UCDAVIS HEALTH | Health Management and Education

Caring For Your Kidneys

Managing Chronic Kidney Disease, Stages 1-3

Welcome

Thank you for attending this health education class. As a group, our goal is to help you build knowledge and skills needed to potentially improve your health.

The facilitator will:

- Provide scientific evidence-based information
- Create a safe environment appropriate for a healthy exchange of information
- Respect each individual and demonstrate courtesy and understanding
- Respect the group dynamic
- Manage time appropriately
- Guide the discussion and manage the classroom in a manner that allows for optimal learning and engagement
- Make him/herself available for questions after the class

Participants are expected to:

- Respect the rights, privacy, and property of other participants and uc davis personnel
- Respect individuals' opinions
- Reserve judgement of others
- Actively participate as appropriate
- Express themselves with courtesy, dignity, and sensitivity
- Keep education commitments and arrive for classes in a timely manner
- Follow uc davis health rules and regulations for patient care and conduct, including smoking, cell phone and electrically powered equipment regulations, and the visitor policy

My Educators

_____

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Managing Chronic Kidney Disease Stages 1-3

Table of Contents

Unless otherwise noted, the recommendations in this book reflect the standards from the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) and National Kidney Foundation.

Facts About Kidney Disease

Chronic Kidney Disease (CKD) is a condition that affects the kidneys. People have two kidneys, each about the size of a computer mouse or your fist. They are located just below the rib cage, one on each side of the spine. The kidneys work to filter or clean your blood, balance fluids, manage blood pressure, produce hormones, and more.

As the kidneys experience damage over time, they are unable to do their primary job of filtering or cleaning out the blood. When this happens, waste and fluids can build up. Other complications of kidney damage include anemia, weak bones, disturbance in pH balance, and gout.

Chronic Kidney Disease can affect your body over time and lead to other chronic conditions such as high blood pressure, heart disease, stroke, and early death. When discovered early, people with chronic kidney disease can take action to protect their kidneys.

According to the Centers for Disease Control (CDC):

- Early CKD has no signs or symptoms
- CKD tends to get worse over time, but much can be done to slow the progress of this disease
- CKD can be treated, the earlier the treatment starts, the better
- More than 1 in 7 people, about 15 percent of US adults, are estimated to have CKD
- As many as 9 out of 10 adults with CKD do not know that they have CKD
- About 2 in 5 adults with severe CKD do not know they have CKD
- Every 24 hours, 350 people begin dialysis treatment for kidney failure
- Kidney diseases are the ninth leading cause of death in the United States

Why do you want to learn more about CKD?

Risk Factors for Chronic Kidney Disease

Risk factors are behaviors or conditions that may increase a person's chance for developing CKD. These include:

- Diabetes
- High blood pressure
- Family history of kidney disease
- Increasing age: over 60 years old
- Having a history of heart disease
- Having obesity or being overweight
- Having a history of an acute kidney injury
- Race (African American, Hispanic, Native American, Asian American)
- Use of street drugs or overuse of some over-the-counter medications such as ibuprofen or naproxen
- Tobacco use

> Which of these risk factors for CKD do you have?

Other Causes of Kidney Disease

In addition to the chronic conditions of diabetes and high blood pressure, there are other causes of kidney disease including:

- Being born with a kidney condition
- Kidney infections
- Damage to the kidneys due to certain drugs
- Injury to the kidneys

Why Is It Important To Lower Your Risk Of Chronic Kidney Disease?

Managing chronic kidney disease in its early stages can slow the advancement of the disease. By knowing your risk factors, you can focus on the factors that you can change, such as eating healthy, being physically active, taking prescribed medicines, and achieving and maintaining a healthy weight.

Diagnosing Chronic Kidney Disease – Stages of CKD

Kidney disease is diagnosed by stages to mark how the disease is progressing. There are five stages, ranging from very mild damage at Stage 1 to kidney failure at Stage 5.

Early CKD includes stages 1 - 3. Late stage CKD includes stages 4 - 5 and may lead to dialysis and/or transplant.

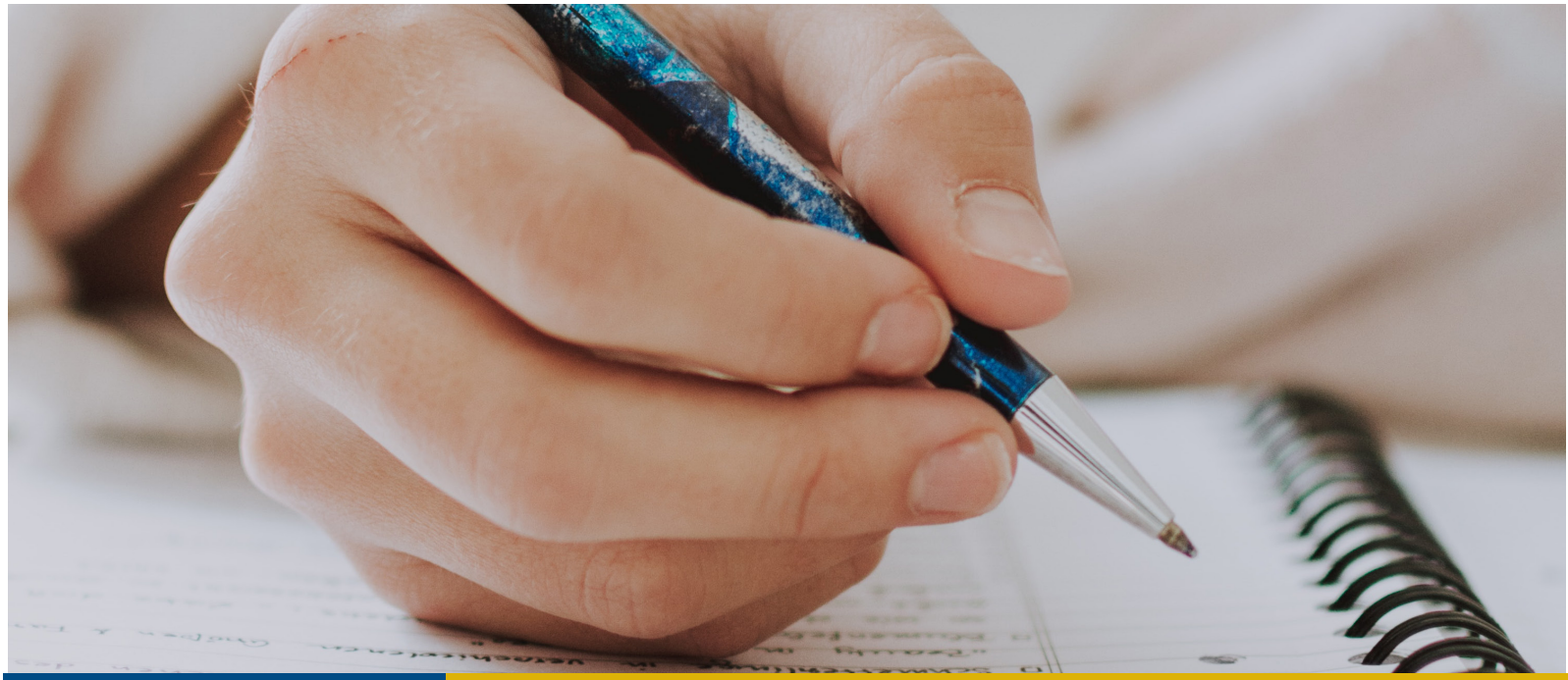
Your physician will diagnose and stage CKD based on a lab test called the estimated glomerular filtration rate (eGFR). The eGFR determines your level of kidney function, or how well your kidneys are doing at filtering waste from your blood. As we age, a decline in our kidney function is normal and not always a sign that we have chronic kidney disease.

