

Addressing the unique SDoH challenges of Individuals with Kidney Disease

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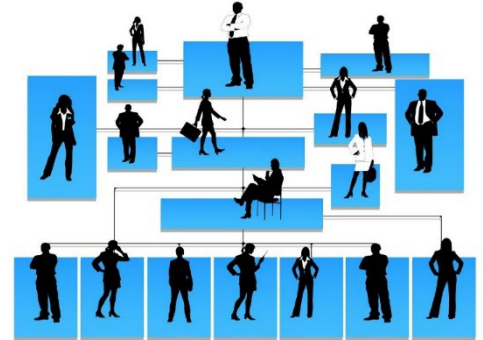
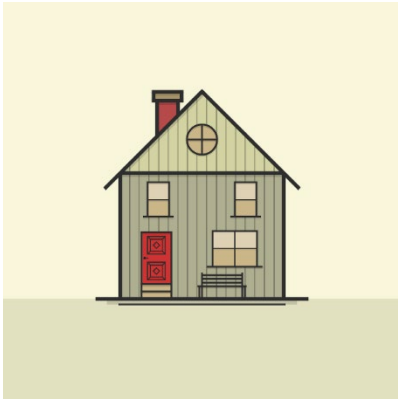


Objectives

1. Describe Social Determinants of Health needs that is unique to Chronic Kidney Disease (CKD) Population
2. Describe CKD Management and Goals
3. Describe common resources for those with CKD



What are Social Determinants of Health?



The Social Determinants of Health and their Impact

WHAT ARE SOCIAL DETERMINANTS OF HEALTH (SDoH)?

SDoH are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks. (Health.gov)

- When we see **unmet needs & risks** in these areas, we can see an impact on health.
- The Centers for Medicare & Medicaid Services (CMS) calls these 'Health-Related Social Needs' (HRSN)



Patient discharged to home s/p hospital stay for Chronic Kidney Disease (CKD)

Homeless or housing insecure

Pt is prescribed ACE – ARBS (BP meds)

Cannot afford medications

Pt has follow-up appointment with Nephrologist

No transportation to get to appointment – lacking support system

Instructed to take daily weights/BPs

Cannot afford scale or BP cuff

Instructed to eat low sodium/plant-based diet

Food Insecure – Convenience store is food source (not Kidney healthy)

Another AKI (Acute Kidney Injury) – Pt to ED or Readmitted

Avg. cost of a 30-day Readmission is \$15,200 (2018 all payers – AHRQ). Avg ED visit costs range from \$290 - \$690, depending upon patient age (2018, AHRQ)

A perfect, evidence-based care plan can be easily derailed by just one unmet SDoH need.



The Need in South Carolina

SC is ranked 43rd in the nation for Food Insecurity

Nationally, 10.4% of households are Food Insecure, but in SC 12.6% are

1/5 children in SC lives in a Food Insecure home

SC has the highest rate of evictions in the nation at 6.2%. The national avg. is 2.6%

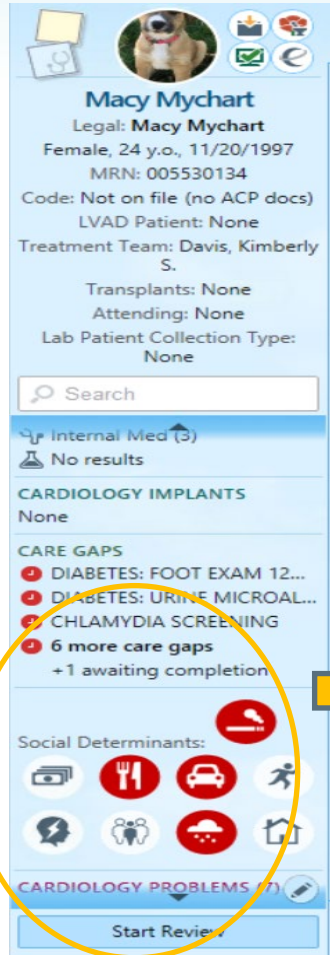
Approx. 13,400 South Carolinians received homeless services Oct '20 – Sept '21, and nearly 2,500 of those were children

- People with complex medical conditions are often also challenged by social, economic and health care access issues preventing them from reaching otherwise achievable health care goals

By identifying these needs and connecting people with resources & support, we can address gaps in care & improve health



System-Wide SDoH Screening and Resource Connection



Macy Mychart
Legal: Macy Mychart
Female, 24 y.o., 11/20/1997
MRN: 005530134
Code: Not on file (no ACP docs)
LVAD Patient: None
Treatment Team: Davis, Kimberly S.
Transplants: None
Attending: None
Lab Patient Collection Type: None

Search

Internal Med (3)
No results

CARDIOLOGY IMPLANTS
None

CARE GAPS
DIABETES: FOOT EXAM 12...
DIABETES: URINE MICROAL...
CHLAMYDIA SCREENING
6 more care gaps
+1 awaiting completion

Social Determinants:

CARDIOLOGY PROBLEMS (7)

Start Review

Goal - Make it easy and seamless:

- For patients, care team members & providers to complete screening.
- For care team members & providers to quickly find and provide resources to the patient.



