

KIDNEY HEALTH

HEALTHY EATING TIP OF THE MONTH:
APRIL 2020



MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN

Kidney Health

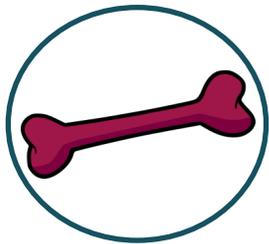
The kidneys are two bean shaped organs on either side of the spine that do many things for our body!



Filter blood, removing wastes and extra water to make urine.



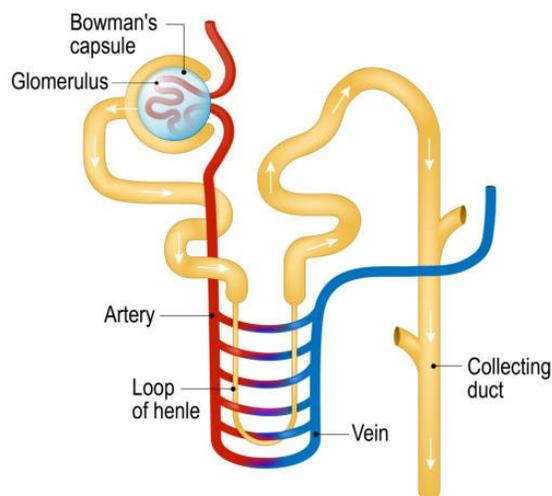
Regulate blood pressure with a hormone called rennin.



Maintain the balance between phosphorus and calcium to keep your bones strong.

KIDNEYS WORK TO MANAGE THE BALANCE OF SALTS AND MINERALS IN THE BLOOD TO ENSURE THAT NERVES, MUSCLES, AND TISSUES FUNCTION NORMALLY.

NEPHRON¹



- ◇ Kidneys are made up of filtering units called **nephrons**.
- ◇ Each nephron has a smaller filter called a **glomerulus**.
- ◇ Blood flows in through the artery and is filtered by the glomerulus, removing waste products and returning needed substances to your blood via the vein.
- ◇ Remaining fluid and wastes become urine.

CHRONIC KIDNEY DISEASE

What is Chronic Kidney Disease (CKD)?²

- A condition that is indicated by a gradual loss of the kidney's functions over time causing a decrease in their ability to filter blood and help keep you healthy.
- As kidney health gets worse, wastes build up in your blood and cause complications like high blood pressure, weak bones, and poor nutritional health.

Learn more about CKD at <https://www.kidney.org/atoz/content/about-chronic-kidney-disease>.

Causes and Risk Factors for CKD



Diabetes is the #1 cause of kidney disease. Uncontrolled blood sugars (or glucose) can damage the kidneys. Individuals with Type 1 & 2 diabetes should take steps to monitor and regulate blood glucose levels.

High blood pressure (also called hypertension) is the second leading cause of CKD. Hypertension is an increase in the force of blood pushing against the walls of the blood vessels. Over time, this pressure damages the filters in the kidneys.



Other causes of CKD include autoimmune diseases, genetic diseases, glomerulonephritis (a type of kidney inflammation), and other problems.



Obesity and Kidney Disease

Body mass index or BMI is a method used to estimate a person's body fat based on height and weight. Based on the BMI number, individuals can be classified into 5 categories; underweight, normal, overweight, obese, and morbidly obese.

Individuals classified as obese have an increased likelihood of developing risk factors for CKD, such as diabetes and hypertension. Additionally, increased body

weight can cause an increase in the kidney's filtration to meet the body's demands. This high demand can cause pressure on the kidney structure and raise the risk of developing CKD.

Luckily, obesity and its related risk factors are largely preventable!

