Understanding Chronic Kidney Disease
Stage 1, 2 or 3
(Early Stage Kidney Disease)
Chronic Kidney Disease (CKD)
A Basic Guide to Early-Stage CKD (Stage 1, 2 or 3)

Chronic kidney disease
You have been told that you have chronic kidney disease (CKD) and that it is in the early stages. What does that mean? How will it affect your health and life? Here is some information to help answer your questions.

What are the kidneys and what do they do?
Your kidneys are two fist-sized organs shaped like kidney beans. They are located just below the ribs on either side of your spine. Your kidneys are mainly a filtering system, but have other important jobs as well. Your kidneys:
• Clean the blood of wastes that come from food and your normal muscle activity
• Take away extra fluid (water) and keep the chemicals in your blood balanced (some of these chemicals are sodium, potassium, phosphorus and calcium)
• Take away the drugs and toxins in your body
• Help control blood pressure, make red blood cells, and make vitamin D for healthy bones

What is chronic kidney disease?
Chronic kidney disease means the kidneys have been damaged by diabetes, high blood pressure or another disease. Damaged kidneys are not able to work as well as they should. Kidney damage cannot be fixed, but you can take steps to keep it from getting worse. Usually there are no symptoms, but if kidney disease gets worse, wastes building up in your blood can make you feel sick and cause many other serious problems. These problems can lead to kidney failure, which means you would need dialysis or a kidney transplant to stay alive.

What causes kidney disease?
• High blood pressure and diabetes are the most common causes of kidney failure. Both high blood pressure and high blood sugar can damage the small filters in the kidneys (glomeruli) that get rid of waste and extra fluid. Controlling high blood pressure and high blood sugar can slow or prevent kidney disease
• Other conditions that can cause kidney disease are:
  – Glomerulonephritis, a group of diseases that cause inflammation and damage
  – Inherited disease, such as polycystic kidney disease, that causes large cysts in the kidney
  – Lupus and other diseases of the immune system
  – Diseases that cause blockage in the kidney, such as kidney stones or enlarged prostate disease in men
  – Repeated bladder and kidney infections
  – Kidney cancer
  – Normal aging

How does my provider know I have CKD?
Most likely, you were surprised to hear you have kidney disease. CKD often has no symptoms and many people are not aware they have it until their kidneys are about to fail. The only way to know is to test for CKD with blood and urine tests. The two tests are:
• A simple blood test to measure your glomerular filtration rate (GFR): This test shows how well your kidneys are filtering wastes from your blood. The lower the GFR number, the more damage your kidneys have.
• A simple test for protein in the urine: Protein in the urine is not normal. When your kidneys are damaged protein leaks into the urine.

These two tests also are used to keep track of your CKD and make sure your treatment is working. There are other tests that may be done to detect kidney damage or to see how badly the kidneys are damaged. Your health care provider will discuss these tests with you if they are needed.
How will my provider treat my CKD?
Talk with your provider about why you have CKD. Your treatment will be based on the reasons why you developed CKD.

There are five stages of CKD. Your provider figures out your stage based on the results of your GFR lab test and on the amount of kidney damage you have. Your treatment will be based on what stage of CKD you are in and on any other health problems you might have.

### Stages of chronic kidney disease

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>GFR result</th>
<th>What you can do now</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>There is kidney damage, but the kidney is still working normally</td>
<td>90 or above</td>
<td>Take your medicines. Keep your blood pressure and blood sugar under control.</td>
</tr>
<tr>
<td>2</td>
<td>Kidney damage with a mild decrease in kidney function</td>
<td>60 to 89</td>
<td>Take your medicines. Keep your blood pressure and blood sugar under control.</td>
</tr>
<tr>
<td>3</td>
<td>Kidney damage with a moderate decrease in kidney function</td>
<td>30 to 59</td>
<td>Take your medicines. Keep your blood pressure and blood sugar under control. Talk with your doctor about your diet and treating complications related to kidney disease.</td>
</tr>
<tr>
<td>4</td>
<td>Kidney damage with a severe decrease in kidney function</td>
<td>15 to 29</td>
<td>Take your medicines. Keep your blood pressure and blood sugar under control. Learn about the treatment options for kidney disease. Plan for dialysis access placement.</td>
</tr>
<tr>
<td>5</td>
<td>Kidney failure – you will need dialysis or a kidney transplant</td>
<td>Less than 15</td>
<td>Take your medicines. Keep your blood pressure and blood sugar under control. Begin treatment according to your doctor’s orders.</td>
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</tbody>
</table>

What will be the treatment for my CKD?
Your treatment might include:

- Controlling your other health problems: If you have diabetes or high blood pressure, you will need to make sure these problems are well controlled, so you can prevent more damage to your kidneys.
  - If you have diabetes: monitor your blood sugar and keep it controlled by following your diet and taking medicines exactly as ordered by your provider.
  - If you have high blood pressure: Check your blood pressure as often as your health care provider recommends and take medicines for high blood pressure exactly as prescribed. Keep your blood pressure low enough to prevent kidney damage (usually below 130/80).
- Keeping your heart healthy: People that have CKD also have a higher chance of heart problems. Controlling your diabetes and blood pressure are very important to preventing heart disease. Your provider also will monitor your cholesterol and make sure you don’t develop anemia (low red blood cell count), which can also damage your heart.
- If you are a smoker, you will be asked to quit because smoking makes heart and kidney disease worse.
- Preventing complications of CKD: Kidney disease also may cause problems, such as anemia, bone disease and malnutrition. Your provider will monitor these problems.
- Practicing healthy behaviors and avoiding things that can damage the kidney.
- Seeing your health care provider regularly, monitoring your kidney function.

Continued
What medicines are used for CKD?

People with CKD often are on medicines to lower their blood pressure, control blood sugar and lower cholesterol. There are two types of blood pressure medicine that can slow down CKD and help keep the kidneys from failing. These medicines – ACE inhibitors and ARBs – can be used even if you don’t have high blood pressure.

What else do I need to know about my medicines?

There are some medicines that you should not take because they are not safe for people with CKD. Other medicines need to be taken in smaller doses if you have CKD. In order to make sure you are taking the right medicines and amounts tell your provider about ALL of your medicines (even the ones you buy without a prescription like vitamins, supplements, and pain relievers).

Can I keep my kidney disease from getting worse?

Most likely you can. You will make a treatment plan with your health care provider and your goal is to slow your CKD and keep it from getting worse. Sometimes, your provider will consult with a kidney specialist (nephrologist) to help develop a treatment plan. Your specific treatment plan and how you do will depend on:

• Your stage of CKD when you were diagnosed. The earlier you are diagnosed the better your chance of slowing or stopping its progression.
• How carefully you follow your treatment plan. You are the most important person on your health care team. Learn all you can and make sure to follow the steps of your plan as well as you can. Ask your provider about your test results and keep track of your progress.
• The cause of your kidney disease. Some types of CKD are more difficult to control.

What happens if my kidney disease gets worse?

If your kidney disease gets worse and your GFR falls below 30 (stage 4 CKD), you will need to begin talking with your provider about the treatments for kidney failure. You will need to start seeing a nephrologist (kidney disease specialist). The kidney health care provider will help manage your disease and make the best treatment choices.

If your GFR falls below 15, you will need to start treatment for kidney failure. Two treatments are available – kidney dialysis and kidney transplant. Your health care provider will help you decide which option is best for you.
Newly Diagnosed with Kidney Disease?
Here’s How Diet Can Help

This guide has been prepared for your use by registered dietitians. If you have questions or concerns, please call the nearest Aurora facility to contact a dietitian.

**Protein**
Too much protein may hurt your kidneys. To help keep your kidneys healthy eat smaller servings of foods that are high in protein (such as meat, fish, beans, eggs, and soy products). Eat no more than 2 to 3 ounces of protein per meal, up to three meals a day. On food labels, keep meals to 14 to 21 grams of protein.

Portion examples for 14 to 21 grams of protein include:
- A deck of cards for meats, poultry
- 2 to 3 eggs
- A checkbook cover for fish fillets
- 2 to 3 dominoes worth of tofu or cheese
- 1/2 cup cottage cheese

**Blood sugar control**
If you have diabetes, keeping your blood sugar in good control is very important. High blood sugar damages the small filters in the kidneys (glomeruli) that get rid of waste and extra fluid.
- Follow your diet for diabetes and keep your blood sugar as close to normal as you can.
- Check your blood sugar as often as your health care provider recommends.
- The American Diabetes Association recommends keeping your blood sugar at 70 to 130 before meals, and less than 180 two hours after meals.
  - Talk with your health care provider about your blood sugar goals.
- Take medicines for diabetes exactly as prescribed.

**Blood pressure control**
If you have high blood pressure, keeping your blood pressure in control is very important for helping to prevent more kidney damage. The stress of high blood pressure over time causes damage by injuring the working units (called nephrons) of the kidneys. Controlling high blood pressure can slow or prevent kidney disease.
- Blood pressure less than 140 over 90 is usually recommended to prevent more kidney damage.
  - Talk with your health care provider about what your blood pressure goal should be.
- Take medicines for blood pressure exactly as prescribed.
- One of the main ways to control your blood pressure is to limit sodium in your diet.