Social Determinants of Health

Tobacco Use Apr 20 2022: High Risk	Alcohol Use Apr 20 2022: Heavy Drinker
Financial Resource Strain Not on file	Food Insecurity Apr 20 2022: Food Insecurity Present
Transportation Needs Not on file	Physical Activity Not on file
Stress Not on file	Social Connections Not on file
Depression Apr 20 2022: Not at risk	Housing Stability Not on file

Find community resources
View previous recommendations





Equality is everyone getting a pair of shoes.



Diversity is everyone getting a different type of shoe.



Equity is everyone getting a pair of shoes that fits.



Acceptance is understanding we all wear different kinds of shoes.



Belonging is wearing the shoes you want without fear of judgment.

WHAT
IS
THE
GOAL
HERE
?



Chronic Kidney Disease (CKD) & Renal Replacement Therapy Education





An Ounce of Care Today, Keeps CKD Away



Trends in Prevalence of CKD among U.S. Adults, Overall



<https://nccd.cdc.gov/CKD/TopicHome/PrevalenceIncidence.aspx?topic=1>



Some of the Causes of CKD

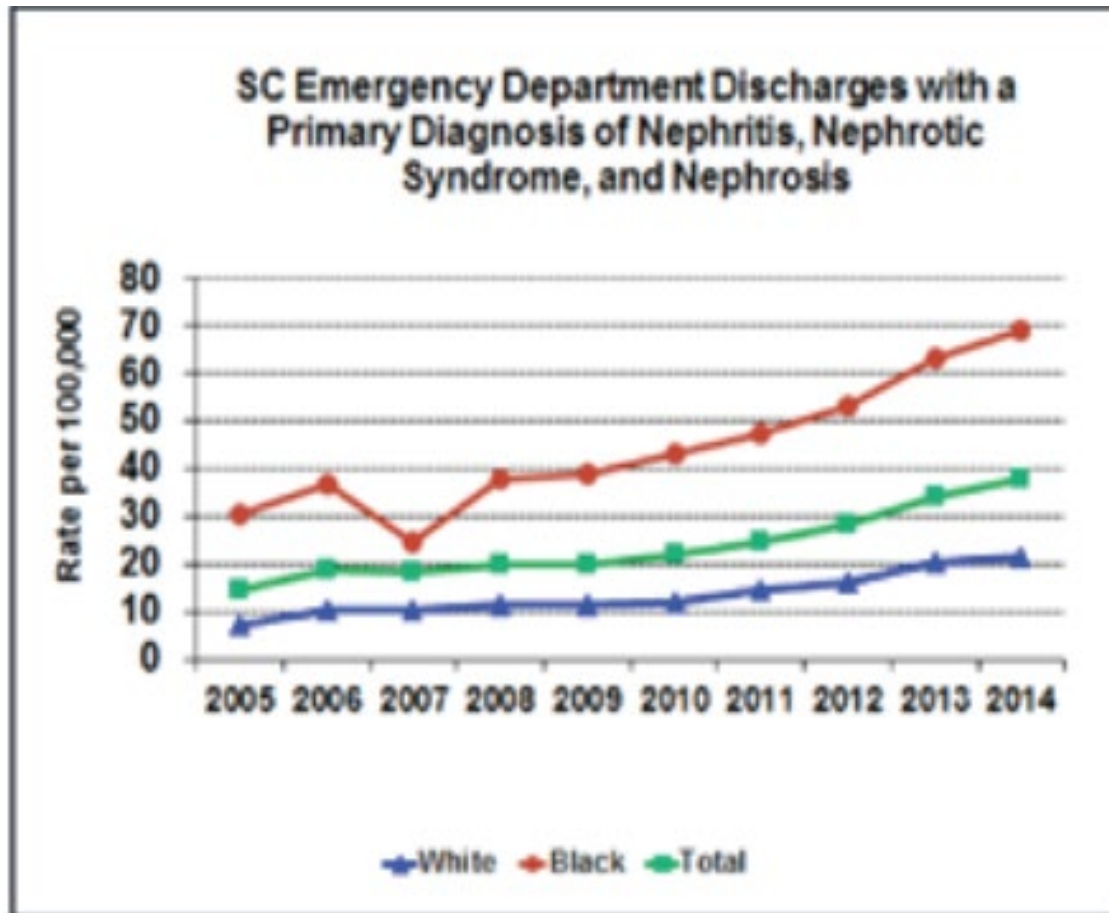
The number 1 cause of kidney failure is Diabetes; About 1 out of every 3 individuals with diabetes will have CKD

Hypertension is the second leading cause of kidney failure; about 1 of every 5 people diagnosed with HTN will have CKD

APOE-1 gene: When both copies of this gene are inherited with variants, people have a higher risk of developing Focal Segmental Glomerular Sclerosis (FSGS). It is estimated that 1 in every 10 African Americans the APOE-1 gene variant. (Amplitude Study in progress currently at MUSC)