If you have stage 1 or stage 2 CKD, you may not experience any symptoms at all. The only sign may be an abnormal lab result.

Even at stage 3 CKD, one may not have symptoms. But some individuals may experience swelling of hands and feet, back pain, and changes in urination. They may find they need to empty their bladder more often or less often.

Another test, called a urine microalbumin test, measures the amount of albumin (a protein) in your urine, which reveals whether there is kidney damage present.

CKD Stage	eGFR
1	90 or greater
2	Between 60-89
3	Between 30-59
3a	Between 45-59
3b	Between 30-44
4	Between 15-29
5	less than 15



My SMART Plan

Changing a health behavior can be challenging. It is common to have good intentions about being healthy without being able to start or stick to a healthy behavior. This does not mean that you do not have willpower. It is more likely that you need a plan you can follow day to day.

> My SMART Plan is a tool to help you succeed

My SMART plan will help you:

- Pinpoint specific healthy behaviors that you want to do
- Plan how to add those behaviors into your daily routine
- Identify things that might get in your way
- Figure out ways to get around those things
- Find the support you need
- Track your progress

My SMART Plan Example

The reason I want to change my health behavior is: to keep my kidneys healthy

Specific — The change I want to make is: (See below for ideas.)

I will _____ by _____
(your behavior change) (what you want to do)

Or Pick One of the Following:

I will be active by _____
(walking, swimming)

I will change my eating behavior by not adding any salt to my foods
(measuring food, counting carbohydrates, reducing sodium)

I will check my _____
(blood pressure, weight, blood sugar)

I will lower my stress by _____
(exercising, deep breaths, meditating)

I will manage my medicines by _____
(using a pill box, setting a phone reminder, other)

I will improve my sleep by _____
(turning off my phone, set a regular bedtime)

Where? At home, dinner table
(home, work, gym, park, other)

Measurable — The days and time I will do it are: (Circle the days that apply)

Days: (Monday) Tuesday (Wednesday) Thursday Friday (Saturday) Sunday

Time of the day: Before/after breakfast Before/after lunch (Before/after dinner)

Morning Afternoon Bedtime Other_____

Ask for Support — The way I will get support for the help that I need is:

Ask friends for low sodium/salt recipes

Realistic — Is my plan realistic? (Yes) No

What might get in the way? The food taste bland or I see the salt shaker.

I will get around it by Buying salt-free seasonings, and removing salt shaker from table

Trackable — The way I will track my behavior is: (Circle all that apply)

I will keep a diary (I will mark in on my calendar)

I will use an app Other _____

How confident am I that I can do this plan?

Managing Chronic Conditions and Lifestyle for Kidney Health

Poorly managed diabetes and high blood pressure are the most common causes of CKD. Learning more about how to manage these conditions can help prevent or slow the progression of CKD.

Diabetes

Diabetes is a condition where blood sugar, also called blood glucose, is too high. Blood sugar is the body's main source of energy, which mostly comes from food. The glucose or blood sugar from our food gets into our cells for energy with the help of a hormone called insulin. Insulin is made by the pancreas.

If you have diabetes, ongoing high blood sugar causes damage throughout your body, including damage to the filters in the kidneys. Because of this damage, the kidneys cannot filter waste and extra fluid out of your blood. One of the first signs of CKD is protein in your urine, revealing that your kidneys are not doing their job of filtering. If you have diabetes and CKD, it is often called diabetic kidney disease.

High Blood Pressure

Blood pressure is the force of blood pushing against blood vessel walls. High blood pressure means the pressure in your arteries is too high. Blood pressure is written as two numbers, such as 110/72 mmHg. The top number (systolic pressure) is the pressure when the heart beats. The bottom number (diastolic pressure) is the pressure when the heart rests between beats.

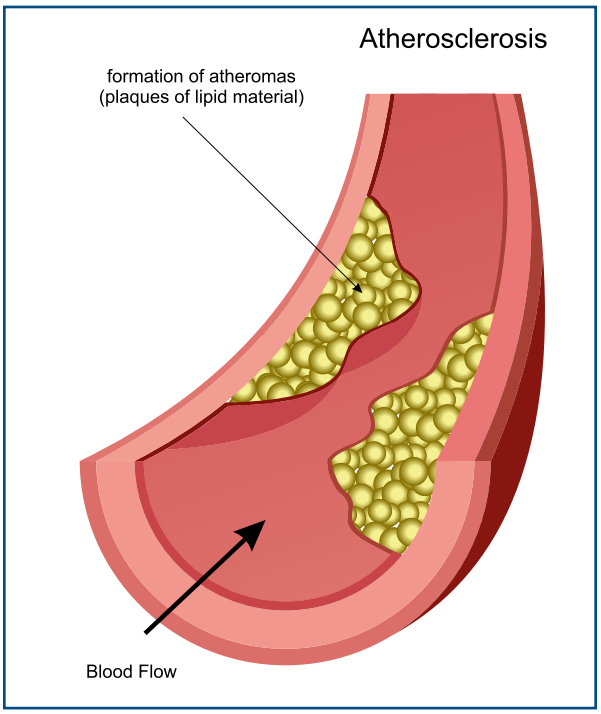
Just like the chronic condition of diabetes, ongoing high blood pressure can cause damage throughout the body. With high blood pressure, the blood vessels that deliver nourishment to the kidneys are damaged. Also, when the kidneys are not functioning properly, extra fluids build up in the body and affect the blood pressure even more.

Cholesterol

Cholesterol is a waxy, fat-like substance found in your blood. Your body's liver makes all the cholesterol it needs, and it also gets it from meat and animal food products. The body and the cells need cholesterol to be healthy. But too much cholesterol can raise your risk of heart disease. This is important to note as heart disease is common with people who have CKD.

Cholesterol And Heart Disease

Cholesterol forms plaques which creates blockages in our blood vessels. Plaque is a fatty deposit that builds up in the arteries and leads to a condition called atherosclerosis. This build up reduces or stops blood flow. As arteries carry blood to the kidneys, atherosclerosis can slow the flow, cause scarring, and result in CKD.



