

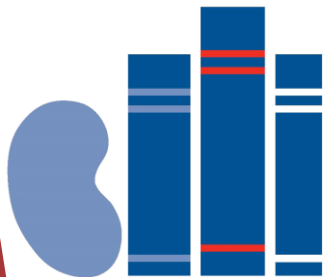
Diabetes and Kidney Disease: Can You Get Better?

This webinar will start shortly. The slides and the webinar recording will be available at www.dpcedcenter.org

Next webinar: October 17 at 2:00 pm Eastern
“Decisions You Need to Make about your Transplant Choice.”

Reminders

- All phone lines are muted
- **Unmute: #6** to ask questions at the end of the presentation
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- Or, ask questions through the Chat Box
- You will receive the link to the **recording** and **slides** by email
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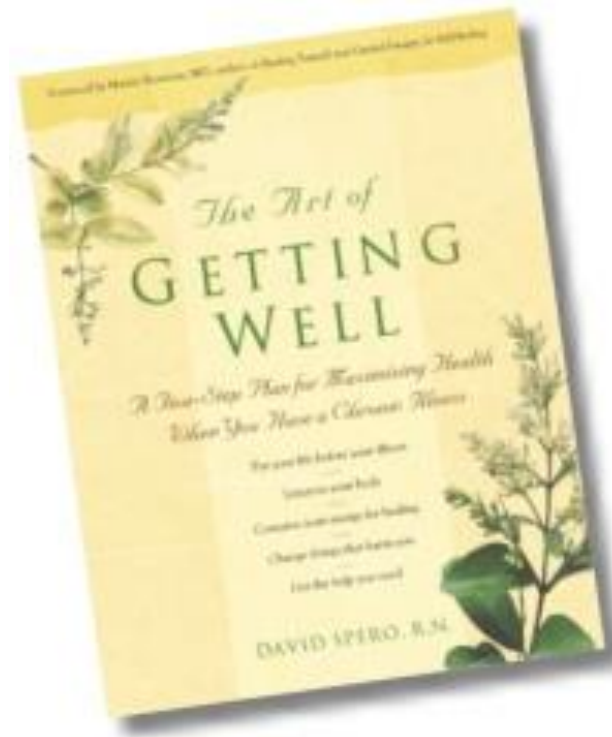
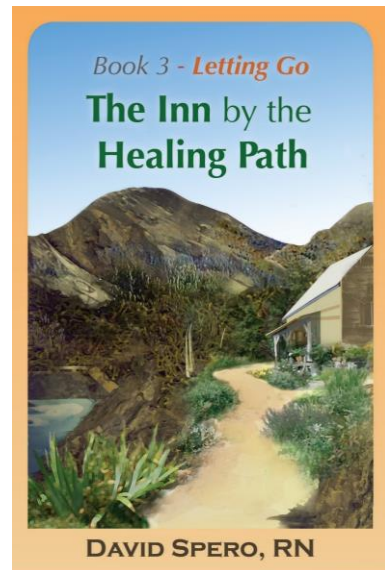
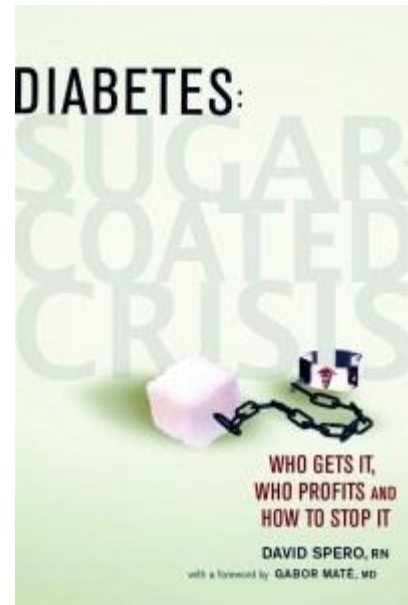
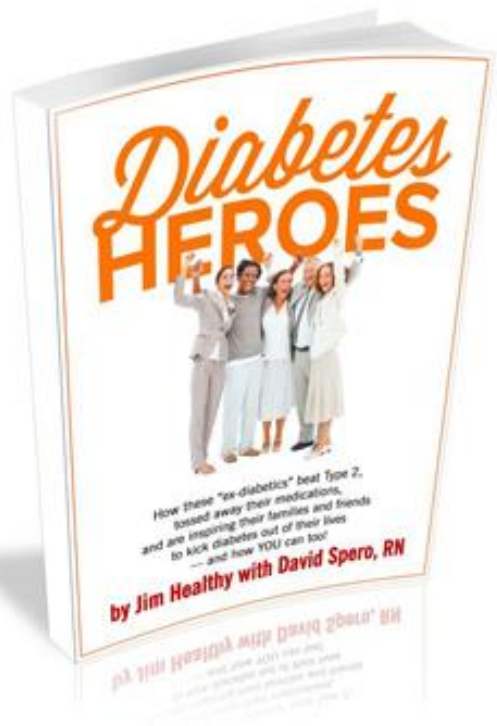


