Talking with Patients and Families about Kidney Disease

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Advancements in Diabetes Webinar
November 2023
Speaker has no relationship to disclose
Objectives

- Describe a strategy for educating people about CKD within the time constraints of the outpatient setting
- Describe life style and diet interventions which can slow progression of CKD
- Describe basic information about renal replacement therapy which can be provided prior to referral to nephrologist

This is meant to be a pragmatic (useful) discussion. Specific questions welcomed.
Population Health in Kidney Disease

aims to reduce the morbidity and mortality caused by kidney disease and its complications by:

- Improving early detection of CKD
- Facilitating identification of patients at greatest risk for progression to kidney failure
- Promoting evidence-based interventions to slow progression of kidney disease
Trends in adjusted* ESRD incidence rate (per million/year), by race, in the U.S. population, 1996-2013
Goals for Population Management

Delay the need for renal replacement therapy (dialysis or transplant):

- Identify patients with kidney disease and monitor progression: eGFR (kidney function) and UACR (kidney damage)
- Implement appropriate therapy to slow progression
- Screen for complications: anemia, malnutrition, metabolic bone disease
- Treat cardiovascular risk, especially with smokers and hypercholesterolemia
- Refer to dietitian for nutritional guidance
- Avoid acute injury to the kidney (NSAIDs)
- Educate patients about kidney disease and treatment
Self Management

- Self-management means the interventions, training, and skills by which patients with a chronic condition, disability, or disease can effectively take care of themselves and learn how to do so

- Implementation of self management includes comprehensive education regarding the disease, management regimen, consequences of adherence, consequences of non-adherence

- Example of self-management in CKD: Knowing to stop ACEi or ARB if dehydrated from flu or diarrhia. Needs to occur before health care sought.
Coping with Kidney Disease and Failure is Challenging

- “I feel fine.”
  - The signs and symptoms may not be obvious until kidney disease is advanced.
- “Why me?”
  - Just like diabetes, acceptance of kidney disease takes time for most people.
  - Kidney disease may progress to kidney failure.
- Kidney “failure” or “end stage renal disease” sound scary.
  - Grief, fear and depression are not uncommon.
Patient Awareness of CKD is Low General U.S. Population

“Have you ever been told by a doctor or other health care professional that you had weak or failing kidneys?”

NHANES 1999-2000: 4101 participants

< 20% of patients with moderate to severe CKD said yes

Most had seen a physician within the past year

Adapted from: Coresh, et al. JASN 2005
# Awareness & Knowledge about CKD in Patients Seen by Nephrologists

## Low Self-Rating Perceived Knowledge N=676

| No Knowledge of Hemodialysis / Peritoneal Dialysis | 43% / 57% |
| Little or No Knowledge Re: Diagnosis            | 35%       |

## Limited Awareness & Objective Knowledge N=401

| Unaware of CKD diagnosis                        | 31% |
| Do not understand CKD implications, e.g. heart disease | 34% |
| Do not understand kidney functions, e.g. urine production | 34% |
| Do not understand terminology, GFR               | 32% |


*Wright, et al. AJKD 2011*
Dialysis Patients and Their Providers Have Different Expectations

...patients’ expectations about 1-year survival were more accurate than those of their nephrologists, but their longer-term survival expectations dramatically overestimated even their 2-year survival rates. Patients’ prognostic expectations are associated with their treatment preferences. Our findings suggest the need for interventions to help providers communicate effectively with patients about prognosis.

Wachterman, et al. jama 2013
Educational Opportunities

- Community/At risk population
- People with CKD
- Health Care Providers
Quick Reference on UACR and GFR. FOR PROVIDERS

Urine Albumin-to-Creatinine Ratio (UACR)

In Evaluating Patients with Diabetes for Kidney Disease

The two key markers for chronic kidney disease (CKD) are urine albumin and estimated glomerular filtration rate (eGFR).