BMI (KG/M ²)	CLASSIFICATION
<18.5 KG/M ²	UNDERWEIGHT
18.5-24.9 KG/M ²	NORMAL
25-29.9 KG/M ²	OVERWEIGHT
>30 KG/M ²	OBESE
>35 KG/M ²	MORBIDLY OBESE

$$\text{BMI} = \frac{\text{Weight (kg)}}{\text{Height (m)}^2}$$

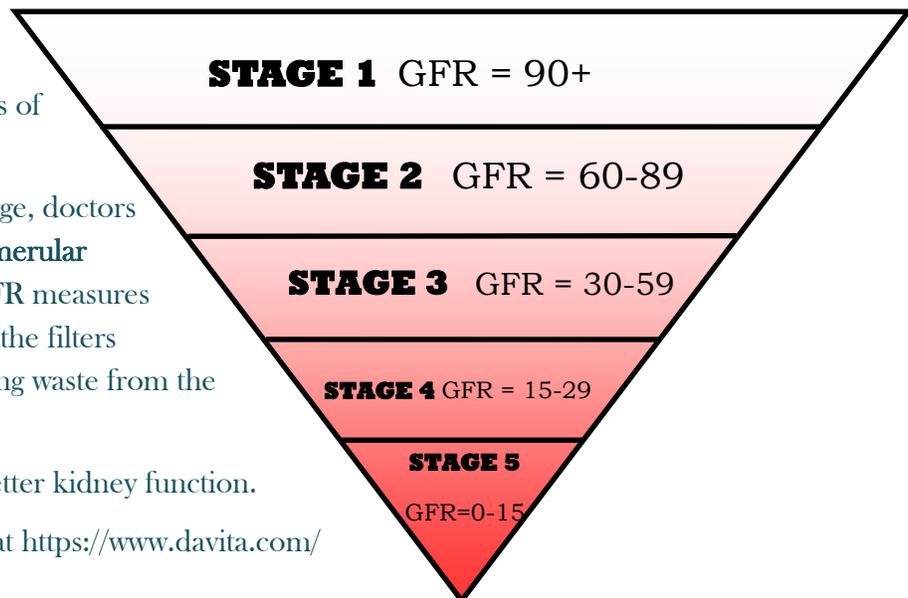
Stages of Chronic Kidney Disease³

CKD progresses slowly over many years. The decline in kidney function can be classified into 1 of 5 stages of kidney disease.

In order to classify the stage, doctors use a number called **Glomerular Filtration Rate (GFR)**. GFR measures how well the glomerulus (the filters in the kidney) are removing waste from the blood.

A higher GFR signifies better kidney function.

Learn more about CKD at <https://www.davita.com/education/kidney-disease>.





Blood Pressure and Kidney Disease

What's Healthy?

Less than **120/80** 120 over 80 or less is considered healthy for most people.

More than **140/90** 140 over 90 or more is too high.

Blood Pressure Tests

- Measures how hard your heart is working to pump blood.
- Can be done at the doctor's office, at many pharmacies and grocery stores, and even at home, with the correct equipment.

Blood pressure is the pressure created inside your blood vessels called arteries and veins when your blood flows through.

High blood pressure (hypertension) means your heart is working too hard to pump your blood.

High blood pressure can cause kidney disease. When blood flows too forcefully through the blood vessels in your kidneys, it can cause damage to the vessels, leading to kidney disease over time.

Kidney disease can cause high blood pressure. Healthy kidneys control your blood pressure. A damaged kidney does not do as good of a job controlling your blood pressure, causing an increase.

Keep a Healthy Blood Pressure to Help Prevent or Control Kidney Disease.



Follow a Heart-Healthy Diet

- Limit the salt you consume.
- Limit unhealthy fats and eat more fruits and vegetables.



Remember to Take Any Important Medication

- Skipping doses of medication can be harmful to your health.
- If you take blood pressure medicine, make sure you take it correctly, as directed.



Get Some Exercise!

- Set goals to exercise at least 30 minutes, 5x per week.
- Try a new sport or exercise class.



Maintain a Healthy Weight

- Maintaining a healthy weight can make a big difference for your health.
- Talk to your doctor or dietitian about what a healthy weight for you is.

DASH Diet

Dietary Approaches to Stop Hypertension

The **DASH** diet emphasizes correct portion sizes, reducing sodium intake, and eating a variety of nutrient rich foods. See the recommended food groups and their suggested serving sizes below*

The **DASH** diet can help lower blood pressure by reducing the amount of sodium consumed and increasing the amount of other nutrients such as potassium, calcium, and magnesium.