Managing weight

There are many benefits of reaching and maintaining a healthy weight. It is important for heart health, and therefore kidney health, and improves quality of life.

If overweight, losing three to five percent of your body weight can have far-reaching effects.

Physical Activity

An inactive lifestyle is a risk factor for heart disease which will affect kidney health. The less you move, the more your risk increases. Without some form of exercise, the body slowly loses strength and its ability to function well. Talk to your health care team before starting an exercise program.

Learning to balance healthy eating and physical activity can help you lose weight and keep it off.

Stress

Stress is a feeling of physical or emotional tension. It can come from an event or thoughts that makes you feel frustrated, angry, or nervous. Stress is your body's reaction to a challenge that requires a change or action. Chronic stress is a risk factor for heart disease which is closely connected to kidney disease. People with high levels of chronic stress are more likely to die of heart disease and stroke.

Some people may use unhealthy strategies to cope with stress that increase the risk of heart disease, like overeating or using tobacco, alcohol, or drugs.

These are a few healthy ways to cope with stress:

- Practice positive self-talk everyday
- Go for a walk, spend time in nature
- Practice meditation, yoga, or prayer
- Listen to music or a calming podcast
- Create art or a favorite craft
- Start a habit such as making your bed each day

What are your coping strategies?

_____

_____

_____

Tobacco Use

Cigarettes, e-cigarettes (vaping) and tobacco products contain dangerous toxins. Nicotine in cigarettes is highly addictive. Smoking cigarettes can:

- Increase blood pressure
- Increase heart rate
- Promote narrowing of the vessels that carry blood to the kidneys
- Contribute to the hardening of the vessel walls, which may lead to a heart attack

Talk to your health care team about quitting tobacco. There are medicines that are available to double your success and programs to support you.

Risk Factors you Cannot Change

Some risk factors for CKD are not changed by a healthy lifestyle.

Age

The risk for kidney disease rises with age. As a body ages, the kidney's tiny filters, called nephrons, decrease in number and slow kidney function. Also, chronic conditions that often accompany aging, such as diabetes and high blood pressure, may advance or progress as time goes on, either damaging your kidneys or affecting their ability to function.

Gender

Men generally reach the later stages of kidney failure sooner than women, although more women have CKD than men. There are a number of factors that may contribute to this fact. Women may have CKD in larger numbers because of frequent urinary tract infections or complications from pregnancy. Men may reach kidney failure faster due to hormone levels, such as higher testosterone.

Race

CKD can affect anyone, though some groups are more likely to have conditions that increase their risk. If you are Black or African American, Hispanic or Latinx, Asian American, Pacific Islander, American Indian, Native Alaskan, or Native Hawaiian, you may be at greater risk for CKD.

Family History

Family history is when members of a family pass traits from one generation to another through genes. Chronic conditions that are related to CKD such as diabetes and high blood pressure run in families. Kidney disease also runs in families and it's important to know what type of kidney disease that a close relative may have. Share with your family members if you are diagnosed with CKD or any of these chronic conditions so they can take early steps to protect their health.

The risk for kidney disease goes up when family history is combined with physical inactivity, tobacco use, and specific nutrition habits.

Chronic Kidney Disease and Nutrition

Improving your food choices and eating patterns can improve your overall health, but did you know that it can also improve kidney health?

With early-stage chronic kidney disease (CKD), there are a number of things you can do from a diet and nutrition mindset to slow the advance of this chronic condition.

How Can What You Eat Affect Your Kidneys?

As your body digests food, it creates waste. The kidneys work to filter unwanted substances from your blood and your body excretes them in your urine. Your kidneys also balance specific nutrients and keeps what your body needs to maintain good health and filter out the rest in your urine.

As kidney health worsens, the ability to serve as an effective filter also lessens. The key is to select foods that nourish your body, while placing less of a workload on the kidneys.

The terms "Renal Diet" or "Kidney Friendly Diet" refer to an eating plan that can help you improve kidney health.

We will review how specific food and meal patterns slow or affect the progression of CKD and review physical activity recommendations.

Nutrition and Kidney Disease

To reach the goal of maintaining good health while also lessening the workload of your kidneys, your doctor or dietitian may recommend monitoring the following nutrients:

- Protein
- Sodium

As kidney disease progresses, it may become necessary to monitor these additional nutrients (talk with your health care team before restricting these nutrients):

- Phosphorous
- Potassium
- Fluid

Recommendations will change as your kidney health changes, so it is important to discuss your nutrition goals with your healthcare provider regularly. An eating plan for improving kidney health is a plan that is designed for you – it's generally not a one-size-fits-all plan. It's important to meet with your kidney dietitian regularly.

Please note that with early-stage chronic kidney disease, it's not always advised to limit your intake of foods with potassium and phosphorus as your lab values may be normal - and many potassium and phosphorus-rich foods are healthy choices.

Talk to your physician or dietitian about potassium and phosphorus.

Chronic Kidney Disease and Protein

Protein is an important nutrient that contributes to muscle and bone health. Protein also helps our bodies prevent infections and maintain fluid balance, to name just a few functions.

However, protein creates waste products during digestion that our kidneys need to filter out of our blood and out of our body with urine. When kidneys are working properly, this process of filtering usually takes place without any problems.

When our kidneys are damaged or not functioning fully, extra protein can cause them to work harder than they need to, further stressing the body and the kidneys.

With early-stage chronic kidney disease, the goal is to meet your protein needs for good health but avoid overeating protein. Many people consume more protein than needed to maintain good health. In fact, protein recommendations for people with early-stage CKD are the same recommendations for people without kidney disease.

Sources of Protein

Protein is found in animal-based food sources such as red meat, poultry, fish, dairy, and eggs. Our bodies do a good job absorbing them.

We can also eat protein from plant-based food sources such as grains, legumes, soy, and vegetables. Plant-based proteins can be helpful when managing chronic kidney disease. With a little help and guidance, one can follow a plant-based diet that meets your nutrient needs and improves kidney health.

Also, by consuming less processed food choices, one often takes in less sodium and phosphorus as highly processed and packaged foods are often high in sodium and phosphorus or phosphate – an additive that is very easily absorbed by our body.

You can meet with a Registered Dietitian (RD) who can help you plan a plant-based meal plan to meet your kidney nutrition needs.

How Much Protein Do Adults Generally Need?

On a food label, protein is measured in weight by grams. A general guideline for protein is 50 to 70 grams a day. You can select plant proteins or animal-based proteins.

How do you know if you are having too much – or not enough – protein?