Assess urine albumin excretion yearly to diagnose and monitor kidney damage in patients with type 1 diabetes for five years or more or with type 2 diabetes.

- More frequent monitoring may be indicated in patients with changing clinical status or after therapeutic interventions.
- Use a spot urine albumin-to-creatinine ratio (UACR). UACR estimates 24-hour urine albumin excretion. Twenty-four-hour collection and timed specimens are not necessary.

Urine albumin (mg/dL) = UACR in mg/g = Albumin excretion in mg/day
Urine creatinine (g/dL) = UACR

UACR is a ratio between two measured substances. Unlike a dipstick test for albumin, UACR is unaffected by variation in urine concentration.

Albuminuria is present when UACR is greater than 30 mg/g and is a marker for CKD.

Albuminuria is used to diagnose and monitor kidney disease. Change in albuminuria may reflect response to therapy and risk for progression. A decrease in urine albumin may be associated with improved renal and cardiovascular outcomes.

Estimated Glomerular Filtration Rate (eGFR)

In Evaluating Patients with Diabetes for Kidney Disease

The two key markers for chronic kidney disease (CKD) are estimated glomerular filtration rate (eGFR) and urine albumin.

Calculate eGFR from stable serum creatinine levels at least once a year in all patients with diabetes.

- eGFR is more accurate than serum creatinine alone. Serum creatinine is affected by muscle mass, and related factors of age, sex, and race.
- eGFR is not reliable for patients with rapidly changing creatinine levels, extremes in muscle mass and body size, or altered diet patterns.

See if your lab reports eGFR routinely. If it does not, ask your lab to do so. You can also calculate an eGFR yourself by using GFR calculators available on NKDEP’s website at www.nkdep.nih.gov/professional/gfr_calculators.

Interpreting eGFR Results

<table>
<thead>
<tr>
<th>CKD may be present if UACR &gt; 30 mg/g</th>
</tr>
</thead>
<tbody>
<tr>
<td>CKD (eGFR &lt; 60 ml/min/1.73 m²)</td>
</tr>
<tr>
<td>Kidney Failure</td>
</tr>
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</table>

If CKD is detected, it should be addressed as part of a comprehensive approach to the treatment of diabetes.

For more information on UACR, eGFR, and kidney disease, go to www.nkdep.nih.gov.

The National Kidney Disease Education Program (NKDEP) of the National Institutes of Health aims to improve early detection of kidney disease, help identify patients at risk for progression to kidney failure, and promote interventions to slow progression of kidney disease.

NKD Publication No. 10-2244 • March 2010
The two key markers for chronic kidney disease (CKD) are urine albumin and estimated glomerular filtration rate (eGFR).

Assess urine albumin excretion yearly to diagnose and monitor kidney damage in patients with type 1 diabetes for 5 years or more or with type 2 diabetes.

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- Use a spot urine albumin-to-creatinine ratio (UACR). UACR estimates 24-hour urine albumin excretion. 24-hour collection and timed specimens are not necessary.

\[
\frac{\text{Urine albumin (mg/dL)}}{\text{Urine creatinine (g/dL)}} = \text{UACR in mg/g} \approx \text{Albumin excretion in mg/day}
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Albuminuria is used to diagnose and monitor kidney disease. Change in albuminuria may reflect response to therapy and risk for progression. A decrease in urine albumin may be associated with improved renal and cardiovascular outcomes.

In a large cohort of CKD patients, a higher UACR at time of diagnosis was associated with increased risk for renal events (loss of half of eGFR, dialysis, or death). (Chronic Renal Insufficiency Cohort study)

A randomized trial of diabetes patients with CKD found that the greater the reduction of UACR in response to treatment (with ARBs), the lower the risk of progression to kidney failure. (De Zeeuw et al, Kidney Int 2004)

1Albuminuria is a term that describes all levels of urine albumin. Microalbuminuria is a term used to describe urine albumin levels not detected by a dipstick test, i.e., 30 mg/g—300 mg/g. Macroalbuminuria is sometimes used to describe albumin levels > 300 mg/g.
Elevated UACR is associated with risk of renal events; lowering UACR may lower risk of progression

Chronic Renal Insufficiency Cohort Study

Renal events = loss of half of eGFR, dialysis, or death

Reference: NIH, February 2010; De Zeeuw et al., 2004
The two key markers for kidney disease are eGFR and urine albumin.
Calculate eGFR from stable serum creatinine levels at least once a year in all patients with diabetes.