Today's Presenter



- ▶ Nurse for 40 years
- ▶ Has a chronic illness
- ▶ Writer for health publications such as *Diabetes Self-Management*
- ▶ Author of two books
- ▶ Author of E-book series *The Inn by the Healing Path: Stories on the Road to Wellness*
- ▶ Presenter on our *Sexuality and Intimacy* webinar
<https://www.dpcedcenter.org/news-events/education-webinars/>
- ▶ Web: www.davidsperorn.com Email at nurse@davidsperoRN.com





Diabetes SELF-MANAGEMENT



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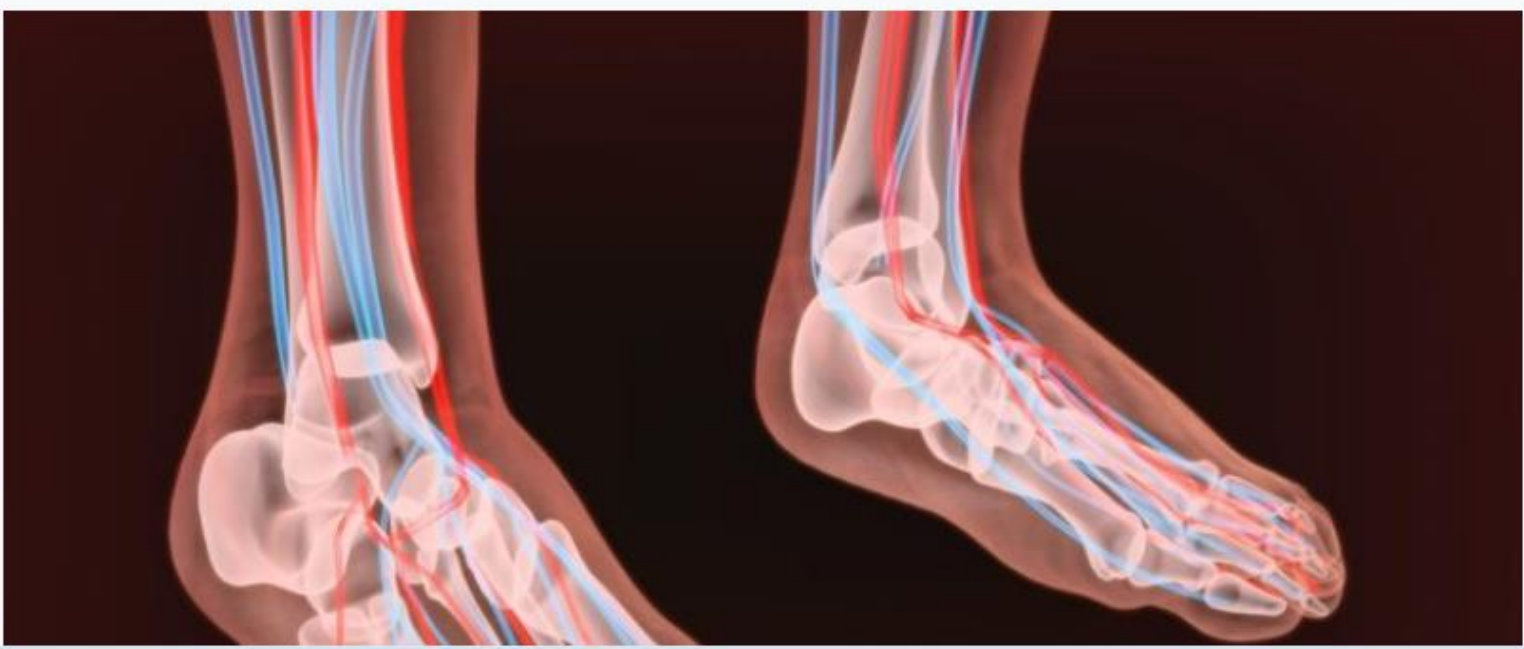
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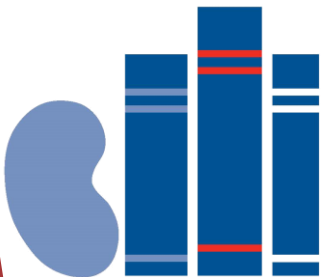