The standard **DASH** diet recommends limiting sodium intake to 2,300 milligrams (mg) of sodium each day.



FUN FACT: One teaspoon of table salt contains 2,325 milligrams (mg) of sodium; that's more than the recommended amount per day!



*Based on a 2,000 calorie diet

Grains	6-8 servings/day
Vegetables	4-5 servings/day
Fruits	4-5 servings/day
Dairy	2-3 servings/day
Lean Meat	6 one-ounce servings/day
Nuts, Seeds, and Legumes	4-5 servings/week
Fats & Oils	2-3 servings/day
Sweets	5 servings/week



Turkey Chili

From the American Heart Association™

Ingredients:

- 1 ½ tablespoon olive oil
- 1 onion, chopped
- 20 oz. ground turkey breast
- 2 garlic cloves, minced
- ½ teaspoon garlic powder
- 2 teaspoon chili powder
- ½ teaspoon ground cumin
- 15.5 oz can, no salt added pinto beans, rinsed and drained
- 15.5 oz can, no salt added black beans, rinsed and drained
- 14.5 oz can, no salt added diced tomatoes, undrained
- 1 ¾ cup fat-free low-sodium

Instructions:

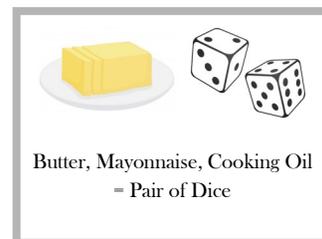
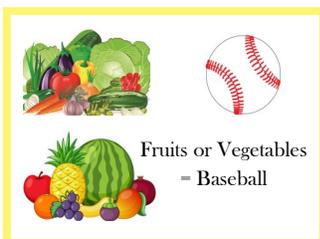
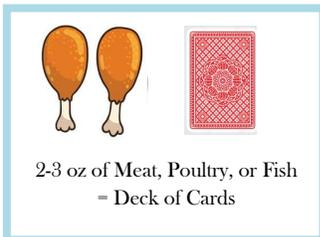
- Add the oil to a large pot and cook the onion for 3 minutes, or until soft, stirring occasionally.
- Reduce the heat to medium. Stir in the turkey. Cook for 5 minutes, or until browned, stirring frequently to break up the turkey.
- Stir in the garlic, chili powder, pepper, and cumin. Stir in the remaining ingredients. Cook for 5-7 minutes, or until heated through, stirring frequently.
- Top with desired garnishes, such as green onion or low-fat sour cream or cheese.

Reduce the amount of sodium you consume by making small healthy switches!

- ◇ Reach for salt free seasonings, like garlic powder, onion powder, or Mrs. Dash products.
- ◇ Utilize fresh herbs to flavor foods.
- ◇ Rinse canned foods containing sodium.
- ◇ Focus on consuming foods naturally low in sodium like fresh fruits and vegetables.

DASH Diet Portion Sizes

The DASH diet emphasizes eating correct portion sizes which can be difficult to estimate without a food label. Here are some quick rules to help you choose the correct serving size!



LEARN MORE AT THESE WEBSITES:

1. Your Kidneys & How They Work. National Institute of Diabetes and Digestive and Kidney Diseases. <https://www.niddk.nih.gov/health-information/kidney-disease/kidneys-how-they-work>. Published June 2018. Accessed January 11, 2020.
2. About Chronic Kidney Disease. National Kidney Foundation. <https://www.kidney.org/atoz/content/about-chronic-kidney-disease>. Accessed January 11, 2020.
3. Stages of Chronic Kidney Disease. Davita Kidney Care. <https://www.davita.com/education/kidney-disease/stages>. Accessed January 11, 2020.
4. Mayo Clinic Staff. DASH diet: Healthy eating to lower your blood pressure. Mayo Clinic. <https://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/in-depth/dash-diet/art-20048456>. Published May 18, 2019. Accessed January 11, 2020.
5. Recipes. American Heart Association. <https://recipes.heart.org/en>. Accessed January 11, 2020.



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