- eGFR is more accurate than serum creatinine alone. Serum creatinine is affected by muscle mass, and related factors of age, sex, and race.
- eGFR is not reliable for patients with normal kidney function, rapidly changing creatinine levels, extremes in muscle mass and body size, or altered diet patterns.

See if your lab reports eGFR routinely or if you need to request it. GFR calculators are available on NKDEP's website at www.nkdep.nih.gov/professionals/gfr_calculators.

Interpreting eGFR Results

NKDEP recommends reporting values greater than or equal to 60 as ">60," rather than numeric values. Exact values above 60 are not reliable.

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For more information on UACR, eGFR and kidney disease, go to www.nkdep.nih.gov.

NIH Publication No. 10-4266 • February 2010
How well are your kidneys working?

What your kidneys do
You have two kidneys. Their main job is to filter waste and extra water out of your blood and make urine.

How your kidneys are checked
Two tests are used to check for kidney disease.
- A blood test checks your GFR, which tells how well your kidneys are filtering.
- A urine test checks for albumin in your urine, a sign of kidney damage.

Why your kidneys are being checked
You need to have your kidneys checked because you can't feel kidney disease. Kidney tests are very important for people who have diabetes, high blood pressure, or heart disease. These conditions can hurt your kidneys.

What happens if you have kidney disease
Kidney disease can be treated. The sooner you know you have kidney disease, the sooner you can get treatment to help delay or prevent kidney failure. Treating kidney disease may also help prevent heart disease.
Treatment goals are to:
- Keep your GFR from going down
- Lower your urine albumin

No matter what your results are:
- Keep your blood pressure below 130/80.
- Keep your blood glucose and blood cholesterol in your target range.
- Eat foods that are healthy for your heart and cut back on salt.
- Be physically active.
- Stop smoking.
- Take medicines the way your provider tells you.

Notes:

For more information, visit www.nkdep.nih.gov or call 1-866-4 KIDNEY (1-866-454-3639). The National Kidney Disease Education Program (NKDEP) is an initiative of the National Institutes of Health (NIH).

NIH Publication No. 10-6220 • Revised January 2010
Explaining GFR

How well are your kidneys working?

Your GFR result on [Date] was [Result].

- A GFR of 60 or higher is in the normal range.
- A GFR below 60 may mean kidney disease.
- A GFR of 15 or lower may mean kidney failure.

What is GFR?
GFR stands for glomerular filtration rate. GFR is a measure of how well your kidneys filter blood.
Explaining Urine Albumin

Your urine albumin result on ___________________ was _____________.

- A urine albumin result **below 30** is normal.
- A urine albumin result **above 30** may mean kidney disease.

**What is urine albumin?**

Albumin is a protein found in the blood. A healthy kidney does not let albumin pass into the urine. A damaged kidney lets some albumin pass into the urine. The less albumin in your urine, the better.