CKD in South Carolina

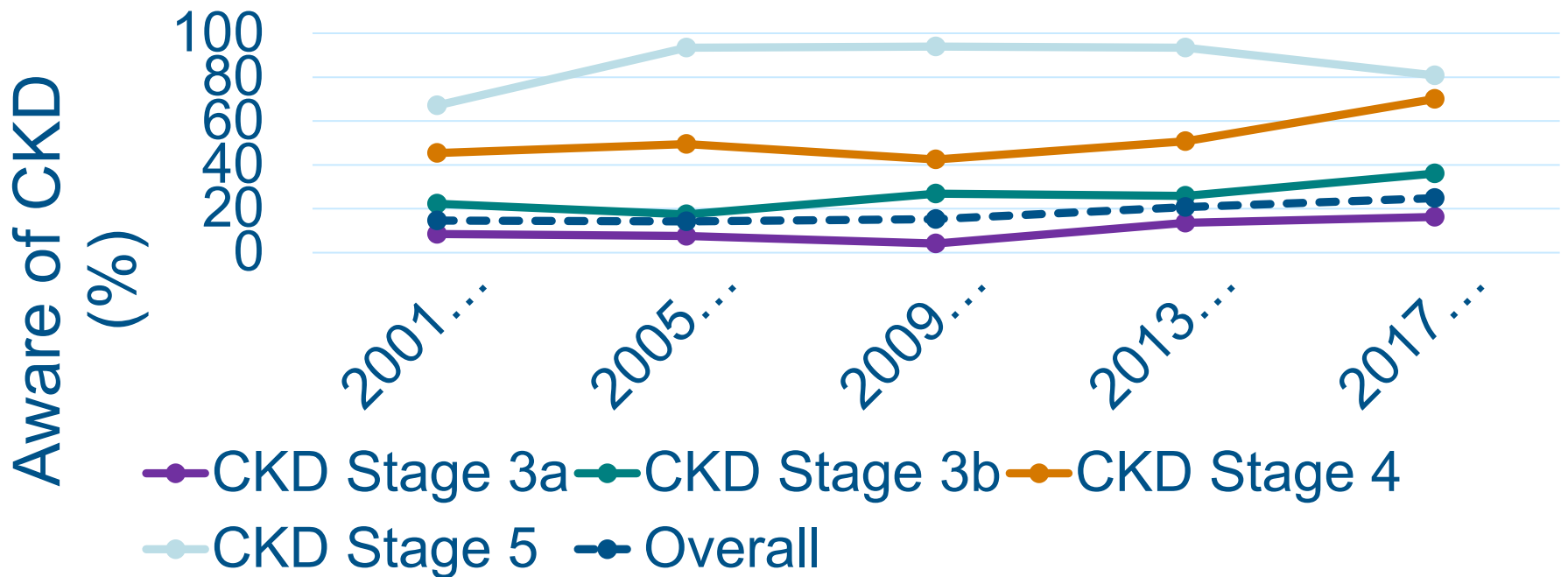


- There were 1,812 Emergency Department (ED) visits for Nephrosis as the primary diagnosis in 2014
- The rate of ED visits for black South Carolinians was three times higher than whites in 2014
- South Carolina had the 6th highest ESRD rate in the U.S. and the 9th highest Diabetes rate

<https://scdhec.gov/sites/default/files/Library/CR-011604.pdf>



Awareness of CKD among U.S. Adults for Stages 3–5, by CKD Stage



Kidney Disease is Staged by Filtration Rate and Amount of Protein in the Urine

eGFR: Estimated Glomerular Filtration Rate

Albuminuria: Protein in the urine. Currently used to better predict progression of the disease

Albuminuria categories Description and range		
A1	A2	A3
Normal to mildly increased	Moderately increased	Severely increased
<30 mg/g <3 mg/mmol	30-299 mg/g 3-29 mg/mmol	≥300 mg/g ≥30 mg/mmol

GFR categories (ml/min/1.73 m ²) Description and range	G1	Normal or high	≥90	Green	Yellow	Orange
	G2	Mildly decreased	60-90	Green	Yellow	Orange
	G3a	Mildly to moderately decreased	45-59	Yellow	Orange	Red
	G3b	Moderately to severely decreased	30-44	Orange	Red	Red
	G4	Severely decreased	15-29	Red	Red	Red
	G5	Kidney failure	<15	Red	Red	Red

Green: low risk (if no other markers of kidney disease, no CKD); Yellow: moderately increased risk; Orange: high risk; Red, very high risk.
KDIGO 2012



Late Referrals to Nephrology

Late referrals to nephrology have been well-studied and can lead to increased hospitalization, higher costs, increased mortality, and worse outcomes after initiation of dialysis. However, evidence is scant for the opposite end of the referral spectrum (i.e., patients who may not require specialist care)



