

## **NUTRITION THROUGH THE STAGES OF CKD**

### **STAGE 5**

When you have chronic kidney disease, nutrition is an important part of your treatment plan. Your Dietitian will help you plan your meals with the right foods and in the right amounts.

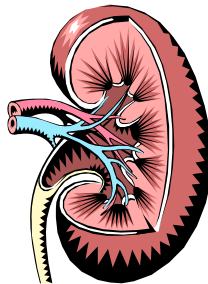
Nutrients affecting the kidneys at this stage are:

-protein, sodium, potassium, phosphorus, vitamins, and fluid.

- When kidney function is too low, dialysis treatments are started.
- There are two types of dialysis:
  - Hemodialysis (HD)
  - Peritoneal Dialysis (PD)
- Both types of dialysis clean the wastes (extra electrolytes and minerals) and extra fluid out of the blood.

### ***HEMODIALYSIS (HD)***

- HD is done in a dialysis unit 3 times per week.
- Sodium, potassium, phosphorus and fluid need to be limited in the diet to avoid large amounts building up in the blood between treatments.



To be used in conjunction with advice from a Registered Dietitian.



## **HEMODIALYSIS**

### **1. PROTEIN**

- Some protein is removed from your body during HD.  
-more protein should be eaten when you are on dialysis
- Eating the right amount of protein will help to:
  - build muscles & repair tissues
  - fight infection
  - prevent wastes from building up in your blood
- Protein comes from:
  - wild meats
  - red meats
  - poultry (chicken, turkey, and duck)
  - fish and seafood
  - eggs
  - milk and cheeses
  - tofu
  - legumes and beans
- **Note:** Milk, cheese, legumes (dried peas, dried beans, and lentils), soy beverage and processed meats are high in phosphorus. These foods should be limited.

### **2. SODIUM**



- Limiting sodium intake to 2000 –3000 mg (about 1 teaspoon of salt) per day may help to:
  - reduce fluid build up your body  
(swelling of the ankles, fingers, eyes),
  - control thirst
  - control blood pressure
- Sodium is a mineral and is found in most foods but is especially high in:
  - Table salt & sea salt
  - Salty seasoning (soy sauce, teriyaki sauce, garlic salt, seasoning salt)
  - most canned food and some frozen foods
  - processed meats (e.g. ham, bacon, sausage, cold cuts)
  - salty snack foods ( e.g. chips, crackers, pickles)



- most restaurant and take out foods (MSG)
- canned or dehydrated soups (packaged noodle soup)

### ***Tips***

- eat food closest to their natural state (unprocessed)
- Read food labels for sodium content:
  - Try fresh or dried herbs & spices instead of table salt
  - Add a dash of hot pepper sauce
  - Use lemon juice or vinegar
  - Try no-added salt spice blends ( e.g. Mrs Dash®, McCormick's No Salt Added®)
  - **Avoid** salt substitutes (e.g. Half salt® or No-Salt®)
- Ask your server to have foods prepared without salt at restaurants

## ***3. POTASSIUM***

- Is an important mineral that helps your muscles & heart work well
- Too much or too little potassium in the blood can be dangerous

Potassium is found in all foods but large amounts are found in:

- certain fruits & vegetables (bananas, melons, oranges, potatoes, tomatoes, dried fruits, dark green leafy vegetables & some fruit & vegetable juices)
  - milk and yogurt
  - dried beans and peas
  - salt substitutes
  - chocolate
  - nuts and seeds
  - lentils and legumes

People on hemodialysis usually need to restrict their potassium intake. Individuals with a large appetite can have high blood potassium levels even if they are trying to limit “high potassium” foods. Remember to watch your portion sizes.

### ***TIP TO REDUCE THE POTASSIUM IN ROOT VEGETABLES***

Double-boiling or soaking cut and peeled vegetables (potatoes, carrots) will help to decrease potassium content



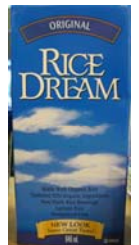
## . **PHOSPHORUS**



- Also known as phosphate
- Is a mineral that works together with calcium to form strong bones & teeth
- In the later stages of kidney disease, phosphorus starts to build up in your blood. Calcium is then pulled from your bones into your blood. This causes serious problems like:
  - Damage to the heart & other organs
  - Poor blood circulation
  - Bone pain & weakness
  - Skin sores
- Phosphorus is found in most foods. Large amounts are found in:
  - Dairy products (e.g. milk, cheese, yogurt & ice cream)
  - Soy beverages
  - Dried beans and peas (e.g. kidney beans, split peas, lentils)
  - Nuts and seeds
  - Other beverages (e.g. colas, beer, cocoa)
  - Chocolate
  - Baking powder
  - Whole grains, especially bran
- The Dietitian will discuss ways to help lower phosphorus intake
- The Doctor may prescribe a phosphate binding medication to be taken before meals to help control the level in your blood.

### **TIPS**

Use non-dairy creamers and milk substitutes in place of milk to help lower the amount of phosphorus in your diet.  
Rice Dream Original® is low in phosphorus.



## 5. VITAMINS & SUPPLEMENTS

- When your diet is limited you may need to take a special vitamin pill made for people with kidney disease.
- Do not take over-the-counter vitamins.
- Do not take over-the-counter Vitamin D or calcium pills unless recommended by your kidney doctor.
- Check with the kidney doctor and/or pharmacist about herbal supplements.



## 6. FLUIDS

- Fluid intake is limited to 1000 –1500 ml per day.
- The amount you can drink will depend on your 24 hour urine volume and/or whether you have fluid build up.



### TIPS

- All beverages, ice, ice cream, Jell-O® and soup count as fluids.

## OTHER THINGS TO THINK ABOUT



## ENERGY/CALORIES

- Comes from the foods you eat. Without enough calories, your body will use up your protein to give you energy. This will cause muscle wasting (loss of muscle).
- Eating enough calories helps:
  - you stay at a healthy weight
  - your body use protein for building muscle and tissues.

### TIPS

- Try to eat at least 3 meals each day
- Have something to eat every 4-6 hours
- Watch how much or how little you eat (portion control)
- The Dietitian will help you with your calorie needs.



## FATS

- *Provide energy and are a part of a healthy diet*

## TIPS

- Use vegetable oils such as canola, olive and soybean.
- Choose non-hydrogenated soft margarines (tubs) as these are low in saturated and trans fats.
- Limit intake of butter, hard margarines, lard and shortening.



## SAMPLE OF DIET CHANGES IN HEMODIALYSIS

MEAL	No Restrictions	Low Salt, Potassium, Phosphorus, Fluid & High Protein
BREAKFAST	Orange juice Bran cereal Milk Coffee with milk	½ cup canned fruit Rice Krispies® ½ cup of milk 1 boiled egg 1 slice white/rye toast with margarine Coffee with non-dairy creamer
LUNCH	Canned Pea soup Pastrami sandwich Salad (lettuce, tomato, cucumber, celery) Banana 1 cup milk	Homemade low salt soup Unsalted crackers Roast beef sandwich (2-3 ounces beef) Salad (lettuce, cucumber, celery) ½ cup grapes Water/hot beverage/non-cola soda
SUPPER	Ham Canned peas Frozen fried potatoes  Orange Milk	4-5 ounces pork roast ½ cup frozen or fresh peas ½ cup homemade boiled potatoes 1 dinner roll, margarine Peach Water/hot beverage/non-cola soda
SNACK	Crackers, & cheese sausage Cola	1 slice white/rye toast with 1 tbsp peanut butter Water/hot beverage/ non-cola soda