![Diagram: Inside a healthy kidney vs. a damaged kidney](image-url)
Patient education--
Helping patients understand, track test results

- Your Kidney Test Results gives context for key kidney-related tests
  - Why test is important
  - Normal range
  - Multidisciplinary Provider Use
People with CKD still make urine

- The composition of the urine changes.
- Most people do not notice any difference in urine volume.
- Slow, progressive loss of function may not be noticeable.
Monitor the eGFR trends

- Stable eGFR levels may mean non-progressive disease or current therapy is working.
- A rapid decline in eGFR may indicate rapid progression of kidney disease.
Follow trends in eGFR

Slow progression

Rapid progression
Follow trends in UACR

- Increasing UACR
  - May '07: 27 mg/g
  - May '08: 33 mg/g
  - Apr '09: 58 mg/g
  - Nov '09: 66 mg/g

- Elevated, but stable UACR
  - Sept: 298 mg/g
  - Feb: 333 mg/g
  - June: 245 mg/g
  - Nov: 266 mg/g

Note differences in timeframes
For Providers
Educating Patients About Chronic Kidney Disease

Four Key Concepts and Talking Points

1. Talk to patients about their kidneys, CKD, and their risk.

   **What is CKD?** CKD (chronic kidney disease) means the kidneys are damaged and may no longer filter blood well. This damage happens over many years. As more damage occurs, the kidneys are unable to keep the body healthy—then dialysis or a kidney transplant may be needed.

   **How can I lower my risk for CKD?** The steps you take to manage your diabetes and high blood pressure also help protect your kidneys. Diet, quitting smoking, and exercise are all important steps.

2. Communicate the importance of testing and how CKD is diagnosed.

   **What are the symptoms of CKD?** Most people with CKD have no symptoms until their kidneys are about to fail. The only way to know if you have kidney disease is to get tested. The sooner kidney disease is found, the sooner you can take steps to begin treatment and keep your kidneys healthier longer.

   **How do you check for CKD?** A blood test and a urine test are used to find kidney disease. Because you are at risk, you should get these tests regularly:

   - **GFR**—A blood test measures how much blood your kidneys filter each minute, which is known as your glomerular filtration rate (GFR)
   - **Urine Protein**—A urine test checks for protein in your urine. Protein can leak into the urine when the filters in the kidneys are damaged

3. Explain the progressive nature of CKD and the basics of treatment.

   **Can CKD get better?** CKD usually will not get better and is likely to get worse. Treatment helps slow kidney disease and keep the kidneys healthier longer.

   **How is CKD treated?** Treatment includes keeping blood pressure below 130/80 mmHg, diet counseling to reduce salt and excessive protein, and controlling blood sugar if you have diabetes.

   **Are there medications for CKD?** People with CKD often take medicines to lower blood pressure, control blood sugar, and lower blood cholesterol. Two types of blood pressure medications—ACE inhibitors and ARBs—can slow CKD and delay kidney failure, even in people who do not have high blood pressure.

4. Begin to speak about dialysis and transplantation.

   **Will I ever need dialysis?** With proper management, you may never need dialysis or, at least, not for a very long time. But if your kidneys fail, we will need to choose a treatment that can replace the job of your kidneys. There are two types of dialysis—one is done at home daily and the other is done in a dialysis center three times a week.

   **Is kidney transplant an option?** You may be able to receive a kidney transplant. The donated kidney can come from an anonymous donor who has recently died or from a living person. A kidney transplant is a treatment—not a cure.

For a more detailed version of these talking points or to order this tear-off pad, visit www.niddk.nih.gov or call 1-866-4 KIDNEY (1-866-454-3693).

The National Kidney Disease Education Program is an initiative of the National Institutes of Health.

NIH Publication No. 10-6220 • Revised January 2010
Explaining CKD to Recently Diagnosed Patients

- Brochure for recently diagnosed CKD patients
- Covers the basics:
  - Kidney anatomy
  - Causes of CKD
  - Medicines
  - Monitoring
  - Diet changes
  - Test results (and wallet card)
- 6th grade reading level
Questions to Ask if You Have Kidney Disease

Many people are afraid to learn that they have kidney disease because they think that all kidney disease leads to dialysis. However, most people with kidney disease will not need dialysis. If you have kidney disease, do not be afraid to ask your health care provider important questions about your health. The answers may help you prepare for treatment if you need it or ease your worries if you don't.