Typical Treatment Plan Needs Stage 3

CKD Stage 3	Possible Resources
<p>Access to medications proven to slow disease: SGLT2's; ACE/ARB & other antihypertensives; GLP-1's, insulin, & other diabetes medications; GN patients need infusions such as Rituximab and Cytosan</p>	<p>340B-eligible hospitals are the safety net for their communities, allows eligible hospitals to stretch limited resources and provide additional benefits and services.</p> <p>Insurance programs for diabetes, hypertension, CKD (BCBS-Hello Heart/Diabetes Management; HealthMap:CKD Case Management for stages 3-5, etc.)</p>
<p>Blood pressure monitor for home use Glucose Monitoring Supplies</p>	<p>Amazon: Can find Omron or other high-quality monitors for \$40.00-\$50.00. Insurance may have an incentive program or cover with Prior Auth. I have been surprised by the random criteria Blood Glucose supplies: May need to be ran as DME</p>
<p>Education: CKD Education; Diabetes Education</p>	<p>Free CKD Ed: Fresenius Thrive, DaVita Kidney Smart, Baxter Empowers, National Kidney Foundation</p>
<p>Registered Dietitian consult</p>	
<p>Labs & Imaging</p>	<p>Community clinics may provide some of this for unfunded patients: SHIFA, Harvest Health; Tidelands Community Resource Center (Georgetown), Chelsea Clinic (Okatie);</p>
<p>PCP, Endocrinology, Rheumatology visits as appropriate to slow and manage disease</p>	



Typical SDoH Needs CKD Stage 3

SDoH Needs	Possible Resources
Insurance Coverage!	Change Healthcare; The Palmetto Project;
Transportation:	ModiveCare, Carta Tel-a-ride/Tri-County, Family Medical Transport, Custom Care Carriage
Healthy Food	MUSC CKD food pantry; Lower sodium options at food banks; Mom's Meals (some insurances will cover with prior auths)
Employment-May need assistance with HR, FMLA, etc	Contact person to coordinate forms with providers and signatures etc.
Help coping with stress, anxiety, depression	Support groups NKF Cares offers connecting with vetted CKD patient reps
Housing	Transitions, Shelters, Housing Crisis Help Line



Additional Treatment Plan Needs Stage 4

CKD Stage 4	Possible Resources
Renal Replacement Education (RRT)	Free CKD Ed: Fresenius Thrive, DaVita Kidney Smart, Baxter Empowers, National Kidney Foundation
Transplant Referral Living Donor Team Connection	MUSC, Duke, Mayo Jacksonville FL
Access Planning	MUSC: Transplant –Peritoneal access/Vascular –Hemo access. The Dialysis Access Institute Orangeburg
Labs & Imaging	Community clinics may provide some of this for unfunded patients: SHIFA, Harvest Health; Tideland Community Resource Center (Georgetown), Chelsea Clinic (Okatie);
Registered Dietitian Consult for CKD 4; needs frequently changed	
Anemia Management: Likely needed Prior Auth's	Many anemia meds can be safely managed at home and patients prefer. Also eliminates transportation for dosing and time away from work



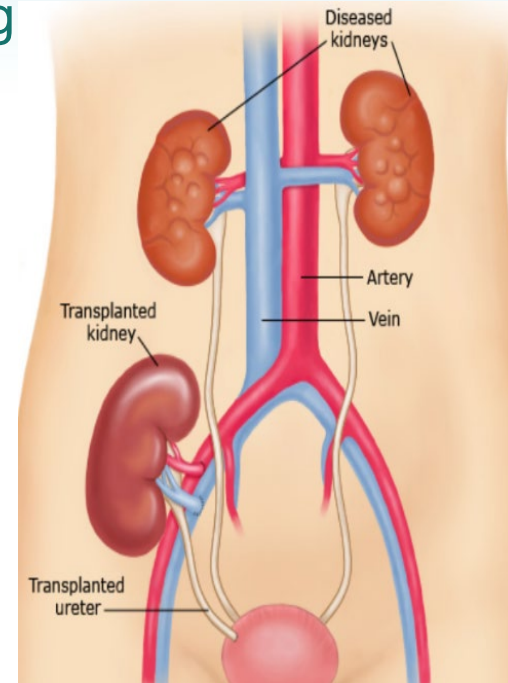
Typical SDoH Needs CKD Stage 4

SDoH Needs	Possible Resources
Insurance Coverage!	Ensure Insurance covers Transplant and Dialysis centers the Pt. prefers
Transplant: Post Transplant Plan (Caregiver(s), Transportation, Drug Coverage etc.)	Transplant and Living Donor Teams
Healthy Food	MUSC CKD food pantry; Lower sodium options at food banks; Mom's Meals (some insurances will cover with prior auth's especially post hospitalization)
Employment-FMLA paperwork ahead of transplant, access surgery, home dialysis training,	Contact person to coordinate forms with providers and signatures etc.
Help coping with stress, anxiety, depression	Support groups NKF Cares offers connecting with vetted CKD patient reps, American Kidney Fund, Kidney Health Alliance, American Association of Kidney Patients
Housing	Housing suitable for careplan