- Track it with a nutrition app such as My Fitness Pal® or Lose It®
- Read food labels
- Use a food scale (weigh meat, fish, poultry)
- Work together with a dietitian about protein needs and your current intake

Reading a Nutrition Facts Label

When reading a food label:

1. Look for the serving size on the nutrition facts label.
2. Then, look for the amount of protein per serving size.

In this example, for every half cup of this product, there are 8 grams of protein.

Examples Of Foods And Their Protein Amounts

Food Type	Serving Size	Protein Amount
Meat, Fish, Poultry	1 ounce 3 ounces*	7 grams 21 grams
Egg	1 large	8 grams
Milk	1 cup (8 fluid ounces)	9 grams (can vary depending upon the milk product and how it is processed)

*A 3 ounce piece of meat/fish/poultry can fit in the palm of your hand or is about the size of a deck of cards.

Plant Based Proteins

Here are some examples of where we find protein in plant-based foods:

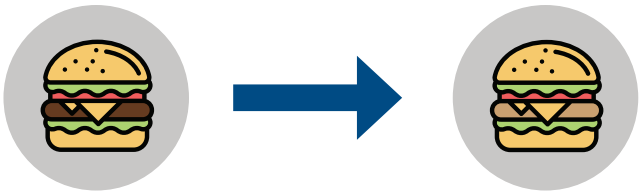
- Legumes (beans, lentils)
- Unsalted nuts and unsalted nut butters
- Vegetables such as cauliflower, green beans, and dark, leafy vegetables
- Whole grains such as barley, brown rice or steel cut or rolled oats, quinoa
- Seeds
- Soy and soy products (tofu, tempeh)
- Meat substitutes (tofurkey, for example)
- Fortified foods such as plant-based milks
- Nutritional yeast

Listed below are some plant-based protein food choices with the amount of protein per serving:

Food	Serving Size	Protein Amount
Lima beans, cooked	1/2 cup	7 grams
Chickpeas (garbanzo beans)	1/2 cup	6 grams
Peanut butter	2 tablespoons	7 grams
Almonds	1/4 cup	6 grams
Wild rice, cooked	1 cup	6.5 grams
Quinoa, cooked	1/2 cup	6 grams
Steel cut oats, cooked	1/2 cup	5 grams
Soy-based patty	1	10 to 19 grams
Tofu	1 cup	11 grams

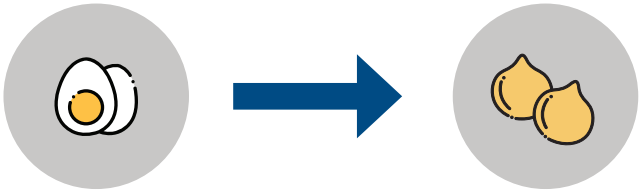
Amounts are approximate as some products will differ slightly
Source: www.kidney.org

If you are interested in choosing more plant-based proteins and less animal-based protein food choices, here are some choices to consider:



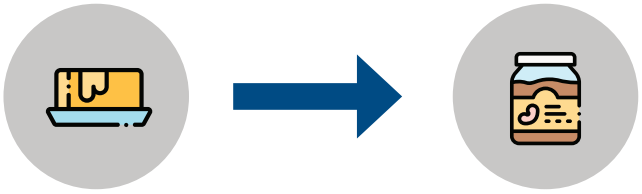
Hamburger (3.5 ounces)
175 calories
20 grams protein

Soy Burger (3.5 ounces)
120 calories
16 grams protein



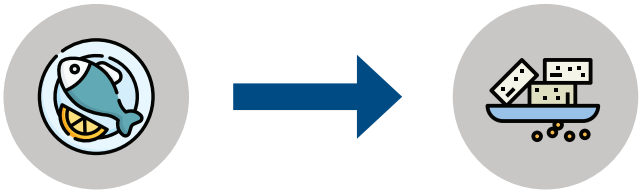
Hard Boiled Egg (1)
78 calories
6 grams protein

Roasted Chickpeas (1/2 cup)
186 calories
6 grams protein



Cream Cheese (2 tablespoons)
100 calories
1.2 grams protein

Peanut Butter (1 tablespoon)
94 calories
4 grams protein



Atlantic Cod (3.5 ounces)
82 calories
18 grams protein

Tofu, Firm (3 ounces)
70 calories
11 grams protein

Benefits of Adding or Increasing Plant-Based Foods

There are many benefits to including plant foods to your eating plan.

Plant-based food choices can help to improve blood pressure, blood sugar, and maintain a healthy weight. It can also help prevent CKD or slow the progress of the disease.

Some well-known plant-based meal plans include:

- The Mediterranean Meal Plan – featuring whole grains, vegetables, beans, fruits, nuts and moderate amounts of olive oil, cheese, fish, and small and infrequent servings of red meat
- The DASH Meal Plan – This is the Dietary Approach to Stop Hypertension eating plan and is designed to lower blood pressure. It features many serving of vegetables and fruits throughout the day, lowfat dairy, whole grains, legumes and nuts and small amounts of meat, fish, and poultry

By eating fresh, whole foods such as fruits and vegetables; the amount of sodium and added sugar intake is naturally lower.

How to Add Plant-Based Foods to your Eating Pattern

It can be hard to make changes to the way you eat, especially when you live with other people. To make changes set small, easily reachable goals:

- If you don't eat vegetables start by adding one serving a day
- If you eat meat most days, try to set aside one day as a "meatless" day
- Frozen fruits and vegetables are good options as they are flash frozen at the peak of ripeness
  - Choose those that have no added oil or seasonings.
- Try one new food source at a time and purchase small amounts so you can be sure that it will be a new favorite in your food choices
- Try the bulk section at your grocery store and purchase only the amount you might need

Reducing Sodium or Salt

Sodium is an important mineral which is essential for many activities in the body. It affects your body's balance of fluids.

The balance of fluid in your body affects your blood pressure and an imbalance places more stress on the heart. When kidney health lessens, and your kidneys can no longer do a good job of managing sodium and fluid, one may experience thirst, weight gain from extra fluid, and high blood pressure.

One source of sodium in our diet is salt. Not only do we add salt to our foods when we are preparing and eating foods at home, but food manufacturers and restaurants add sodium to packaged foods and menu items.

Sometimes we can taste these very salty foods, but often we cannot tell that sodium or salt has been added. For example, it's hard to tell if there is a lot of added sodium in foods such as bread or cereal.

Some foods have naturally occurring salt and sodium, but most of what we eat comes from added salt or sodium in processed foods.

Reducing salt in your eating plan can reduce blood pressure and for those that don't have high blood pressure, less salt can improve how your blood vessels react or dilate.

Try different flavors and spices, use some natural flavorings, and slowly adjust to less salt.

Is sea salt different from table salt?

While the size of the salt crystal will be different from table salt to sea salt, the amount of sodium is not very different.

Sodium Recommendations for CKD

Sodium goals for someone with CKD are no more than 1,500-2,000 mg per day.

> One teaspoon of salt has 2,300 mg of sodium (or 2.3 grams).