During your next health care visit, talk to your provider about your test results and how to manage your kidney disease. Below is a list of questions you may want to ask. Add any questions you think are missing, and mark those that are most important to you. Bring your list with you.

About your tests

- Did you check my kidney health with blood and urine tests?
- What was my GFR? What does that mean?
- Has my GFR changed since last time?
- What is my urine albumin level? What does that mean?
- Has my urine albumin changed since the last time it was checked?
- Is my kidney disease getting worse?
- Is my blood pressure where it needs to be?
- Will I need dialysis?
- When should I talk to my family about dialysis or a kidney transplant?

About treatment and self-care

- What can I do to keep my disease from getting worse?
- Do any of my medicines or doses need to be changed?
- Does what I eat need to change? Do my foods have the right amount of protein, salt (sodium).
What can I do?: Interventions for reducing urine albumin

- Control blood pressure
- Reduce sodium intake
- Achieve good control of diabetes early; may help prevent albuminuria
- Reduce weight (if obese)
- Reduce protein intake, if excessive
- Achieve tobacco cessation
## Lifestyle modifications help lower blood pressure in the general population

<table>
<thead>
<tr>
<th>Modification</th>
<th>Recommendation</th>
<th>Lowers Systolic Blood Pressure by (Range)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weight reduction</strong></td>
<td>• Maintain normal body weight</td>
<td>5–20 mm Hg / ↓ 10 kg</td>
</tr>
<tr>
<td></td>
<td>• Body mass index (BMI) 18.5–24.9 kg/m²</td>
<td>~ 4 mm Hg / ↓ 5 kg</td>
</tr>
<tr>
<td><strong>DASH</strong></td>
<td>• Increase potassium (fruits and vegetables) and calcium (dairy)</td>
<td>8–14 mm Hg</td>
</tr>
<tr>
<td></td>
<td>• DASH may be too high in protein, potassium and phosphorus for CKD</td>
<td></td>
</tr>
<tr>
<td><strong>Physical activity</strong></td>
<td>• At least 30 minutes most days</td>
<td>4–9 mm Hg</td>
</tr>
<tr>
<td><strong>Moderate alcohol</strong></td>
<td>• Women: ≤ 1 drink per day</td>
<td>2–4 mm Hg</td>
</tr>
<tr>
<td>consumption</td>
<td>• Men: ≤ 2 drinks per day</td>
<td></td>
</tr>
<tr>
<td><strong>Sodium restriction</strong></td>
<td>• 2,300 mg per day</td>
<td>2–8 mm Hg</td>
</tr>
<tr>
<td></td>
<td>• 1,500 mg per day for hypertension, diabetes, and CKD</td>
<td></td>
</tr>
</tbody>
</table>

Reference: Chobanian et al., 2003; Neter et al., 2003; Dietary Guidelines, 2010
Intentional weight loss is associated with decreased proteinuria

- Literature review showed weight loss was associated with decreased proteinuria.
  - Dietary restrictions
  - Exercise
  - Anti-obesity medications
  - Bariatric surgery
- No data to evaluate effect on CKD progression.

Reference: Afshinnia et al., 2010
Reducing sodium intake may reduce urine albumin levels

- In the Netherlands, higher sodium intake was associated with increased urine albumin excretion.
- In a 2006 literature review, increasing salt consumption was associated with worsening urine albumin.

Reference: Verhave et al., 2004; Jones-Jones-Burton et al., 2006
The DASH diet may help prevent CKD, but it is not generally used with CKD

- The lower the sodium intake, the lower the blood pressure.

- Combining the DASH pattern and lowest sodium intake (1,150 mg) provided the greatest reduction in blood pressure.

- The DASH pattern may be too high in protein, potassium, and phosphorus for CKD.