Kidney Transplant

- Gold Standard treatment for kidney failure
- Cadaver transplant requires a work-up followed by being listed on the UNOS waitlist
- Living donor transplant also requires a workup (for the receiver AND donor) and surgery soon after the workup has been completed
- Each patient is assigned a coordinator to assist with navigating this process
- Candidacy for a kidney transplant is best determined by the transplant team-there are some restrictions
- Transplant surgery typically requires a 3-5 day hospital stay and a lifetime regimen of anti-rejection medications
- Possible complications include rejection, medication side effects, hypertension, diabetes, secondary conditions from decreased immunity
- MUSC is a leading transplant facility with over 400 transplants in a typical year



Barriers: Lost to Follow-up with Transplant in SC

Barrier/Reason for Not Following Up	N (%)
Did not think I would pass medical tests	15 (18.1%)
Scared of getting transplant	13 (15.7%)
Cannot afford transplant or medicines	12 (14.5%)
Dialysis not that bad	11 (13.3%)
Not sure how to proceed	9 (10.8%)
Worried about how long wait for a kidney would be	8 (9.6%)
Did not believe anyone would serve as a donor for me	7 (8.4%)
Did not have money or transportation to get to transplant center for tests	7 (8.4%)
Did not understand the transplant process	7 (8.4%)
Do not understand the benefits of transplantation	5 (6.0%)
Did not fit my schedule	5 (6.0%)

(<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3472088/>)



Hemodialysis-In Center (at a clinic) Overview

- Blood is directly accessed and ran through a filter to remove waste and extra fluid
- Usually, treatment run times are about 4 hours 3x weekly
- Plan to spend roughly 5 hours at the clinic to allow time for obtaining weight, blood pressure, and temperature before and after treatments, cleaning the access, needle placement & removal, and time to hold pressure to the needle sites after the treatment to stop bleeding. Any alarms stop the treatment and blood is not getting cleaned until resolved and running again.
- Some patients require extra time for blood pressure to stabilize after the treatment