You can read food labels to determine your sodium intake. Remember: as much as 75 percent of salt or sodium in our foods come from food manufacturers. Only about 15 percent come from adding salt to foods. A mere 10 percent is natural.

What Does Low Salt Or Reduced Sodium Mean?

Label Claims

"Sodium Free" or "No Sodium"	Less than 5 mg of sodium per serving and no salt in ingredients
"Very Low Sodium"	35 mg or less of sodium per serving
"Low Sodium"	140 mg or less of sodium per serving
"Reduced Sodium" or "Less Sodium"	At least 25% less sodium per serving than in the regular product
"Light in Sodium"	50% less sodium per serving than in the regular product
"Unsalted," "Without added Salt," or "No Salt Added"	No salt added during processing. Product may not be sodium free
"Lightly Salted"	50% less added sodium than is normally added

If sodium or salt are in the first five ingredients on the food label ingredient list, it may be too high in sodium for a CKD eating plan. A useful guideline is to allow for about 400 mg sodium per entrée or meal and about 140 mg sodium per snack throughout the day.

There are a number of ways that you can reduce your sodium or salt; try flavoring with natural herbs or use no-salt added spice blends such as Mrs. Dash®. Suggestions to spice up your foods without salt are on the following pages.

Low-Sodium Eating for Managing Chronic Kidney Disease

Use these tips to reduce the sodium in your diet:

- Choose fresh or frozen whole foods instead of canned or processed foods
- When selecting canned or processed foods, choose reduced or low-sodium items
- Read food labels and compare sodium in food items
- Cook with herbs and sodium-free spices
- Remove the saltshaker from the dining table
- When eating out, ask that your food be prepared without added sodium - such as salt, monosodium glutamate (MSG), steak sauce, barbeque sauce, Worcestershire sauce, or soy sauce
  - Ask that those sauces and gravies be served on the side

Label Reading for Sodium

How to Find the Amount of Sodium in Packaged Foods

1 → Check the serving size and the servings per container.

2 → Check the milligrams (mg) of sodium. This is the amount of sodium per serving.

If you eat more than one serving, multiply the number of servings that you eat by the amount of sodium per serving.

3 ← Use the 5 and 20 Rule: if the percent daily value is less than 5%, it is low in sodium. If it is 20% or more, it is high in sodium.

Nutrition Facts

3.5 servings per container

Serving size	**2 Tbsp**
Amount per serving	
Calories	**114**
	% Daily Value
Total Fat 1.5 g	**<1%**
Saturated Fat 0g	**0%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 190 mg	**8%**
Total Carbohydrates 20g	**7%**
Dietary Fiber 8g	**15%**
Total Sugars 4g	
Includes 0g Added Sugars	
Protein 8g	

Example:

1 serving = 2 tablespoons

1 serving contains 190 mg sodium

If you have 4 tablespoons of the food – or two times the serving size, you will need to double your calculations:

190 mg x 2 servings = 380 mg sodium

If you eat 4 tablespoons of the food, you will eat 380 mg sodium

Foods to Choose	Foods to Limit
Dairy	**Dairy**
Milk, yogurt, Swiss or low-sodium cheese, no salt added or low-sodium cottage cheese	Processed cheeses, cheese spreads, cottage cheese, buttermilk
Meats and other Proteins	**Meats and other Proteins**
Fresh meat, fish and low-sodium canned tuna, chicken, turkey, tofu, eggs, unsalted nuts and seeds, nut/seed butter without added salt, dried beans, or canned beans without added salt	Ham, bacon, bacon fat, salt pork, sausage, pepperoni, corned beef, jerky, lunch meats, cold cuts (bologna, salami, etc.), hot dogs, Spam®, Vienna sausage, sardines, anchovies, canned tuna, salted nuts and seeds, canned beans, baked beans, refried beans
Starches	**Starches**
Oatmeal, cream of wheat, grits without added salt, ready-to-eat cereals, yeast breads Homemade biscuits, cornbread, muffins, pancakes, waffles, cakes, pastries, and fruit cobblers (use low-sodium recipes)	Store-bought or prepared mixes of biscuits, cornbread, muffins, pancakes, waffles, cakes, pastries, and fruit cobblers Pre-packaged or flavored rice Instant noodles or ready-made pastas
Fruits and Vegetables	**Fruits and Vegetables**
Fresh, frozen, or canned fruit, fresh or frozen vegetables Canned vegetables without added salt Canned tomato products without added salt (tomatoes, tomato sauce, tomato paste)	Canned or bottled vegetables Vegetable juice Tomato, spaghetti, and pizza sauce

Foods to Choose	Foods to Limit
Seasonings	**Seasonings**
Salt-free seasonings, for example, pepper, fresh garlic, garlic powder, fresh onion, onion powder, fresh or dried herbs, Mrs. Dash®	Salt, sea salt, kosher salt, "lite salt," seasoned salt, celery salt, onion salt, garlic salt, meat tenderizers, MSG, soy sauce, light soy sauce, Worcestershire sauce, chili sauce, teriyaki sauce, baking soda, baking powder
Only use salt substitutes if allowed by your doctor	
Other	**Other**
Low-sodium salad dressings (homemade or store-bought)	Olives, pickles, relish, sauerkraut, capers, ketchup, prepared mustard, store-bought salad dressings, steak sauce, barbeque sauce, bottled or canned peppers, salsa
Homemade soups without added salt	
Low-sodium canned soups	
No salt added chips, pretzels, popcorn, crackers	Canned soup, stew, chili, dehydrated or instant soup mixes
Unsalted or low-sodium broth or bouillon	Potato chips, tortilla chips, pita chips, cheese puffs, salted popcorn, crackers, pretzels
	Most frozen packaged meals (such as TV dinners)
	Bouillon

Read The Ingredients List

Avoid or limit foods that contain these ingredients:

- Baking soda (sodium bicarbonate) and baking powder
- Sea salt, kosher salt, garlic salt, onion salt
- Monosodium glutamate (MSG), disodium phosphate
- Sodium nitrite

Low-Sodium Condiments, Seasonings, Spices, and Other Flavorings

Use this list as a resource for ideas for low-sodium flavorings:

- Allspice
- Anise
- Basil
- Bay leaf
- Brown sugar
- Caraway seed
- Cardamom
- Cayenne
- Chili powder (salt-free)
- Chives
- Cinnamon
- Cloves
- Coriander
- Cumin
- Curry powder
- Dill
- Extracts
  - lemon
  - orange
  - maple
  - peppermint
  - vanilla
- Fennel
- Garlic, garlic juice, or garlic powder
- Ginger

- Horseradish root or powder
- Lemon or lime juice
- Mace
- Marjoram
- Mint
- Mustard, seed or powder
- Nutmeg
- Onion, onion juice, or onion powder
- Oregano
- Paprika
- Parsley
- Pepper: black, red, white
- Poppy seed
- Rosemary
- Saffron
- Sage
- Tarragon
- Thyme
- Turmeric
- Vinegar