Thanks to Sara Colman, CDE for helping with this



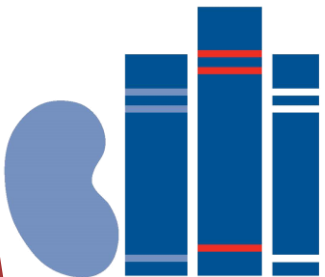
What is Diabetes?

- ▶ A Disease of Carbohydrate Intolerance
- ▶ Carbohydrates (“Carbs”) - Starches and sugars



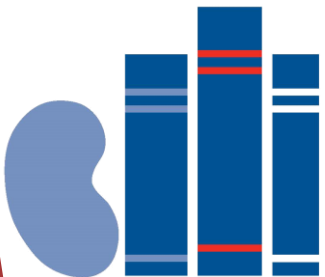
Insulin and Diabetes

- ▶ Our bodies need insulin to use sugar
- ▶ In diabetes, we don't have insulin (type 1) or the body resists it (type 2) or both. This talk is mainly about Type 2.
- ▶ W/O working insulin, sugar builds up in the blood and causes damage.



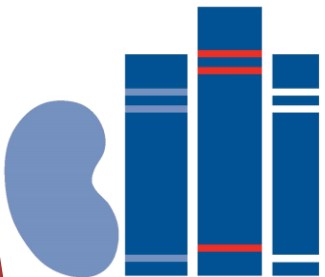
Diabetic Kidney Disease

- ▶ High sugar damages small blood vessels in the kidneys, slowly causing kidney disease (DKD).
- ▶ 20 - 40 % of people with diabetes have some level of DKD.
- ▶ 30 - 40 % of people on dialysis have diabetes.
- ▶ Diabetes and high blood pressure are the top causes of CKD.



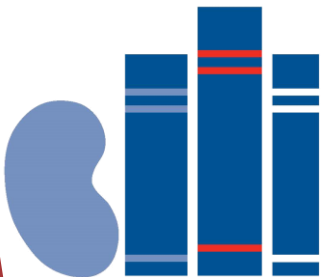
How diabetes harms kidneys

- ▶ Glucose damages blood vessels (like pouring sugar in a car's gas tank.)
- ▶ High blood pressure common in diabetes, also injures blood vessels
- ▶ Inflammatory effects of high sugar, causing swelling and scarring.



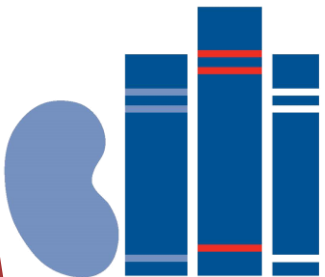
Complications of Uncontrolled Diabetes

- ▶ Even with kidney disease, many other complications are out there if sugars are not controlled.
- ▶ Heart disease - #1 cause of death in people on dialysis
- ▶ Stroke
- ▶ Eye damage - blindness
- ▶ Damage to feet and legs - amputation
- ▶ Digestive problems



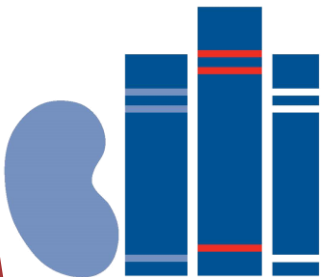
Managing Diabetes Prevents Complications

