

Diet & Dialysis

Nepro[®] with
CARB
STEADY™

Therapeutic Nutrition for People on Dialysis



Your Name: _____

Dietitian Name: _____

Dietitian Phone Number: _____

This booklet was developed to help people with chronic kidney disease understand their condition and the importance of good nutrition in their daily lives.

If you have chronic kidney disease, save this booklet as a handy reference to remind you of how your nutritional needs have changed since you started dialysis.

Your dietitian recommends the following diet:

Diet details _____

See the sample meal plans on pages 16 and 17. The plan on page 16 is suggested for dialysis days.

What do the kidneys do?

Two of the kidneys' most important jobs are:

- **filtering wastes out of the blood**
- **forming urine to carry these wastes out of the body**



As part of this process, the kidneys adjust the amounts of the following in the blood:

- water
- minerals (among them, calcium and phosphorus)
- electrolytes (sodium, potassium, and chloride)

Maintaining the body's balance of water, minerals, and electrolytes is very complex.

Most of the wastes, minerals, and electrolytes that the kidneys remove come from the foods we eat. When protein is digested, a waste product called *urea* is formed. Urea and other wastes are combined with water in the kidneys to form urine.

What happens when the kidneys don't work normally?

Most people have two kidneys—one on the right side of the lower back and the other on the left. People can live fairly normal lives with only one healthy kidney. If part of a kidney is damaged or diseased, the healthy part works extra hard to make up for the loss.

A damaged or diseased kidney, however, may not be able to filter enough waste from the blood. If this happens, wastes and electrolytes build up in the blood and act like poison.

What is chronic kidney disease?

In kidney disease (also called *renal disease*), the kidneys don't filter enough waste from the blood.

This can result from a number of causes. The most common are diabetes, high blood pressure, hereditary kidney diseases, drug side effects, and blockage by kidney stones.

People can lose more than half their normal kidney function before they start to notice symptoms of kidney disease. Some of these symptoms are nausea, vomiting, tiredness, and loss of appetite. Chronic kidney disease (also called end-stage renal disease or ESRD) occurs

when the kidneys are no longer able to sustain life on their own. When this condition is diagnosed, dialysis is usually prescribed.

What is hemodialysis?

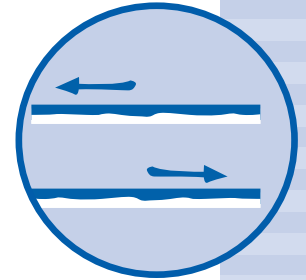
Hemodialysis is the process of removing excess urea, fluid, electrolytes, minerals, and other wastes from the body when the kidneys can't.

Several times a week, when you have dialysis, your blood passes through a machine's special filter, where water, waste products, minerals, and electrolytes are removed from the blood.

For some people, a kidney transplant may be an option instead of long-term dialysis.

Why is diet important for people receiving dialysis?

When the kidneys can no longer remove waste products and excess fluids from the body, these wastes and fluids can build up and poison the body. To prevent this buildup between dialysis treatments, the intake of fluids and certain foods must be limited.



What is a good diet for people receiving hemodialysis?

People receiving hemodialysis have specific needs that make their diets different from their diets before dialysis. To help you identify better food choices, refer to the tables in the back of this booklet. Work closely with a renal dietitian to develop a diet that includes some or all of the following:

● **Sufficient calorie intake**

If you don't get enough calories every day, the body will break down muscle for energy (calories) over time, resulting in weight loss. To make sure your energy needs are being met, a dietitian may recommend increasing the intake of margarine and oils, honey, syrups, jam, jellies, and hard candies.

Amounts of fat and carbohydrate can be adjusted so the diet provides enough calories and still follows dietary guidelines for people with diabetes.

● **Protein intake**

People starting dialysis may previously have been on a low-protein diet. With dialysis, the body needs more high-quality protein, such as that found in eggs, fish, meat, and chicken. High-

quality protein provides the essential amino acids that are used to build, maintain, and repair body tissues. See Table 1, page 12.

● **Potassium intake**

Potassium is found in fruits, vegetables, milk, nuts, meat, and chocolate. Potassium is very important because it affects the ability of muscles to contract. Too much or too little potassium can harm the heart, which is a muscle. See Table 2, page 13.



● **Sodium intake**

Sodium is found in many processed foods and is a major component of table salt. Too much sodium increases thirst, but drinking too many liquids can cause swelling and increase blood pressure. High blood pressure can harm the heart or even cause a stroke. Foods can be seasoned with spices and herbs, instead of salt. See Table 3, page 14.

● **Phosphorus intake**

Phosphorus is a mineral found in cheese, milk, and meat. In kidney disease, the body can't keep a balance between calcium and phosphorus. The result is too little calcium and too much phosphorus in the blood. Doctors may prescribe

a *phosphate binder*, a medicine that helps control the phosphorus level in the blood. See Table 4, page 15.

● **Calcium intake**

You need to be sure you are getting enough calcium to prevent bone disease, without drinking too much milk or eating too many dairy products. Milk and other dairy products are rich in calcium, but they also contain a lot of potassium and phosphorus. Doctors may prescribe a calcium supplement.