Try These Ideas To Flavor Your Foods Without Adding Salt

Vegetables

Asparagus	Lemon juice, caraway seeds, garlic
Broccoli	Lemon juice
Cabbage	Dill weed, lemon juice
Green beans	Garlic, ginger, marjoram, lemon juice, nutmeg, dill seed
Peas	Onion, mint, fresh mushrooms, parsley, green pepper
Potatoes	Curry powder, onion, garlic, mace, green pepper, parsley, turmeric
Squash	Ginger, mace, onion, garlic, nutmeg
Tomatoes	Basil, marjoram, onion, garlic, bay leaves, thyme

Proteins

Beef	Bay leaf, dill, dry mustard, garlic, fresh shredded ginger, green pepper, marjoram, nutmeg, onion, pepper, sage, wine, thyme
Chicken	Cranberries, dry mustard, garlic, fresh shredded ginger, paprika, parsley, rosemary, sage, thyme, wine
Eggs	Curry, garlic, green pepper, onion, paprika, parsley, thyme
Fish	Curry, dry mustard, garlic, green pepper, lemon juice, onion, paprika, parsley, sage
Lamb	Basil, curry, dill, garlic, mint, pineapple, rosemary
Pork	Apples or applesauce, cinnamon, garlic, onion, rosemary, sage, thyme

See resources for a list of low sodium cookbooks.

Clinical Dietitians & Dietetic Interns, Food & Nutrition Services, UC Davis Medical Center (8/17)

Dining Out

Dining out can still be enjoyable while following a kidney-friendly eating plan. Use the following tips to choose foods wisely when eating away from home.

Tips For Dining Out

- Plan ahead
- Make a reservation at your usual mealtime
- Look at the restaurant's menu and find which choices are the best for your diet and health goals
- Remember that restaurant food is often higher in sodium
  - You may want to cut back on foods high in sodium earlier in the day to allow for a meal out

- Many restaurants have websites that include menus, ingredients, and nutrition facts including sodium
  - If you can't find the nutrition facts on the website, type the restaurant name followed by the word "nutrition" in the search bar
  - Carefully read the website's information, including serving size
- Restaurants that make food to order are the best choice
  - Ask if substitutions can be made to fit your goals. Call ahead to ask how the dishes are prepared and what ingredients are used
  - Request that no salt is added when cooking and ask for gravies, sauces, or salad dressings on the side
- To maintain a reasonable protein portion, request a half portion of the entrée if it contains protein
  - Another option is to take half of the entrée home
  - A good strategy is to request the "to go" container at the start of the meal and package it up at that time
- You can split a portion or order foods off the appetizer menu to manage portions
- Avoid foods that are breaded or fried
  - Order foods that are baked, broiled, steamed, or poached
- Sides such as French fries, onion rings and potato chips will add a lot of sodium
  - Ask for extra vegetables with no added salt instead of these options
- An extra serving of vegetables can also add fiber
  - If you order a salad, be aware of toppings, such as cheese and croutons, that can add sodium
  - Ask for dressing on the side or use oil and vinegar or lemon

Physical Activity and CKD

As CKD may be accompanied by diabetes and high blood pressure, exercise can benefit those conditions which can, in turn, improve your CKD.

Benefits of exercise include:

- Improved blood sugar by allowing the sugar to be used by the muscles
- Improved insulin sensitivity
- Reduced stress levels
- Decreased feelings of depression
- Reduced body weight
- Improved overall strength, flexibility, and balance
- Lowered blood pressure
- Lowered cholesterol levels
- Improved sleeping patterns
- Increased energy levels
- Reduced atherosclerosis (hardening of the arteries)

Regular physical activity plays an important role in overall health and can be an especially effective tool for managing blood sugar levels.

Types Of Exercise - Have A Mix Of Each For Good Health

Strength Training (Resistance)

- Builds strong bones and muscles
- Supports good posture

Flexibility Exercise

- Keeps the ligaments and joints limber
- Helps to prevent injury
- Improves balance

Aerobic Exercise

- Increases heart rate
- Works muscles
- Raises breathing rate

Aerobic Exercise Intensity Levels

Light

Can easily talk during activity, no noticeable change in breathing pattern.

Moderate

Can talk during activity but cannot sing. Breath may quicken but not out of breath. A light sweat might develop after 10 minutes of activity.

Vigorous

Can only say a few words without stopping to catch breath. Breathing pattern quickens and deepens. Sweating develops after a few minutes of performing activity.

Exercise Recommendations

Aim for 150 minutes or more per week of moderate intensity physical activity. Spread over at least 3 days or more. Even a small amount of exercise is enough to get started. You can add up minutes of exercise throughout the day to reach your goal. Stretch after exercise to prevent injury and muscle soreness.

Aim for 2 or more days a week of muscle strengthening activities. Include 5 or more different exercises each session. Target the large muscle groups (legs, hips, back, chest, abdomen, shoulders, arms). Include at least one day of rest in-between strength training sessions.

For older people, flexibility and balance training are recommended 2 to 3 days per week. Reduce the amount of time spent sitting. Break it up by walking or doing other physical activities every 30 minutes.

Getting Started

- Talk to your health care professionals and have tests done as recommended
- Start slowly and gradually increase length, frequency, and intensity
- Choose an exercise or activity you enjoy
- Exercise with a friend or group
- Track your progress

Stay Safe!

- Wear socks and proper fitting shoes
- Always warm up and cool down
- If you have diabetes:
  - Test blood sugar before and after exercise
  - Let people know you have diabetes; wear a medical ID bracelet if you are on insulin or a sulfonylurea

Avoid going more than two days without activity. Exercise strengthens us physically and mentally.

Medicines

Your doctor may recommend that you make important lifestyle changes to reduce the risk of CKD and slow the progression of CKD. They may have prescribed medicines to help manage diabetes and hypertension. Many types of medicines are available, and they help treat chronic conditions in different ways.

Medicines That May Increase Risk Of CKD

Talk with your doctor before taking the following medicines, if you have been diagnosed with any form of kidney disease. Some of these medicines could affect kidney function or damage your kidneys over time.

Nonsteroidal Anti-inflammatory Drugs (NSAIDS)

NSAIDS can affect how well your kidneys work and may make your body hold onto fluid. This may raise your blood pressure. Taking NSAIDS in high doses can also increase your risk for heart attack or stroke. Your doctor may recommend Tylenol instead of NSAIDs. NSAIDs can also have an effect on how well your other medications work.

Some common NSAIDS

- Aspirin
- Ibuprofen (Motrin, Advil)
- Naproxen (Aleve)

Other Medications

As many people with CKD also aim to manage high blood pressure, it's important to be aware that the following classes of medication can have an effect on your blood pressure.