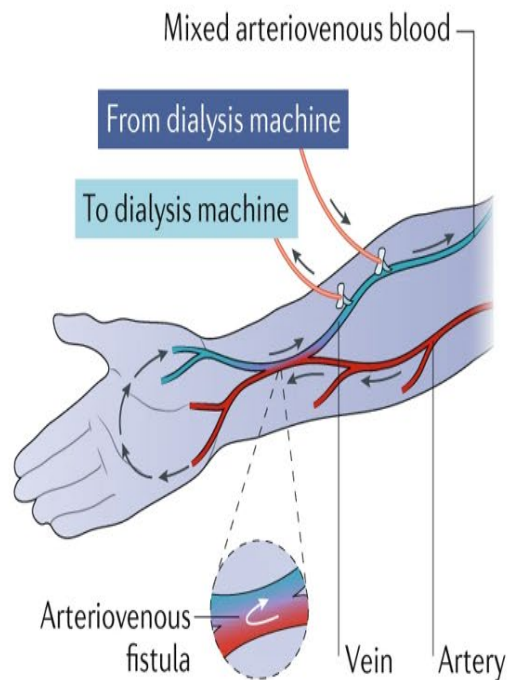


In-Center Hemodialysis Photo

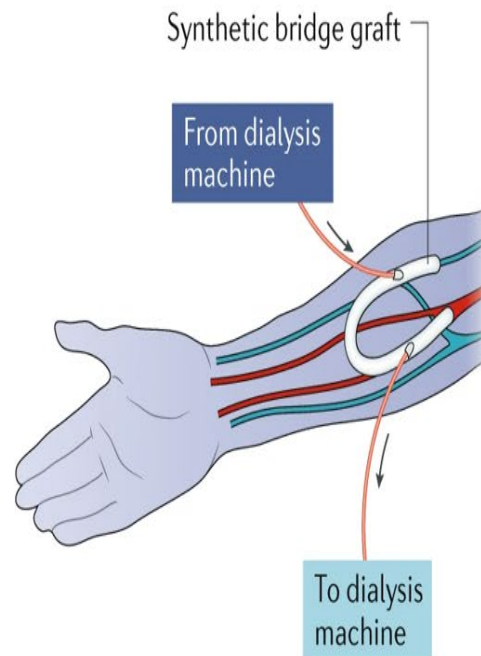


Hemodialysis- Access Types

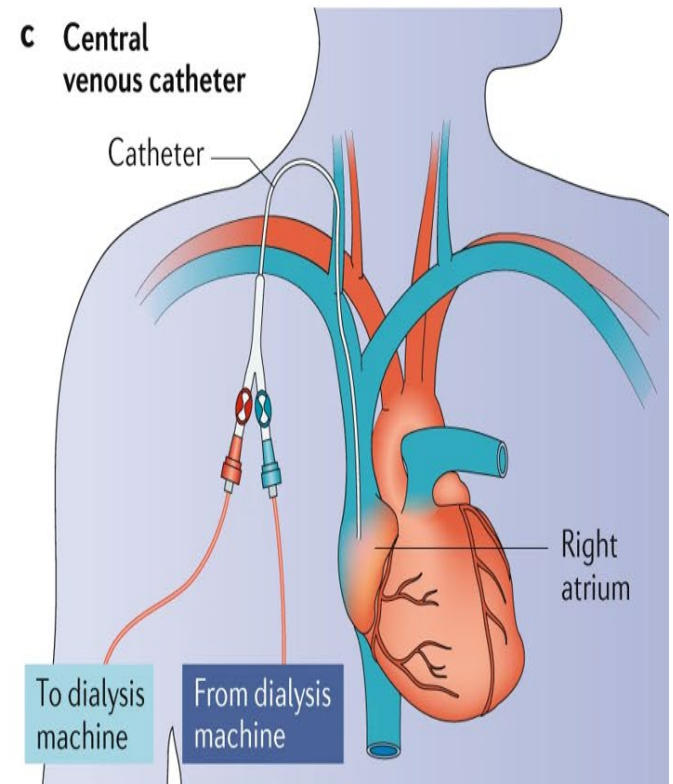
a AV fistula



b AV graft



c Central venous catheter

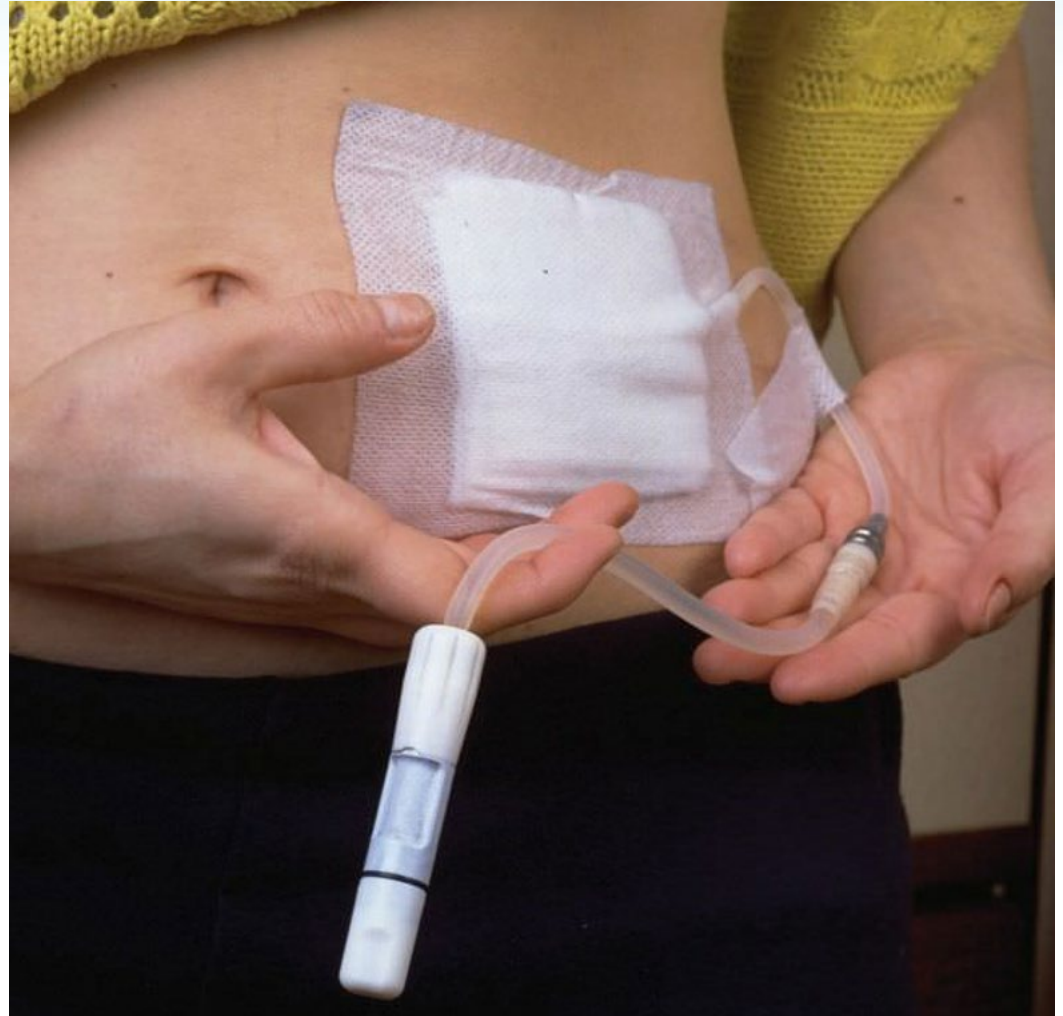


Hemodialysis-General Pros and Cons

Pros	Cons
Someone else completes the treatment for you	Minimal control over scheduling
Separation between home life and treatment life	Must travel to and from clinic
Have 4 days away from treatment each week	12 hours of blood cleaning weekly is harder on the heart and results in more spikes for potassium, fluid, and wastes
Do not lose as much protein per treatment	Most strict dietary and fluid limitations of the dialysis options
Can make meaningful relationships at the clinic	Most patients report needing rest after treatments-4 to 8 hours is average
Slightly lower risk for infection	Hemodialysis accesses require interventions (de-clotting, ballooning) periodically