- ▶ If glucose levels are kept down, complications can be prevented.
- ▶ Low carbohydrate eating
- ▶ Physical activity
- ▶ Stress reduction
- ▶ Control blood pressure
- ▶ Blood sugar (glucose) self-monitoring



CKD, ESRD, and Transplant Affect Diabetes Management

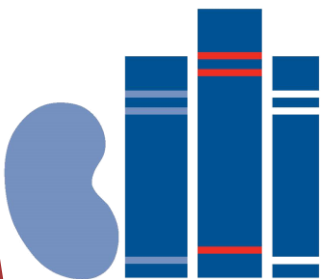
- ▶ Kidney diets not good match for diabetes - protein limitations
- ▶ Many diabetes medications can't be taken in CKD
- ▶ Phosphorous and potassium in high-fiber foods
- ▶ Dialysis affects glucose levels
- ▶ Transplant medications



Diabetes Medications

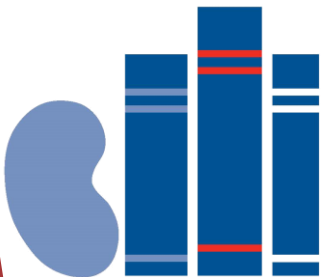
- ▶ Most oral diabetes meds not good for kidney patients
- ▶ ADA recommends only two types
- ▶ SGLT-2 Inhibitors (“gliflozins”) such as Invokana or Jardiance for CKD not on dialysis
- ▶ GLP-1 agonists such as Byetta, Victoza, Trulicity

ADA Standards of Care 2019



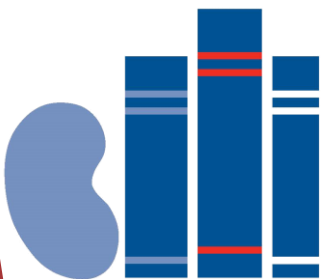
Insulin

- ▶ Multiple injections
- ▶ Insulin pump
- ▶ Doses usually lower in kidney disease
- ▶ Work with doctors to find right schedule for you
- ▶ Newer insulins are expensive.



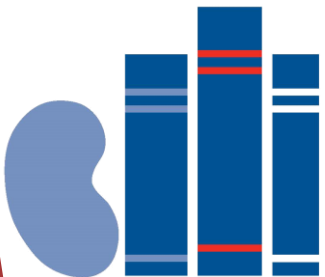
Most medicine doses need to be lowered

- ▶ Kidneys break down many medicines in the blood.
- ▶ Damaged kidneys can't do that as well.
- ▶ So drugs stay in system and can lead to overdose.
- ▶ To avoid drug reactions, all kinds of meds (heart, BP, pain, psych, etc.) may need to be taken in lower doses.



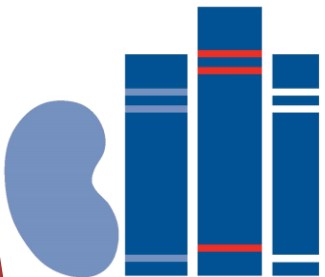
Self-monitoring blood glucose

- ▶ Purpose is to learn what makes sugars go up and down.
- ▶ And to warn of hypoglycemia (low blood sugars.)
- ▶ Finger sticks
- ▶ Higher tech, less invasive methods
- ▶ Continuous monitors *



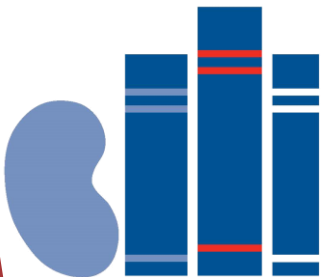
Some Effects of Dialysis on Diabetes

- ▶ Glucose usually lower on dialysis days
- ▶ Changes in appetite / food tolerance
- ▶ Increased risk of hypoglycemia (Low Blood Sugar) in HD
- ▶ Risk of high blood sugars in PD
- ▶ Dialysis diet high in protein, good for diabetes



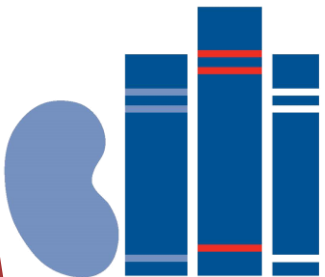
Effect of transplant on diabetes

- ▶ Transplant medications such as steroids can cause diabetes or make it much worse.
- ▶ Ending dialysis because of transplant can increase insulin resistance.
- ▶ Transplant success more important than diabetes control in this phase.