Decongestants

Decongestants, found in cold and flu medicines, can raise your heart rate and blood pressure. Decongestants may also affect other heart medicines.

Migraine Medicines

Some migraine medicines work by tightening blood vessels in your head. They also narrow blood vessels throughout your body. This could make your blood pressure go up to dangerous levels.

Weight Loss Medicines

Some weight loss medicines can speed up your body's metabolism. This can raise your heart rate and blood pressure.

More Tips To Avoid Problems With Medicines

Share a list of all the medicines you use with your doctor and pharmacist, including

- Nutritional supplements
- Vitamins
- Over-the-counter medicines
- Prescribed medicines
- Contrast dye

Read the labels of over-the-counter medicines and look for ingredients that may make your blood pressure or heart rate rise. Ask your pharmacist if you are not sure.

Other resources

- Individual phone meeting with a UC Davis pharmacist
- Ask the Pharmacist: Via MyUCDavisHealth (MyChart)

The reason I want to change my health behavior is: _____

Specific The change I want to make is: (See below for ideas.)

I will _____ by _____

Or Pick One of the Following:

I will be active by_____

I will change my eating behavior by _____

I will check my _____

I will lower my stress by _____

I will manage my medicines by _____

I will improve my sleep by _____

Where? _____

Measurable The days and time I will do it are: (Circle the days that apply)

Days: Monday Tuesday Wednesday Thursday Friday Saturday Sunday

Time of the day: Before/after breakfast Before/after lunch Before/after dinner

Morning Afternoon Bedtime Other_____

Ask for Support The way I will get support for the help that I need is:

_____

Realistic Is my plan realistic? Yes No

What might get in the way? _____

I will get around it by _____

Trackable The way I will track my behavior is: (Circle all that apply)

I will keep a diary

I will mark in on my calendar

I will use an app

Other _____

How confident am I that I can do this plan?

1 2 3 4 5 6 7 8 9 10

A little Somewhat Completely

Resources

American Heart Association www.heart.org/HEARTORG	Choose My Plate www.choosemyplate.gov
National Heart, Lung and Blood Institute www.nhlbi.nih.gov/health/health-topics/topics/dash	DaVita Kidney Care www.DaVita.com
American Association of Kidney Patients www.aakp.org	US Department of Agriculture https://www.nal.usda.gov/fnic/kidney-diseases
American Diabetes Association www.Diabetes.org	Academy of Nutrition and Dietetics www.eatright.org

President's Council on Fitness and Health www.fitness.gov	Fresenius Kidney Care www.freseniuskidneycare.com
National Kidney Foundation www.kidney.org	National Kidney Foundation, CA www.kidney.org/offices/nkf-serving-northern-california
Medical Education Institute, Inc. www.kidneyschool.org	UC Davis Health Management and Education health.ucdavis.edu/health-education

Cookbooks

- Low Salt Cookbook, 4th Edition (American Heart Association)
- The DASH Diet Cookbook: Quick and Delicious Recipes for Losing Weight, Preventing Diabetes, and Lowering Blood Pressure (Mariza Snyder, Lauren Clum, Anna V. Zulaica)
- The Everything Low-Salt Cookbook: 300 Flavorful Recipes to Help Reduce Your Sodium Intake (Pamela Rice Hahn)
- The No-Salt, Lowest-Sodium Cookbook (Donald A Gazzaniga)

Other Resources

Kidney Friendly Grocery List

Shopping for groceries can be challenging when you have CKD. This list combines all of the foods that are safe to eat on an early-stage CKD diet. Follow a healthy diet that includes foods from all major food groups with a limited intake of sweets. Talk with your doctor or dietitian if you are also concerned about your nutrition needs relating to weight management, diabetes, or heart disease.

If you are monitoring your blood sugar, you will want to manage your portions of carbohydrate foods. If you struggle with constipation, a high fiber diet can help. High-fiber foods are marked with (♥).

Starches (Contain carbohydrates)

Whole grain versions of these foods may be okay to eat. Talk to your dietitian about whether whole grains are okay for you.

- ☐ Bagels (plain)
- ☐ Bread (white, French, sour-dough, rye)
- ☐ Breadsticks (plain)
- ☐ Cereals, ready-to-eat (Rice Krispies ®, Puffed Rice, Rice Chex®, Cornflakes)
- ☐ Cereals, cooked (Cream of Wheat® or Rice, Farina, Malt-o-Meal®)
- ☐ Couscous, Whole Grain♥
- ☐ Crackers (unsalted, graham or animal crackers)
- ☐ Croissant
- ☐ Dinner rolls
- ☐ English muffins
- ☐ Grits
- ☐ Hamburger/hotdog buns
- ☐ Melba toast
- ☐ Oatmeal♥
- ☐ Pita bread
- ☐ Pasta & noodles
- ☐ Pita bread
- ☐ Popcorn, unsalted ♥
- ☐ Pretzels, unsalted
- ☐ Rice, white
- ☐ Rice cakes
- ☐ Tortillas, flour

Dairy Substitutes (some may contain carbohydrates, check label)

- ☐ Rice milk, unfortified
- ☐ Almond milk, unfortified
- ☐ Soy milk, unfortified

Vegetables ♥ (contain low amounts of carbohydrates)

- ☐ Alfalfa or bean sprouts
- ☐ Asparagus
- ☐ Bamboo shoots (canned)
- ☐ Beets (canned)
- ☐ Bell peppers
- ☐ Cabbage
- ☐ Cauliflower
- ☐ Celery
- ☐ Cucumber
- ☐ Dandelion greens
- ☐ Eggplant
- ☐ Endive/escarole
- ☐ Green beans
- ☐ Hominy
- ☐ Jalapenos
- ☐ Jicama
- ☐ Leeks
- ☐ Lettuce
- ☐ Mushrooms (raw)
- ☐ Okra
- ☐ Onions
- ☐ Radishes
- ☐ Seaweed kelp
- ☐ Spaghetti squash
- ☐ Summer squash (e.g. crookneck, spaghetti)
- ☐ Tomatillos
- ☐ Water chestnuts (canned)
- ☐ Wax beans

Fruits♥ (contain carbohydrates)

- ☐ Apple
- ☐ Applesauce
- ☐ Apricots (canned)
- ☐ Blackberries
- ☐ Blueberries
- ☐ Boysenberries
- ☐ Cherries
- ☐ Cranberries
- ☐ Cranberry sauce
- ☐ Grapes
- ☐ Kumquat
- ☐ Lemon
- ☐ Lime
- ☐ Loganberries
- ☐ Lychees
- ☐ Mandarin oranges (canned)
- ☐ Pears (canned)
- ☐ Peaches (canned)
- ☐ Pineapple
- ☐ Plum
- ☐ Raspberries
- ☐ Rhubarb
- ☐ Strawberries
- ☐ Tangerine
- ☐ Watermelon

