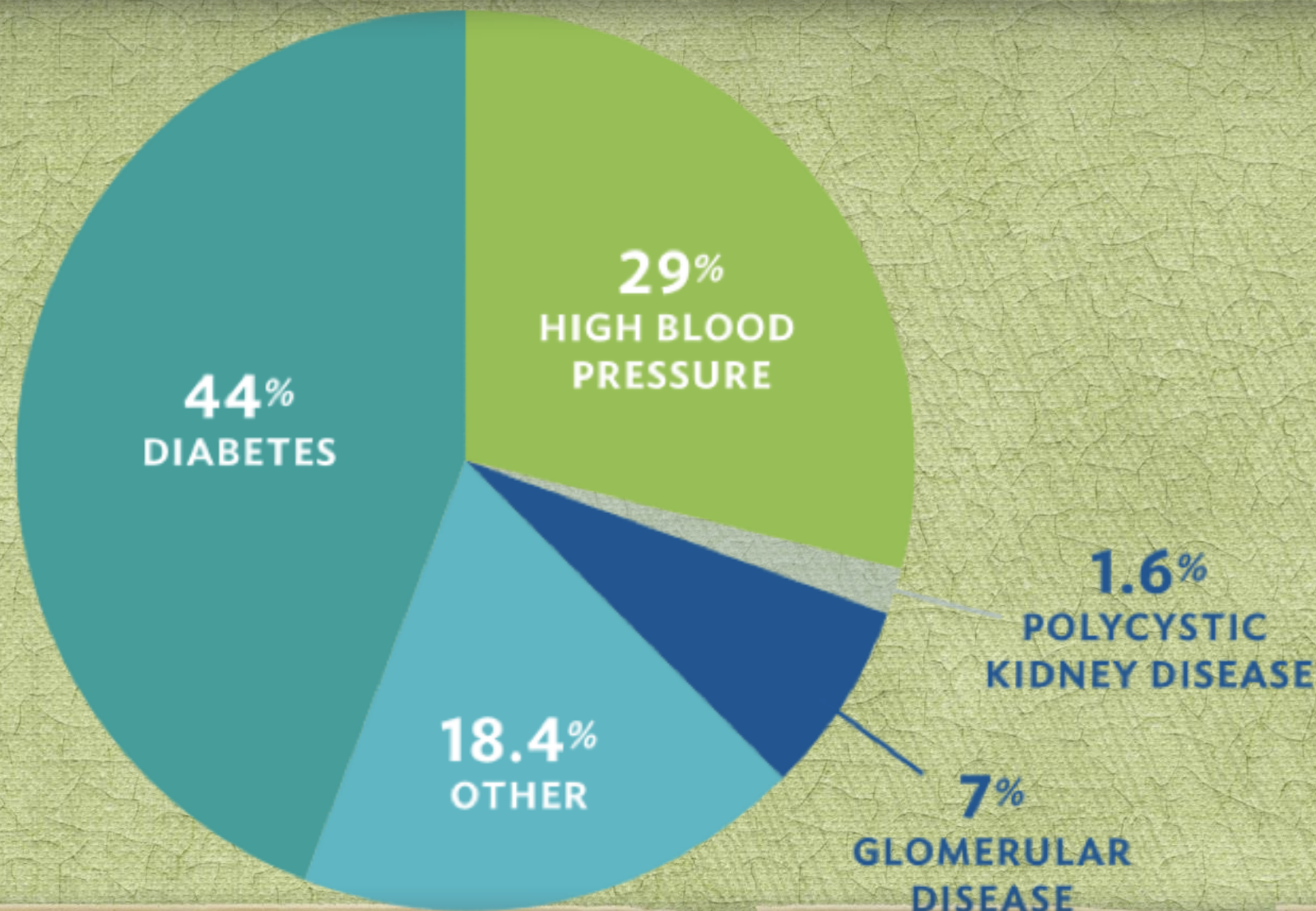


Stage	Description	GFR, mL/min per 1.73m <sup>2</sup>
I	Kidney damage with normal or increased GFR	≥90
II	Kidney damage with mildly decreased GFR	60–89
III	Moderately decreased GFR	30–59
IV	Severely decreased GFR	15–29
V	Kidney failure	<15 (or dialysis)

Stage 5 or ESRD (End Stage Renal Disease)  
Treatment is Dialysis or Transplant\*