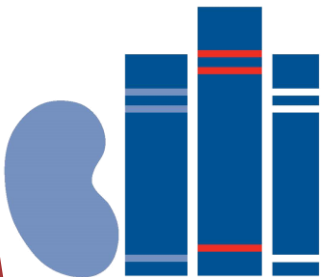
Hypoglycemia (Low blood sugar)

- ▶ Blood sugar below 70 mg / dl
- ▶ May cause weakness, dizziness, confusion, emotional instability, shaking, sweating, headache
- ▶ If goes too low (like less than 50 or 40), may cause fainting or coma. May damage the heart.
- ▶ Common in hemodialysis and CKD patients
- ▶ Prevent - don't skip meals, keep a sugary snack handy, check glucose level before activity or dialysis



Diabetes is a Lot of Work!

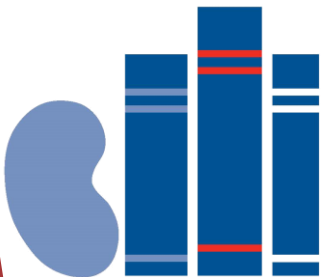
- ▶ Food changes
- ▶ Meds
- ▶ Cost of drugs, testing, medical appointments
- ▶ Self-monitoring blood glucose
- ▶ Self-care of feet and mouth
- ▶ Exercise
- ▶ Staying positive, not burning out





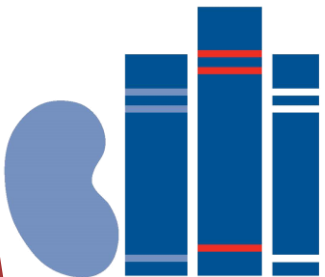
Type 2 diabetes can be reversed

- ▶ Reversed doesn't mean cured
- ▶ What it does mean - getting better instead of worse
- ▶ Reducing meds, lowering sugars, improving complications
- ▶ Harder with CKD - still possible?



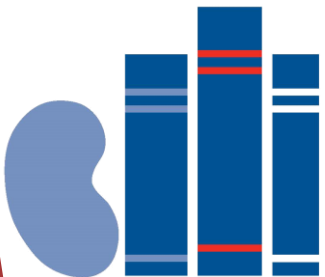
Usual Strategies for Reversing Type 2

- ▶ Low carb (esp. low-refined carb) diet
- ▶ Vegan, high-fiber diet
- ▶ High-fat ketogenic diet
- ▶ Herbal remedies - bitter melon, cinnamon, turmeric, many others
- ▶ Supplements
- ▶ Exercise



Reversal strategies and CKD

- ▶ Most of these don't work in advanced kidney disease.
- ▶ Low carb usually means high-protein.
- ▶ High-fiber usually needs more fluids.
- ▶ Fiber sources, plant foods may be high in potassium or phosphorous.
- ▶ Herbs may interact with prescription drugs.
- ▶ Exercise limitations

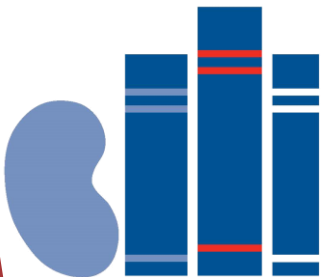


So What Can You Do?



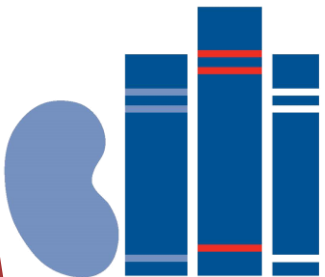
Food Strategies in DKD

- ▶ 1. If on dialysis, can go high-protein, low-carb. Avoid nearly all sugars and most starches. Can be animal or plant protein (tofu, nuts) and fats.
- ▶ **Must** discuss these plans with an RD and MD and monitor glucose to prevent hypos.