● **Fluid intake**

You may be asked to limit your fluid intake. (A fluid is anything that is liquid at room temperature. Examples are: water, ice, ice cream, gelatin, sherbet, juice, soft drinks, and soups.) Body fluids build up quickly between hemodialysis treatments and cause bloating and discomfort. Getting the right amount of fluid will help you feel your best.

Work with your doctor and dietitian to find the right diet for you. Your diet—which will be designed just for you—may depend on your appetite and the levels of some substances in your blood (potassium, for example).

The following foods and beverages must count

toward your intake if you are on a fluid restriction diet. Your dietitian will tell you the amounts of these foods that you can consume each day.

FLUIDS		
_____ per day		
● Milk	● Tea	● Ice cream
● Soft drinks	● Lemonade	● Sherbet
● Fruit juices	● Broth	● Popsicle® pops
● Coffee	● Jell-O®	● Sorbet

● **Vitamin intake**

The kidneys are important in metabolizing several vitamins, so selected vitamins need to be supplemented and the intake of others should be controlled.

For example, you may need to increase your intake of vitamins B₆, B₁₂, and folic acid to offset losses. People on dialysis often take a renal multivitamin supplement with the right balance of vitamins. If a vitamin supplement is not prescribed, you should ask your doctor or dietitian for a recommendation before taking one.

● **Blood sugar control**

If you have diabetes, you will work closely with your dietitian to create an eating plan that will be

modified in potassium, phosphorus, sodium, and calcium and with high quality protein. In addition, your diet will be planned to contain the proper balance of carbohydrates and fats to meet your individual needs. Because of your diabetes, your carbohydrate intake will be tightly controlled in order to manage your blood sugar levels. High sugar foods such as candies, jellies, and soft drinks increase blood sugar. Carbohydrate foods such as bread, cereal, pasta, rice, starchy vegetables, fruits, and fruit juices can increase blood sugar levels. Therefore, the total amount of carbohydrate you eat will be balanced with your medicines and activity level. Your dietitian will teach you how to keep your carbohydrate intake balanced.

Are there other nutritional choices for people receiving dialysis?

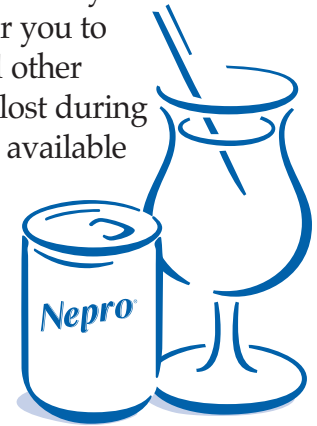
Many people who aren't able to eat well because of health problems—not just people with kidney disease—have found medical nutritional products to be beneficial to their diet.

Medical nutritional products are specially formulated to be used in addition to regular meals, or in place of them.

Ross has developed a medical nutritional product just for people on dialysis. It is called NEPRO[®] with Carb Steady[™] Therapeutic Nutrition for People on Dialysis.

What is NEPRO[®] with Carb Steady[™]?

NEPRO[®] with Carb Steady[™] is a milkshake-like drink that is an excellent source of protein, low in sodium and potassium, and high in calories. Drinking NEPRO[®] with Carb Steady[™] is a quick, convenient way for you to help get back the protein and other nutrients that you may have lost during your dialysis treatments. It is available in 3 flavors—Homemade Vanilla, Butter Pecan, and Mixed Berry. One can provides 425 Calories and 19.1 grams of protein. NEPRO[®] with Carb Steady[™] is low in phosphorus and vitamins A and D, and high in folic acid, vitamin B₆, and calcium. NEPRO[®] with Carb Steady[™] is a great supplement to the diet of people with kidney disease.



40%-50% of people with chronic kidney disease (CKD) have diabetes.



The slowly digested carbohydrates (SDCs)

Maltitol and Fibersol are utilized in NEPRO® with Carb Steady™ to help manage blood sugar response.

Maltitol is a sugar alcohol that has fewer calories than sugar and reduces the rise in blood sugar in individuals with diabetes. Fibersol is a source of dietary fiber that can help maintain digestive tract health while helping to maintain blood sugar response.

NEPRO® with Carb Steady™ also contains FOS to help maintain digestive tract health and serve as a source of dietary fiber.

Your doctor or renal dietitian may recommend NEPRO® with Carb Steady™ to you for these reasons:

- As a quick and easy meal replacement anytime
- For dialysis days, since you may be too tired to make yourself a meal
- If your lab values indicate you need more protein and calories in your diet
- If you have lost weight without trying

NEPRO® with Carb Steady™ is lactose-free, gluten-free and kosher.

NEPRO® with Carb Steady™ can be used as a tube feeding for people who can't swallow normally.

Ask your doctor or renal dietitian if NEPRO® with Carb Steady™ is right for you.

How can I find out more about NEPRO® with Carb Steady™?

Ask your doctor or renal dietitian for more information about NEPRO® with Carb Steady™.