Common Barriers in Diet Counselling for Kidney Disease

- Recommendations too complicated
- Recommendations appear to contradict those for diabetes or CV risk reduction
- May assume that meals for patient will be prepared separately from remainder of family
- Emphasize expensive and difficult to access ingredients
An educational handout you can use to get started with diet changes

Eating Right for Kidney Health

THE FIRST STEPS TO EATING RIGHT

STEP 1 Choose and prepare foods with less salt and sodium.
- Buy fresh food more often. Sodium (a part of salt) is added to many packaged foods.
- Use spices, herbs, and sodium-free seasonings in place of salt.
- Check the Nutrition Facts label on food packages for sodium. A Daily Value of 20% or more means the food is high in sodium.
- Try lower-sodium versions of frozen dinners and other convenience foods.
- Rinse canned vegetables, beans, meats, and fish with water before eating.

Look for Food Labels that Say
- Sodium free
- Salt free
- Very low sodium
- Low sodium
- Reduced or less sodium
- Light in sodium
- No salt added
- Unsalted
- Lightly salted

STEP 2 Eat the right amount and right types of protein.
- Eat small portions of protein foods.
- Protein is found in foods from plants and animals. Talk to your dietitian about how to choose the right combination for you.

<table>
<thead>
<tr>
<th>Animal-protein Foods</th>
<th>Plant-protein Foods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chicken</td>
<td>Beans</td>
</tr>
<tr>
<td>Fish</td>
<td>Nuts</td>
</tr>
<tr>
<td>Meat</td>
<td>Grains</td>
</tr>
<tr>
<td>Eggs</td>
<td></td>
</tr>
<tr>
<td>Dairy</td>
<td></td>
</tr>
</tbody>
</table>

STEP 3 Choose foods that are healthy for your heart.
- Grill, broil, bake, roast, or stir-fry foods, instead of deep frying.
- Cook with nonstick cooking spray or a small amount of olive oil instead of butter.
- Trim fat from meat and remove skin from poultry before eating.

Heart-healthy Foods
- Lean cuts of meat, like loin or round
- Poultry without the skin
- Fish
- Beans
- Vegetables
- Fruits
- Low-fat milk, yogurt, cheese

THE NEXT STEPS TO EATING RIGHT

As your kidneys slow down, you may need to eat foods that are lower in phosphorus and potassium. Your healthcare provider will use lab tests to watch your levels.

STEP 4 Choose foods with less phosphorus.
Why? To help protect your bones and blood vessels.
- Many packaged foods have added phosphorus. Look for phosphorus—or for words with "PHOS"—on ingredient labels.
- Deli meats and some fresh meat and poultry can have added phosphorus. Ask the butcher to help you pick fresh meats without added phosphorus.

<table>
<thead>
<tr>
<th>Foods Lower in Phosphorus</th>
<th>Foods Higher in Phosphorus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh fruits and vegetables</td>
<td>Meat, poultry, fish</td>
</tr>
<tr>
<td>Breads, pasta, rice</td>
<td>Bran cereals and oatmeal</td>
</tr>
<tr>
<td>Rice milk (not enriched)</td>
<td>Dairy foods</td>
</tr>
<tr>
<td>Corn and rice cereals</td>
<td>Beans, lentils, nuts</td>
</tr>
<tr>
<td>Light-colored sodas/pop</td>
<td>Cooks</td>
</tr>
</tbody>
</table>

STEP 5 Choose foods that have the right amount of potassium.
Why? To help protect your nerves and muscles work the right way.
- Salt substitutes can be very high in potassium. Read the ingredient label. Check with your provider about using salt substitutes.
- Drain canned fruits and vegetables before eating.