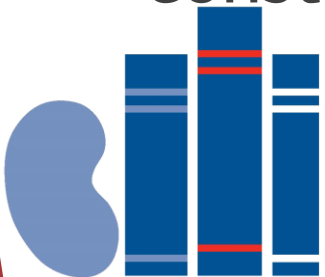
Food Strategies in DKD

- ▶ 2. If not on dialysis, can try a high-fat ketogenic diet. In mouse studies, this has been found to reverse both diabetes and kidney disease. Lots of vegetable oils, butter, animal fats, nuts.
- ▶ **Must** discuss these plans with MD and RD and monitor glucose to prevent hypos.



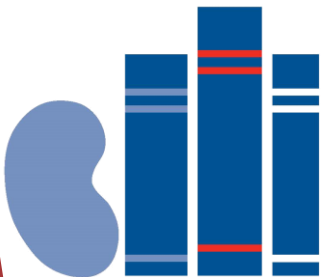
Fiber and fluids in DKD

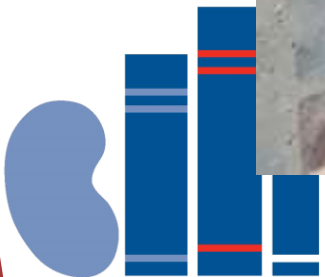
- ▶ Fiber can provide up to 25% of daily calories, without requiring insulin.
- ▶ Fiber improves glucose metabolism.
- ▶ Prevents bowel diseases such as cancer and diverticulitis.
- ▶ But fluid restriction is a problem - may lead to constipation.



Food Strategies in DKD

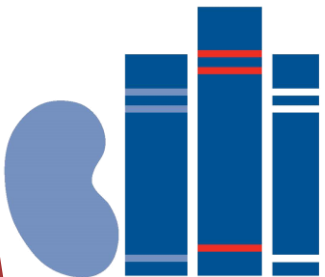
- ▶ 3. Fiber - get a list of high-fiber, low potassium fruits, seeds, and vegetables. There are plenty. You may find you don't need extra fluid to avoid constipation, or that you can tolerate more fluid because the fiber keeps it in your gut.
- ▶ Must discuss with your MD and RD





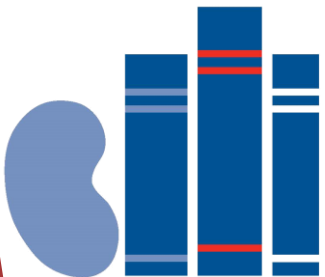
Herbs and Supplements

- ▶ Investigate which ones you want to try (see resources).
- ▶ Check with MD about safety for kidneys.
- ▶ Check with Pharmacist about drug/herb interactions.
- ▶ If they don't know, avoid the herb.



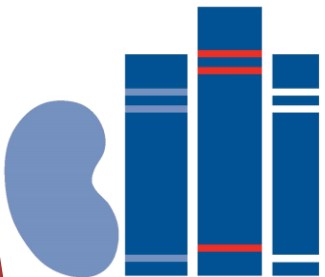
Exercise in DKD

- ▶ Physical movement essential for glucose control.
- ▶ Nearly every dialysis patient can do some kind of exercise.
- ▶ Moving, yes. Exercise, maybe. - Keep walking, climbing stairs
- ▶ Gentle movements, stretching, mild strengthening



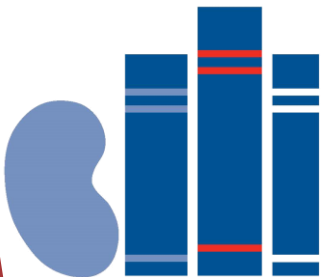
Movement in DKD

- ▶ Exercise usually give you more energy and “makes people feel normal.”
- ▶ Sweating will get rid of some fluid from your body.
- ▶ Have fun. Warm up, cool down. Cleveland Clinic
- ▶ Music while moving
- ▶ Exercise buddy (human or dog!)