**What is sodium?**
- Sodium is a mineral naturally found in many foods, such as milk, meat and some vegetables.
- One of the main sources of sodium in our diet is sodium chloride or table salt.
- Another main source of sodium is found in processed foods, such as canned and packaged products (some examples of ingredients are sodium nitrate, sodium benzoate, monosodium glutamate or MSG).
- The amount of sodium in a product is listed on the Nutrition Facts label as “mg” (milligrams) per serving.
- One teaspoon of table salt equals 2,300mg of sodium.

**How much sodium may I have?**
- In general, sodium intake may be limited to 2,000mg of sodium a day. The average adult eats more than 4,000mg per day.
Medications: Sodium alert
• Talk to your health care provider or pharmacist about medications that contain sodium, including some antacids and alkalizers, headache remedies, laxatives, sedatives and others.
• When taking medicine for high blood pressure or water retention, remember that eating less sodium can help medicine work better.

Salt substitutes
Many salt substitutes contain potassium. For some people, getting too much potassium can be harmful. Check with your health care provider if you want to use a salt substitute.

How can I cut down my sodium intake?
• Stop using or cut down on salt while you are cooking and at the table.
• Choose frozen meals that have 600mg of sodium or less per serving.
• Avoid fast food and don’t eat at restaurants more than once a week.
• Flavor foods with “salt-free” seasonings, such as herbs, spices, lemon or lime juice, onion, garlic or celery powder, or vinegar.
• Avoid foods in brine, such as sauerkraut, pickles, olives, herring and pickled vegetables.

Breads, cereals, rice and pasta
• Cook cereals, rice and pasta without adding salt.
• Salt may be omitted or decreased in recipes for most baked goods.
• Use half (or less) of the seasoning packet that comes with the rice, stuffing or potato dishes.
• Avoid box mixes of quick breads and biscuits.

Vegetables and fruits
• Season with herbs, spices or lemon juice instead of salt, bacon or ham.
• Choose low-sodium tomato products and pasta sauces (note: tomato paste is very low in sodium).
• Choose fresh or frozen vegetables more often than canned, or try low-sodium canned vegetables.

Milk, yogurt and cheese
• Limit cheese, especially cottage cheese, processed cheese, cheese spreads and cheese sauces.
• Natural cheeses are lower in sodium than processed cheese.
• Choose cheeses with less than 140mg of sodium per serving.
• Look for reduced-sodium cheese and cottage cheese.
• Avoid putting cheese sauce on foods.

Meats, poultry, fish, dry beans and peas, eggs and nuts
• Choose fresh meats, fish and poultry when possible, instead of processed.
• Read labels carefully on frozen meat, fish and poultry products. Choose those with less than 300mg of sodium.
• Prepare extra fresh meats and use leftovers for sandwiches instead of buying processed lunch meats.
• Use herbs and spices instead of salt for seasoning.
• Avoid processed meats, such as smoked, cured, salted or canned meats, fish or poultry (hot dogs, ham, bacon, sausage, canned chicken and tuna).
• Choose unsalted nuts.
• Avoid putting gravy or sauces on meats.

Fats, snacks, sweets, condiments and beverages
• Use garlic, celery or onion powder instead of flavored salt.
• Avoid salad dressings with more than 250mg sodium per serving.
• Choose low-sodium soups, broth or soup bases.
• Avoid salted snacks, chips and popcorn.
• Avoid meat tenderizers, marinades and sauces (soy, teriyaki, steak, Worcestershire, barbecue, etc.) with more than 140mg of sodium per serving.
• Avoid sports drinks.
How to read a label

1. Check the serving size. Ask, “How much can I have for the nutrient amounts listed?”
2. Sodium: Do not eat more than 2000mg (milligrams) a day.
3. Buy frozen meals that have less than 600mg of sodium per serving.
4. Buy snacks that have less than 200mg of sodium per serving.
5. Protein: Keep meals to no more than 14 to 21g (grams) of protein.

Nutrition Facts

Serving Size 1 cup (228g)
Servings Per Container 2

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<tr>
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<tr>
<td>Cholesterol 30mg</td>
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<tr>
<td>Sodium 470mg</td>
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<tr>
<td>Total Carbohydrate 31g</td>
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<tr>
<td>Dietary Fiber 0g</td>
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<tr>
<td>Sugars 5g</td>
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<tr>
<td>Protein 5g</td>
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<table>
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<td>Protein 4 g</td>
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The information presented is intended for general information and educational purposes. It is not intended to replace the advice of your health care provider. Contact your health care provider if you believe you have a health problem.
How will I know how my CKD is doing?
It is important to keep track of your chronic kidney disease and whether it is getting worse. You should have a plan for regular visits with your health care provider, so you can keep a close watch on how your kidneys are doing. These tests and measurements will help to track your CKD:

• The blood and urine tests used to find out you had CKD are also used to track it and see if it is getting worse or better.
  – **GFR** – the GFR is a simple blood test to measure your glomerular filtration rate (GFR). This test shows how well your kidneys are filtering wastes from your blood. You can’t raise your GFR. The goal is to keep your GFR from going down so you can prevent or delay kidney failure. The lower the GFR number the more damage your kidneys have.
  – **Urine protein** – Protein in the urine is not normal. When your kidneys are damaged protein leaks into your urine. Lowering the amount of protein in your urine is good for your kidneys.