<table>
<thead>
<tr>
<th>Foods Lower in Potassium</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Apples, peaches</td>
<td>Oranges, bananas</td>
</tr>
<tr>
<td>Carrots, green beans</td>
<td>Potatoes, tomatoes</td>
</tr>
<tr>
<td>White bread and pasta</td>
<td>Brown and wild rice</td>
</tr>
<tr>
<td>White rice</td>
<td>Bran cereals</td>
</tr>
<tr>
<td>Rice milk (not enriched)</td>
<td>Dairy foods</td>
</tr>
<tr>
<td>Cooked rice and wheat cereals, grits</td>
<td>Whole wheat bread and pasta</td>
</tr>
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</table>

The Transition from Chronic Kidney Disease to Kidney Failure

Dialysis or transplant are treatments, not cures.
Most People are Not Prepared for Kidney Failure

- Discuss treatment choices early with progressive kidney disease.
- “Early” depends on the eGFR and the rate of decline.
- People who are not prepared and need treatment do not have much choice. They may start hemodialysis using a temporary vascular access (catheter).
- In 2011, more than 80% of people started hemodialysis with a temporary vascular access.
Nephrologist May not be Best at Explaining Kidney Disease

Nurse Practitioner Care Improves Renal Outcome in Patients with CKD


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OMG! Talk to patients about dialysis!?!?!?

Explain progressive nature of kidney disease

Address eventual need for RRT

Begin discussion of RRT

Decide on modality

Refer to surgeon

Place vascular access

Start dialysis

Preparing for RRT

Start, Nov 1

11/1/22

4/15/23

1/1/23

4/1/23

5/15/23

11/15/23

It is OK to discuss treatment options early

- Discuss options early with patients with progressive CKD, give them time to prepare. It will never be “OK” to have kidney failure.
- Patients diagnosed with kidney “failure” or loss of kidney function may experience grief, fear, or depression.
- By discussing early you are giving the patient time to process and understand.
- Include family members if possible. They will be part of the patient's treatment.
- The “diet” will change; and changes depend on the chosen option.
- Consider using a skilled translator. English may not be the best option to explain a disease which is complicated and scary.
An informed patient is better prepared

- Consistent messages are better.
- Providers should be teaching the same thing.
- Education may help patients to be successful in their self-management efforts.

- However, many materials which are available assume a level of health literacy which is above that of people at greatest risk of progressive disease.
Preparing for Kidney Failure Treatment

As your kidney disease progresses, your health care provider may talk to you about preparing for kidney failure. Talking with your provider about your treatment options ahead of time helps you take charge of your care. Treatment will help you feel better and live longer. The more you know about the types of treatment, the better prepared you may be to make a choice. It’s also important to give yourself time to get used to the big changes that will be happening in your life.

Learn about steps you can take ahead of time to have better success with dialysis or a kidney transplant.

Preparing for Hemodialysis: Vascular Access

If hemodialysis is the best option for your treatment, one important step before starting treatment is creating a vascular access. Vascular access is the term for how blood can be removed from your body and returned at the high rate that dialysis requires. The goal is to allow high blood flow during dialysis treatment so that the largest amount of blood can be passed through the dialyzer (artificial kidney). Your own veins are not large enough to be used for dialysis. The best kind of long-term vascular access for hemodialysis is an arteriovenous (AV) fistula. An AV fistula is created when a surgeon connects an artery to a vein, usually in the arm. The increased blood flow through the AV fistula causes the vein to grow large and strong allowing the needles used for dialysis to be easily placed in the blood vessels. The AV fistula is considered the best option because it:

- provides adequate blood flow for dialysis,
- lasts longer, and
- has a lower complication rate than the other types.

If an AV fistula cannot be created, the two other kinds of vascular access that may be used are an AV graft or venous catheter. An AV graft is a connection from an artery to a vein using a synthetic tube. An AV graft can be used soon after it is inserted. However, an AV graft is more likely than a fistula to have problems with infection and clotting, and the repeated formation of blood clots can block the flow of blood through the graft.