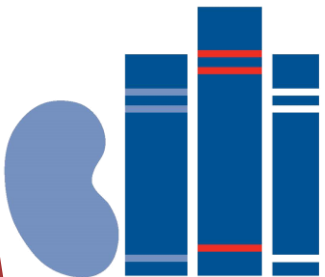
Reducing Stress

- ▶ Stress increases insulin resistance, raises blood sugars.
- ▶ Unfortunately, stress is everywhere - money, family, health, politics, etc.
- ▶ Can you get out of a stressful situation, or get help with it?
- ▶ If you can't, there are coping strategies.



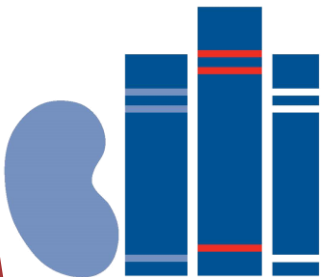
Dealing with Stress

- ▶ Meditation / relaxation / prayer
- ▶ Instead of worrying about later, remember Now is almost always okay.
- ▶ Have a quiet space
- ▶ Time in Nature
- ▶ Good music
- ▶ Therapy/Counseling



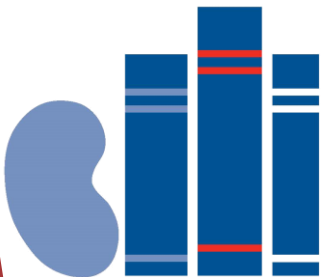
Stop Smoking

- ▶ Had to say that.
- ▶ If smoking makes life tolerable for you, though...
- ▶ But you're going through a lot of trouble to stay alive, so...



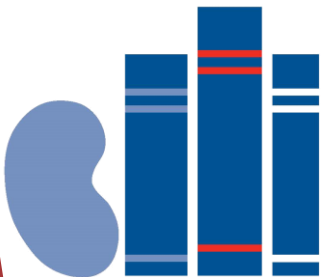
Get Help!

- ▶ Managing diabetes is a big job, even without kidney disease.
- ▶ Can't do it alone; don't have to.
- ▶ Doctors, diabetes educators, dietitians, nurses, pharmacists, social workers, therapists, clergy, family, friends, church, neighbors, pets.



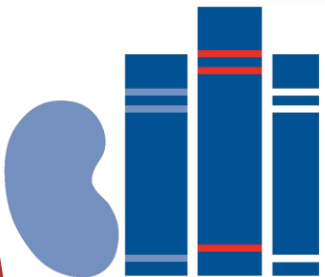
Thanks So Much!

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Questions?

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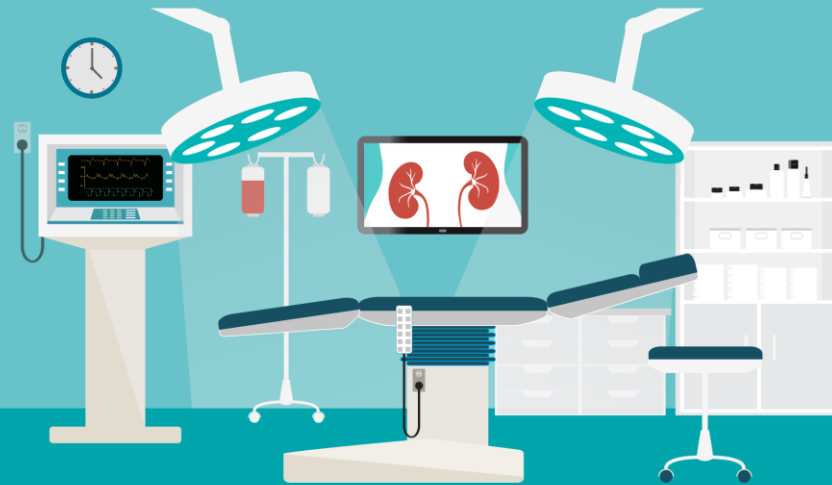
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Decisions You Need to Make About Your Transplant Choice

October 17, 2019 at 2:00 pm Eastern
Presented by: Dr. Keith Melancon



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