• **Blood pressure**: the most important thing you can do to slow down CKD is keep your blood pressure in good control (usually less than 140/90).

• If you are diabetic, controlling your blood sugar is important to prevent further kidney damage. You will have regular blood tests to measure your A1c (shows average blood sugar levels). The goal for your A1c will depend on your age and on any other health problems you have. For most people with diabetes and CKD the goal is to have an A1c of no more than 8. Your provider will determine what goal is best for you.

• Your health care provider may order additional tests based on your stage of CKD and any symptoms you might be having.

CKD and my lifestyle
People who have CKD in the early stages can continue to live their lives in a normal way. You should continue to work, stay active and enjoy your friends and family. You will want to practice healthy behaviors and may need to make some changes to keep your CKD from getting worse.

• Eat a healthy, balanced diet. You may be asked to make additional changes in your diet, such as cutting down on salt, protein, alcohol and caffeine.

• **Lose extra pounds.** Ask your provider what your weight should be and work toward that goal.

• **Exercise regularly.** Your goal is to get up to 30 minutes of moderate exercise most days of the week. If you do not currently exercise regularly, check with your provider before beginning an exercise program.

• If you smoke or use tobacco products, take steps to quit as soon as you can.

• **Reduce stress through relaxation and learn how to cope with kidney disease.**

• **Talk with all of your prescription medicines as directed.**

• **Talk with your health care provider about over-the-counter medicines you can take.**
  – Avoid taking large amounts of over-the-counter pain relievers. Make sure your health care provider knows about your CKD and talk with them about what you can take safely. Examples of drugs to ask about or avoid include: aspirin, ibuprofen (Advil, Motrin and others), naproxen (Aleve and others), indomethicin (Indocin), Celebrex, Toradol, as well as other prescription pain relievers offered by healthcare providers who may not know about your CKD.

• **Schedule an annual examination and follow-up visits with your provider as ordered.**

• **Learn all you can about CKD so you can take good care of yourself.**
Coping with CKD
Every year thousands of people are diagnosed with chronic kidney disease. CKD is serious and you or your family may be upset, and need help with coping and understanding kidney disease. The good news is that kidney disease can be treated and you can live a productive life.

It is normal to feel strong emotions (such as anger, guilt, denial or depression), and to feel worried or upset when you receive your diagnosis of CKD. You will need the support of your family, friends and health care team when you begin to make changes that will support your healthy lifestyle. Talking about your feelings with family, friends, your health care provider, a counselor or social worker, or in a support group may help you to feel better and find ways to cope with changes.

You can slow down the progression of kidney disease by keeping a healthy attitude and by eating right, exercising and taking your medicines as directed. Like any change in life, you’ll need to make some adjustments. Learn all you can about kidney disease and what you can do to keep it from getting worse. You’ll need to ask questions about what you don’t understand. The more you know, the better you will be at living with CKD.

Face the future with a positive attitude. Keep doing the things that make you feel good and don’t give up on your plans. Keep focused on the things that matter to you – your family, friends, job, pets, hobbies, spiritual needs. Kidney disease does not have to change the most important things in your life.

Reach out if you need help. Stay in touch with your provider and other health care team members you use, such as dietitians, nurses and social workers. Many people with kidney disease take care of themselves and live happy, active lives. You can be one of them.

Sexual concerns
Many men and women with kidney failure have changes in their sexual lives. You may lose interest in sex or have a change in your ability to perform or enjoy sex. There can be both medical and emotional reasons for these changes, and the changes vary from person to person. It is common for men with kidney disease to become impotent. Women with kidney disease may have trouble becoming aroused.

Many of the problems related to sex can be treated. If you are experiencing changes in your sex life, it is important to discuss them with your provider or another member of your health care team in case there is a treatment available for you. You should also discuss them with your partner so he or she can understand your feelings and what you are going through. Remember, there are ways other than sex to show your feelings, such as holding, kissing and hugging each other.

Take charge of your health care
• Ask for copies of lab tests and other measurements.
• Ask questions and understand what your lab results mean.
• Keep all appointments with your health care team.
• Seek out information from reliable sources.

Need more information?
Be sure to ask questions and discuss any concerns with your health care provider. You can also learn more by visiting the National Kidney Foundation website at www.kidney.org.