Vascular access should be in place weeks or months before you start dialysis. Learn more about vascular access and fistulas.
Kidney disease education is a Medicare benefit

- eGFR < 30
- Medicare B
  - Individual pays 20%, deductible applies
- Qualified providers: physicians, physician assistants, nurse practitioners, and clinical nurse specialists
- Up to six sessions covered
Equipping educators with lesson plans using sources which do not require high health literacy and are in the public domain

- **Kidney Disease Education Lesson Builder** helps educators create and deliver educational sessions for patients with CKD on managing the disease and preparing for RRT
- Supports CMS KDE benefit

Four options for treating kidney failure

- Renal replacement therapy (RRT)
  1. Hemodialysis
     • In-center or home, three times a week or more frequently
  2. Peritoneal dialysis
     • Daily, at home
  3. Kidney transplantation
- No RRT
  4. Conservative management
     • Active medical management
Conservative management is active medical management with no RRT.

- No non-dialysis way can replace loss of clearance of uremic toxins.
- Complications can be treated.
- Continue medications.
- Provide comfort and palliative care.
- Encourage patient to inform family.
- This may be a better choice for some patients where RRT has not been shown to increase quality or quantity of life.
  - Feels treatment will not improve their health.
  - Feels they have done what they wanted to do in life.
  - Has family and friends who are in support of this decision.
Summary: treatment options

- Discuss the options early to allow time for the patient to adjust and make a decision.
- The diet will change with dialysis, more protein is needed to replace the losses. Hemodialysis has the most restrictive diet.
- Transplant requires daily immunosuppressant medication.
- All the options still require medications.
- Shared Decision Making Materials available.
Shared and Informed Decision-Making (SDM) to Improve Renal Replacement Therapy Preparation

• “Decisions that are shared by doctor and patient and informed by best evidence, not only about risks and benefits, but also about patient-specific characteristics and values”¹
  – Physician competencies and patient competencies
  – Family also important in decisions about renal replacement therapy

• Goals of SDM in late stage progressive CKD
  – Engage in self-management to slow CKD progression
  – Engage in preparation for renal replacement therapy

Shared Decision Making
Evidence on differences between treatment choices

Movilización: posibilidad

El tratamiento que yo escoja, ¿afectará qué tan bien puedo movilizarme?

Podría afectar.

El trasplante puede ser más o menos igual o mejor que la diálisis peritoneal.
Clasificación de los estudios ★★★★

El trasplante puede ser más o menos igual o mejor que la hemodiálisis realizada en un centro.
Clasificación de los estudios ★★★★

La diálisis peritoneal puede ser más o menos igual que la hemodiálisis realizada en un centro.
Clasificación de los estudios ★★★★

En un estudio, los pacientes en cada tratamiento pudieron movilizarse igual de bien.

CUÁN BIEN SE PUEDEN MOVILIZAR LAS PERSONAS

El trasplante puede ser más o menos igual o mejor que la hemodiálisis realizada en un centro.
Los estudios muestran que algunas personas en hemodiálisis se movilizan igual de bien que las personas en trasplante. Otras personas en hemodiálisis se movilizan mucho peor.
Aqui está lo que mostró un estudio.

CUÁN BIEN SE PUEDEN MOVILIZAR LAS PERSONAS

La diálisis peritoneal puede ser más o menos igual que la hemodiálisis realizada en un centro.
Los estudios muestran que muchas personas en cada tratamiento se siente más capacitadas para movilizarse a medida que pasa el tiempo.
Aqui está lo que mostró un estudio.
Will my treatment choice affect how free I feel to do things?

It could.

**Transplant** may be better than **peritoneal dialysis**.

*Studies’ Rating ★★★★★

**Transplant** may be better than **in-center hemodialysis**.

*Studies’ Rating ★★★★★

**In-center hemodialysis** may be about the same or better than **peritoneal dialysis**.

*Studies’ Rating ★★★★★
PREPARED Video And Books (English and Spanish)

Website in transition= check back later
Facilitating collaborative management to improve patient outcomes

- For use by referring primary care providers to share key patient data
- Enter patient information – save, email, or print

CKD Diet Counseling Referral Form

Nephrology Referral Form
Questions or Comments

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