Peritoneal Dialysis Access



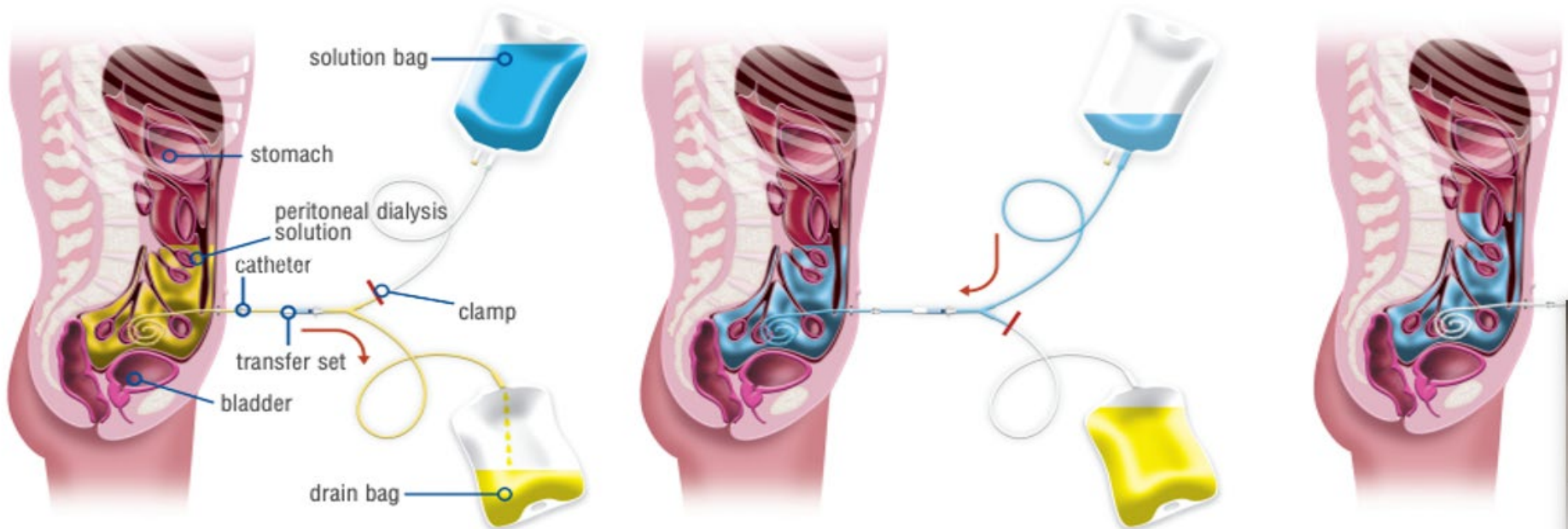
Peritoneal Dialysis-Overview

HOW PD WORKS

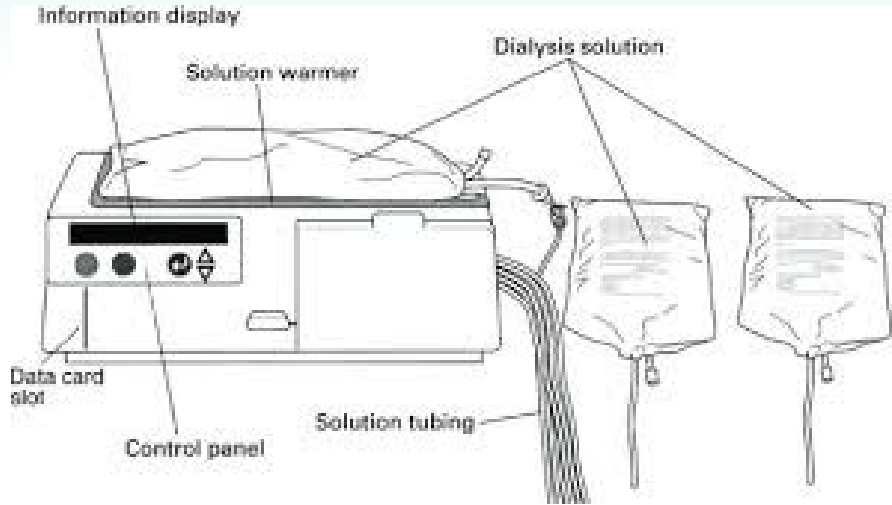
1 DRAIN

2 FILL

3 DWELL



Peritoneal Dialysis Equipment



Supplies-must be stored in climate controlled area free from pests



Peritoneal Dialysis-General Pros and Cons

Pros	Cons
Flexible-You decide when to set up and connect every day (Treatments MUST be at least 12 hours apart)	You assume to responsibility for your treatments and supply ordering
Feel better-blood gets cleaned every day	Must complete treatments 7x weekly
Less restrictions on diet and fluid intake	Treatments work slower and it is easy to get behind with waste clearance if miss treatments regularly
Labs levels are generally better; Studies show more people on PD get transplants	No separation of dialysis life and home life
Can travel and complete treatments overnight leaving days free	Slightly more risk for infection
Access is generally placed once and does not require as many interventions if any	



