Understanding Chronic Kidney Disease (CKD)

What is CKD?
Chronic kidney disease (CKD) means that your kidneys aren’t working as well as they should, potentially causing other health problems. CKD may get worse over time, but you can take steps to keep your kidneys as healthy as possible.

What do healthy kidneys do?
- **They filter wastes from your blood.** Your kidneys remove salts, excess water, and other wastes by making urine (see the picture below).
- **They adjust chemicals.** Your kidneys adjust the levels of important chemicals like sodium, potassium, calcium, and phosphorus in your blood.
- **They make hormones.** These hormones help your body maintain healthy blood pressure, maintain bone health, and produce red blood cells.

What causes CKD?
CKD is most often caused by:
- **Diabetes.** High blood glucose (blood sugar) can damage many body organs, especially the kidneys. Anyone with diabetes has a higher risk for CKD.
- **Hypertension (high blood pressure).** High blood pressure can damage the delicate blood vessels in your kidney’s filtering units.
- **Extended use of pain relievers.** Those who take common over-the-counter pain relievers, such as Advil, Motrin, Aleve, and other “NSAIDs,” for headaches, arthritis, and other painful conditions have a higher risk of developing CKD.

Other causes include immune system diseases, chronic diseases that inflame the kidneys, inherited conditions, and problems that interfere with the flow of urine.

Key Facts about CKD
- **You likely feel fine.** You might not have symptoms until your kidneys are about to fail.
- **You need to get tested.** Blood and urine tests are the only way to know if you have CKD. Do them every year.
- **It won’t go away.** Without treatment, CKD gets worse over time. It can lead to kidney failure, which can only be treated with dialysis or transplant.
- **You’re in charge.** See page 2 for steps to take to keep your kidneys healthier longer and stop CKD from getting worse.

Kidneys are fist-sized organs in the middle of your back (below your ribs) made up of about a million filtering units (nephrons). Each nephron contains a glomerulus and a tubule, which together filter the blood over 50 times a day. How well this is working can be measured with a blood test and a urine test (see page 2).
How will my doctor test my kidney function?

Your doctor will determine how severe your disease is and how best to treat it based on your symptoms and regular lab work, which includes these 2 tests:

1. **Estimated glomerular filtration rate (or eGFR)** — a blood test that measures how quickly your kidneys filter your blood. Your eGFR tells you and your doctor the CKD stage you are in (see page 3). Knowing the stage will help you and your doctor focus your treatment plan to try and keep the disease from progressing.

2. **Microalbumin** — a urine test that detects the amount of blood protein called albumin in your urine. Since healthy kidneys filter waste but keep proteins like albumin inside your body, finding protein in your urine means that your kidneys are not functioning as they should. The normal rate for microalbumin is less than 30. If your number is higher or is increasing from the last time you were tested, your doctor may need to change your treatment plan.

Depending on the results of these 2 tests, your doctor may need to monitor your eGFR and microalbumin several times each year. Since you will likely not have any symptoms in the early stages of CKD, it is very important that you keep your scheduled follow-up appointments. These tests might be the only way you and your doctor know how to manage your CKD.

How can I help prevent my kidneys from failing?

When your kidneys fail, your only options are dialysis or kidney transplant, both of which come with many challenges. You can prevent kidney failure by:

- **Living a healthy lifestyle**: Eat less, keep a healthy weight, exercise more, stop smoking. Use the Weigh to Health booklet to get started.

- **Changing your diet**: Limit the amount of protein you eat; don’t use salt. Consider making an appointment with a registered dietitian nutritionist (RDN) to help you plan a kidney-healthy diet.

- **Managing other medical conditions**: Carefully follow your treatment plan for diabetes or high blood pressure.

- **Taking medications correctly**: Don’t let yourself run out or take medications more or less often than prescribed.

- **Avoiding non-steroidal anti-inflammatories (NSAIDs)**: Medications like ibuprofen can make CKD worse.

Use the checklist on page 4 to record your plans for helping your kidneys stay as healthy as possible.

My Current Numbers

eGFR: ___________________________

Microalbumin: ___________________________

CKD Stage: ___________________________

My Current CKD Medicines

________________________________________

________________________________________

My Scheduled Follow-up Appointments

<table>
<thead>
<tr>
<th>Doctor</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Doctor</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Weigh to Health

This helpful booklet, published by Intermountain, provides information, tips, and tricks for making lifestyle changes that can help you prevent kidney failure and just feel better overall.

Ask your doctor for your copy of The Weigh to Health.
What are the stages of CKD?

Understanding these stages will help you manage your condition and prevent it from getting worse. You and your doctor can decide together what to do to manage your CKD. Use the checklist below to record your treatment focus for the stage you are in. For example, if your tests show that you are in stage 3B, check the items from stages 1, 2, and 3A as well as stage 3B that you need to focus on. Page 4 provides additional space for you to write down your goals and plans for keeping your kidneys as healthy as possible.