Proteins

- ☐ Soy products
  - – Tempeh, tofu, soy yogurt
- ☐ Veggie burgers
- ☐ Legumes and beans
- ☐ Unsalted nuts and seeds
- ☐ Turkey
- ☐ Chicken
- ☐ Fish and shellfish
- ☐ Lean meats
- ☐ Eggs, egg whites
- ☐ Dairy

Beverages (may contain carbohydrates - especially juices, sugar-sweetened drinks, and sodas - read labels)

- ☐ Apple juice
- ☐ Cranberry juice
- ☐ Cream soda
- ☐ Fruit punch
- ☐ Ginger ale
- ☐ Grape juice
- ☐ Grape soda
- ☐ Horchata
- ☐ Kool-Aid® or Hi-C™
- ☐ Lemonade
- ☐ Lemon-lime soda (e.g. Sprite®, 7-Up™)
- ☐ Limeade
- ☐ Mineral water
- ☐ Mountain Dew®
- ☐ Nectars (apricot, peach, pear)
- ☐ Orange soda
- ☐ Pineapple juice
- ☐ Root beer
- ☐ Sunny Delight® citrus punch
- ☐ Tea

Fats

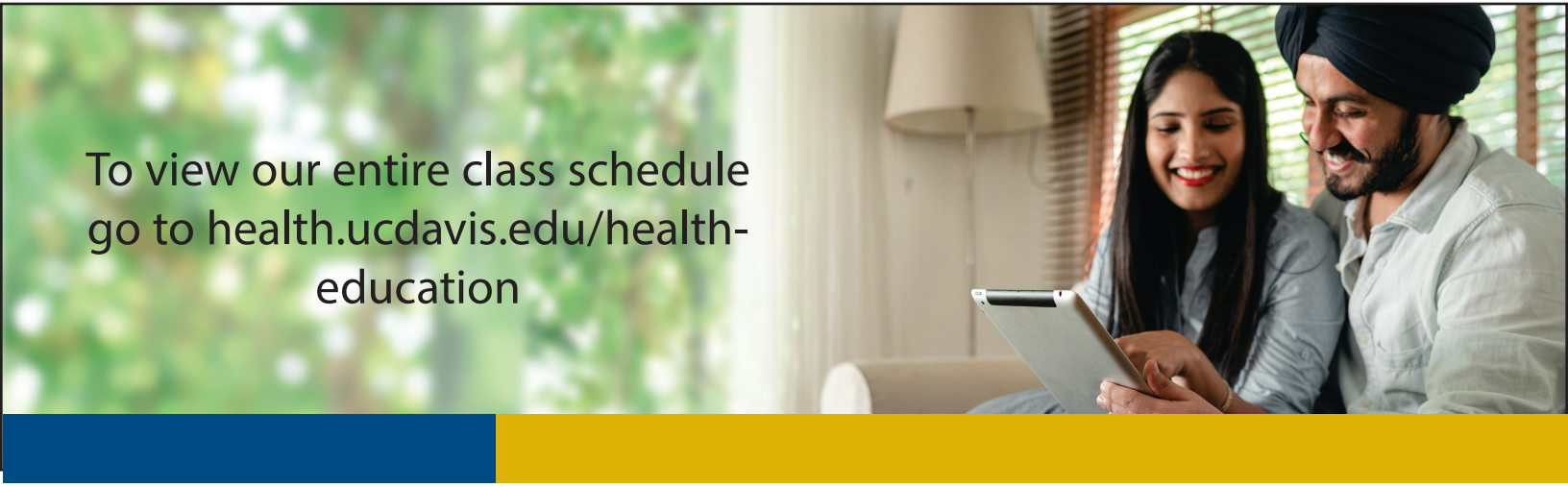
- ☐ Vegetable oils (Canola or olive oil)

Sweets (contain carbohydrates)

- ☐ Apple butter
- ☐ Cake (sponge, angel, pound, spice, yellow, lemon)
- ☐ Candy corn
- ☐ Chewing gum
- ☐ Cinnamon drops
- ☐ Cookies (sugar, short-bread, gingersnap, lemon cream)
- ☐ Cotton candy
- ☐ Doughnuts (without nuts or chocolate)
- ☐ Fruit ice
- ☐ Gelatin
- ☐ Gumdrops
- ☐ Hard candy
- ☐ Honey
- ☐ Jam/jelly
- ☐ Jellybeans
- ☐ Maple syrup
- ☐ Marmalade
- ☐ Marshmallows
- ☐ Peppermints
- ☐ Pie (apple, cherry, lemon)
- ☐ Popsicles (fruit-flavored)
- ☐ Rice Krispie® Treats
- ☐ Red licorice
- ☐ Sorbet
- ☐ Sugar
- ☐ Vanilla wafers
- ☐ Vanilla cupcakes

Seasonings

- ☐ Allspice
- ☐ Basil
- ☐ Bay leaf
- ☐ Black pepper
- ☐ Caraway seed
- ☐ Cardamom
- ☐ Chili powder
- ☐ Chives
- ☐ Cilantro
- ☐ Cinnamon
- ☐ Cloves
- ☐ Coriander
- ☐ Crushed red pepper flakes
- ☐ Cumin
- ☐ Curry powder
- ☐ Dill
- ☐ Extracts (vanilla, almond, peppermint)
- ☐ Fennel
- ☐ Garlic (fresh or powder)
- ☐ Ginger
- ☐ Horseradish (root or powder)
- ☐ Lemon or lime juice
- ☐ Liquid smoke
- ☐ Mint
- ☐ Mrs. Dash®
- ☐ Mustard, dried
- ☐ Nutmeg
- ☐ Onion (fresh, powder, flakes)
- ☐ Oregano
- ☐ Paprika
- ☐ Parsley
- ☐ Pimento
- ☐ Poultry seasoning
- ☐ Rosemary
- ☐ Saffron
- ☐ Sage
- ☐ Savory
- ☐ Sesame seeds
- ☐ Tabasco®
- ☐ Tarragon
- ☐ Thyme
- ☐ Turmeric
- ☐ Vinegar



Additional Learning Opportunities

Health Management and Education has many classes available on a variety of health topics. Most classes are free. We offer weekend and evening classes as well.

Other Class Topics

- Heart Health
- Diabetes
- Weight Management
- Stress Reduction
- Tobacco Cessation
- Chronic Kidney Disease
- And much more

Three Easy Ways to Register:

1. Self register on MyUCDavisHealth
   - If you need any additional assistance with scheduling through MyUCDavisHealth, please visit our webpage at health.ucdavis.edu/livinghealthy/classes/enroll-class.html
2. Call our office to register at 916-946-1449
3. Email your request to hs-healtheducationclass@health.ucdavis.edu
   Include in your email:
   - First and last name
   - Date of birth
   - Medical record number (if known)
   - Class name
   - Class location
   - Class date and time

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