\*NATAP

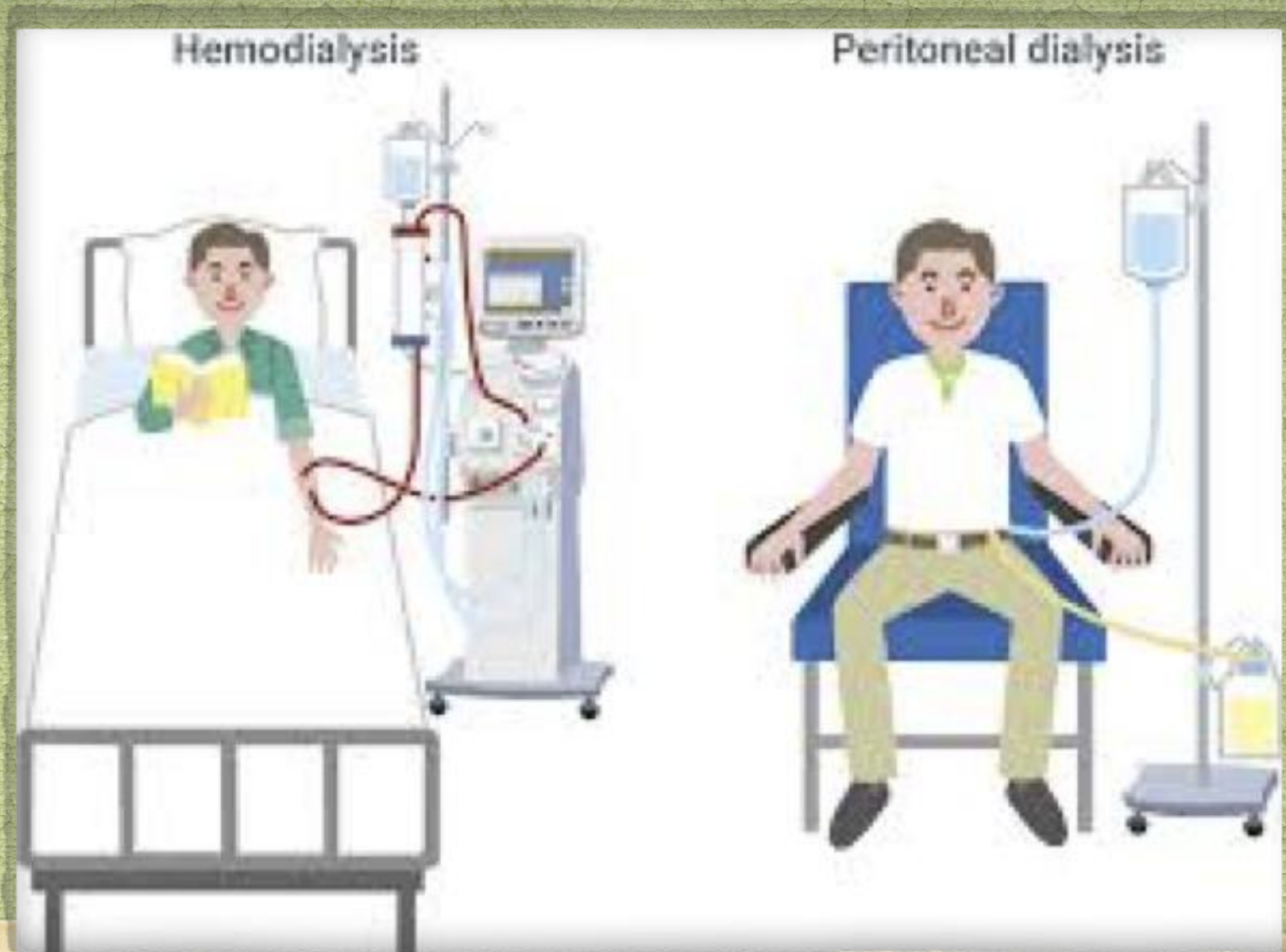




Diabetes is The Leading Cause of ESRD with HTN a Close Second

\*Fresenius Kidney Care





# Hemodialysis & Peritoneal Dialysis



# Immune Dysregulation in ESRD patients

- Uremic Toxin
- Malnutrition
- Chronic Inflammation
- Vitamin D-Parathyroid Hormone Alteration

➤ \*Journal of Gerontology & Geriatric Research 10/23/2013



# Infection Prevention For Patients & Staff

- Governed By Agencies: CDC, CMS, Joint Commission
- Self Governance



# Infection Prevention For Patients & Staff

- Policy & Procedures (P&P)
- Patient Education
- Blood Borne Diseases
- Illnesses, Wounds
- Vaccines
- Cross Contamination
- Cleaning of Equipment & Chairs Between Patients
- Water Monitoring



# P & P

- What P&P do they have in place for Infection Prevention?
- Comprehensive to All aspects of care & physical building?
- Quality Control / Process Improvement Plans?



# Patient Education on Infection Prevention

## Documentation:

- What Patients are Educated on
- How Patients are Educated & Response to Education
- How Frequent Education is Done



# Blood Borne Diseases

- Hepatitis B: HepBsAg, HepBsAb, HepBCore
- Hepatitis C
- HIV



# Illnesses, Wounds

- Tuberculosis
- Influenza, RSV
- Pneumonia
- C-difficile
- Wounds



# Vaccines

- Hepatitis B
- Influenza
- Pneumonia: Prevnar 13, Pneumovax
- Chicken Pox, Measles



# Cross Contamination Prevention

- Hand Hygiene & Surveillance
- PPE: Gowns, Gloves, Masks, Visors. Where to use & when to change
- Distance/closeness of treatment areas
- Distance/closeness of trash, sinks, bathrooms
- Staff Areas & Offices.
- Biohazard Waste Removal in Facility & Away From Facility





- ❧ Cleaning of Equipment & Chairs Between Patients
- ❧ Types of Cleaners





# Hemodialysis Requires High Quality Water, Approx. 360 L of Water a Week

\*[AAMI.org](http://AAMI.org)

- EPA defines the safety standards for drinking water
- AAMI: Association for the Advancement of Medical Instrumentation Sets Standard for Dialysis



# Hemodialysis

- Water Purification System
- Equipment: Sediment, Booster Pumps, Chlorine, Temperature Regulator, Reverse Osmosis, UV
- Acids, Bicarb
- Disinfection of Water System
- Emergency Management of Water Failure



# Anticipated Length to Perform an Adequate Assessment of Infection Processes

- Not Familiar: 3-5 days
- Familiar: 1-2 days



Q & A