Non-Citizen Population and CKD

Many Non-Citizens will only have access to Emergency Medicaid and only hemodialysis via emergency rooms when labs are life-threatening- no access to transplant, home dialysis, or In-Center hemodialysis

<https://www.immigrationlawhelp.org/search?state=SC> may be a helpful resource to work on a plan to establish being “Lawfully Present”

You do not have to be a citizen to qualify for Medicaid/Medicare
However, if applications are found to be untruthful, even due to misunderstanding, people can be disqualified from coverage in the future

Change Healthcare and The Palmetto Project have been successful in finding coverage for non-citizens who do or can meet the guidelines



References

<https://nccd.cdc.gov/CKD/TopicHome/PrevalenceIncidence.aspx?topic=1>

<https://www.kidneyfund.org/all-about-kidneys/other-kidney-diseases/apo1-mediated-kidney-disease>

<https://scdhec.gov/sites/default/files/Library/CR-011604.pdf>

<https://www.karger.com/Article/Fulltext/490475>

<https://www.musc.edu/infoservices/help.html>

https://www.kidney.org/kidneydisease/siemens_hcp_quickreference

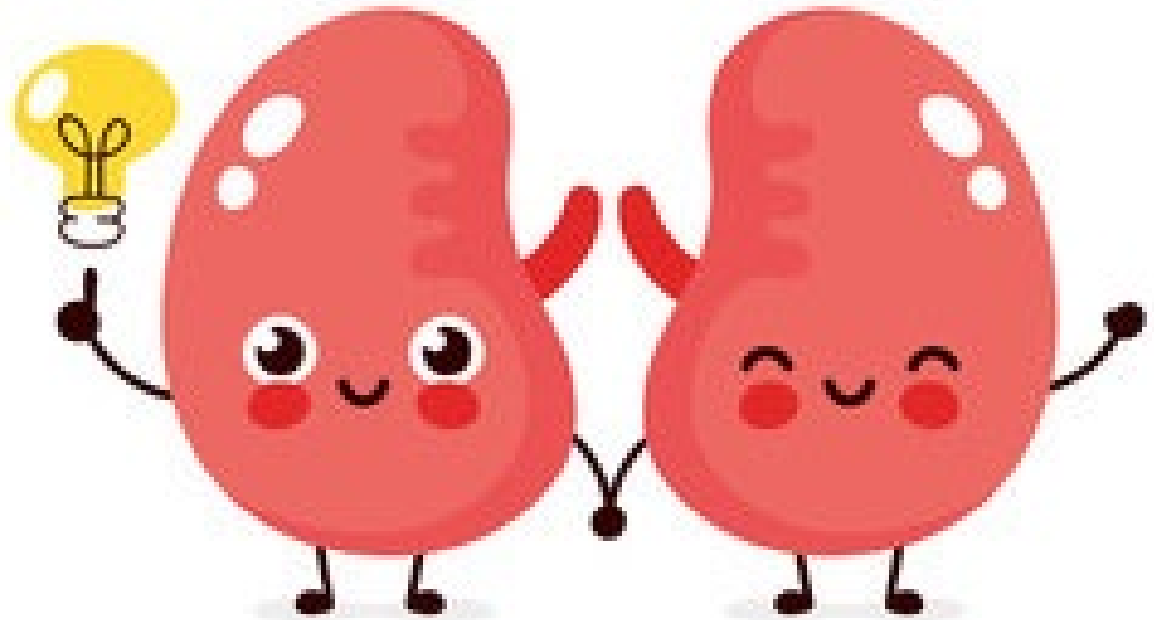
<https://www.kidney.org/patient-booklet1a.pdf>

<https://nursekey.com/peritoneal-dialysis-3/>

<https://www.nature.com/articles/s41581-020-0333-2>



Questions?



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MUSC Health is the clinical enterprise of the Medical University of South Carolina (MUSC) comprised of a 700-bed Medical Center, the MUSC College of Medicine and the physician's practice plan. It serves patients across South Carolina and beyond through four hospital facilities in Charleston and more than 100 outreach sites. Among these are the Hollings Cancer Center, one of only 66 National Cancer Institute-designated centers in the country, and a nationally recognized Children's Hospital. The Medical University was founded in 1824 and has risen to become a premiere academic medical center at the forefront of the latest advances in medicine, with world-class physicians and other scientists and groundbreaking research and technology that is often the first of its kind in the world.