### eGFR and CKD Stages

The eGFR measures how fast your kidneys filter your blood and tells your doctor your CKD stage.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>G1 (Stage 1)</th>
<th>G2 (Stage 2)</th>
<th>G3A (Stage 3A)</th>
<th>G3B (Stage 3A)</th>
<th>G4 (Stage 4)</th>
<th>G5 (Stage 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Normal or high</td>
<td>Normal or high</td>
<td>Mildly decreased</td>
<td>Mildly to moderately decreased</td>
<td>Moderately to severely decreased</td>
<td>Severely decreased</td>
<td>Kidney failure</td>
</tr>
<tr>
<td></td>
<td>&gt; 90</td>
<td>60–89</td>
<td>45–59</td>
<td>30–44</td>
<td>15–29</td>
<td>&lt;15</td>
<td></td>
</tr>
</tbody>
</table>

### Stages & symptoms

<table>
<thead>
<tr>
<th>Stages 1, 2, &amp; 3A:</th>
<th>Mild to moderate loss of normal kidney function</th>
</tr>
</thead>
<tbody>
<tr>
<td>You probably have no symptoms, but you may have:</td>
<td></td>
</tr>
<tr>
<td>• Protein in your urine (a sign your kidneys are not working properly)</td>
<td></td>
</tr>
<tr>
<td>• Diabetes or high blood pressure that can lead to kidney failure if not managed</td>
<td></td>
</tr>
</tbody>
</table>

### Your treatment plan focus

To prevent serious kidney disease:

- Manage your blood sugar, blood pressure, and cholesterol.
- Get recommended vaccinations.
- Avoid medications that stress your kidneys (especially ibuprofen).
- ONLY use your “dominant” arm for blood tests and IVs to preserve key veins should you need dialysis in the future.
- Quit smoking and limit alcohol.
- Exercise 150 minutes per week.
- Stay at a healthy weight.
- Reduce salt and meat in your diet; ask a dietitian how to eat for kidney health.

### Stage 3B:

Moderate to severe loss of kidney function

You may now ALSO have symptoms of:

- Anemia
- Bone disease

### Everything from Stages 1–3A PLUS:

- Visit a kidney specialist (nephrologist) and a dietitian.
- See your doctor more often.
- Limit potassium and phosphorus.
- Take an iron supplement to treat anemia, if needed.
- Take calcium and vitamin D for bone disease, if needed.

### Stage 4:

Severe loss of kidney function

Your symptoms may now ALSO include:

- Swelling (edema)
- Changes in energy, sleep
- Confusion or agitation

### Everything from Stages 1–3B PLUS:

- Regularly see a kidney doctor (nephrologist).
- Have even more frequent lab tests.
- Watch for kidney failure warning signs: swelling, confusion, loss of energy/sleeping more (pain is never a symptom).
- Learn about and make choices related to dialysis, transplant (getting a referral), and hospice options.

### Stage 5:

Kidney failure

### Everything from Stages 1–4 PLUS:

- Make choices related to dialysis, kidney transplant, or home care/hospice.
To prevent kidney failure, I need to (check the items below that apply to YOU):

- [ ] Get blood and urine tests.  
  My most recent lab work was done on: __________  My next lab work date is: __________

- [ ] Get a flu shot every year and any other vaccines my doctor recommends.  
  Other vaccines I need to get are: ____________________________________________________________________________

- [ ] Take these CKD medicines as prescribed: _______________________________________________________________________________

- [ ] ONLY take acetaminophen for pain, or ask my doctor about alternatives.

- [ ] Monitor my blood pressure every day. My blood pressure should be lower than 140/90 (or 130/80 if my microalbumin is above normal).

- [ ] Make an appointment with a registered dietitian nutritionist (RDN) and/or a nephrologist (kidney doctor).  
  My appointment dates and times are:  
  RDN Name: ___________________________  Nephrologist Name: ___________________________  
  Phone Number: ________________________  Phone Number: ________________________  
  Date/Time: ___________________________  Date/Time: ___________________________

- [ ] Lose weight. My goal weight is __________.  
  To lose weight, I plan to use The Weigh to Health booklet my doctor gave me.

- [ ] Stop smoking. I am going to:  
  – Review the Quitting Tobacco booklet my doctor gave me  
  – Call 1-800-QUIT-NOW (800-784-8669) for support to quit smoking

- [ ] Limit alcohol to no more than ___ drinks per day and ___ drinks per week.  
  I will review the fact sheet, Alcohol: Rethink Your Drink, that my doctor gave me.

- [ ] Exercise 150 minutes a week by (walking, swimming, doing aerobics, etc.).  
  My exercise plan is to: ___________________________________________________________________________________

- [ ] Learn more about CKD at: intermountainhealthcare.org

Questions for my doctor

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

Intermountain Healthcare complies with applicable federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability, or sex. Se proveen servicios de interpretación gratis. Hable con un empleado para solicitarlo. Weíre sẽ根據您的需求提供免費的口譯服務。請找尋工作人員協助

© 2015-2016 Intermountain Healthcare. All rights reserved. The content presented here is for your information only. It is not a substitute for professional medical advice, and it should not be used to diagnose or treat a health problem or disease. Please consult your healthcare provider if you have any questions or concerns. More health information is available at intermountainhealthcare.org. Patient and Provider Publications FS450-09/16 (Last reviewed-09/16) Also available in Spanish.