To order NEPRO® with Carb Steady™, ask at your drugstore for the flavors you want. For convenient home delivery, call toll free **1-800-986-8502**.

Sources:

1. USDA Nutrient Data Laboratory: USDA National Nutrient Database for Standard Reference, Release 17. Available at www.nal.usda.gov/fnic/foodcomp. Accessed March 2005.
2. *Nutritive Value of American Foods in Common Units*, Agriculture Handbook No. 456, US Dept of Agriculture, Agricultural Research Service, 1975.
3. Pennington JAT: *Bowes and Church's Food Values of Portions Commonly Used*, ed 15. Philadelphia: JB Lippincott Co, 1989.

TABLE 1
PROTEIN FOODS

_____ oz protein foods per day

Choose these:

Fresh meats and low-sodium packaged meats



Beef



Chicken



Turkey



Fish



Low-sodium canned meat & fish



Low-sodium lunchmeat



Eggs



Egg substitute



Shrimp & scallops

Instead of these:

Processed meats contain high amounts of sodium



Hot dogs



Ham



Lunchmeat



Salami



Sausage



Bacon



Chipped/corned beef



Anchovies



Sardines

DAIRY PRODUCTS

_____ servings dairy products per day

Dairy products are a good source of protein, but may also be high in phosphorus, sodium, or potassium



Milk - skim, low-fat, whole (1 cup)

Cheese - Swiss, cheddar, mozzarella (1 oz)

Cottage cheese - (1/2 cup)

Yogurt - skim, low-fat (1 cup)

Soy milk - (1 cup)

TABLE 2
FOODS WITH POTASSIUM

Choose these:

Foods LOW in potassium



Plain tortilla chips
(1 oz = 56mg)



Cranberry juice
(1 cup = 37mg)



Alfredo sauce
(1/4 cup = 16mg)



Green beans, cooked
(1/2 cup = 100mg)



Peaches, canned
(1/2 peach = 95mg)



Mashed potatoes
(1/2 cup = 152mg)



Low-fat milk
(1 cup = 397mg)



Mandarin oranges
(1/2 cup = 99mg)



Fruit cocktail
(1/2 cup = 115mg)

Instead of these:

Foods HIGH in potassium



Fast food french fries
(1 large order = 560mg)



Orange juice
(1 cup = 472mg)



Tomato sauce
(1/2 cup = 400mg)



Spinach, cooked
(1/2 cup = 279mg)



Banana
(1 small = 362mg)



Baked potato
(1 small = 610mg)



Milk shake
(11 oz = 571mg)



Fresh orange
(1 med = 250mg)




Cantaloupe
(1 cup = 494mg)


TABLE 3


FOODS WITH SODIUM

Choose these:

Foods LOW in sodium


 Lettuce salad w/dressing (small = 225mg)

 Cream cheese (1 oz = 83mg)


 Popcorn, caramel coated (2/3 cup = 56mg)


 Grape juice (1 cup = 8mg)

 Pork chop (2 oz = 32mg)

 Cooked cabbage (1 cup = 6mg)


 Fast food fish filet (1 sandwich = 614mg)


 Cooked carrots (1/2 cup = 45mg)


 Cake doughnut (1 small = 143mg)


Instead of these:

Foods HIGH in sodium


 Canned soup (1 cup = 800mg)


 American cheese (1 slice = 313mg)


 Potato chips (4-oz bag = 674mg)

 Tomato juice (1 cup = 654mg)

 Ham (2 oz = 697mg)

 Sauerkraut (1 cup = 939mg)

 Fast food cheeseburger (1 burger = 1589mg)

 Macaroni & cheese (from mix) (3/4 cup = 652mg)

 Danish pastry (1 large = 503mg)


TABLE 4

FOODS WITH PHOSPHORUS

Choose these:


Foods LOWER in phosphorus

 Popcorn (1 cup = 19mg)


 Pasta (1 cup = 94mg)
Butter & herb sauce (1/2 cup = 54mg)

 Chicken (3.5 oz = 140mg)

 Angel food cake (1 slice = 9mg)

 Green beans (1/2 cup = 13mg)


 Popsicle® (1 pop = 0mg)


 Hamburger (3.2 oz = 120mg)


 Crackers (8 = 24mg)


Instead of these:


Foods HIGHER in phosphorus


 Nuts (2 oz = 264mg)

 Pizza (1 slice = 234mg)


 Liver (3.5 oz = 400mg)

 Chocolate (1 bar = 160mg)

 Pork & beans (1 cup = 274mg)

 Ice cream (1 cup = 200mg)

 Hot dogs (2 = 170mg)

 Biscuit (1 = 140mg)

SUGGESTED FOR DIALYSIS DAYS

Sample Menu Plan with 1 can of NEPRO® with Carb Steady™ per day

Menu based on a diet for: 2000 calories, 90g protein, 2800mg potassium, 3g sodium, 800-1200mg phosphorus, and 1000mL fluid.

Breakfast:

- 3/4 cup apple juice
- 1 cup oatmeal
- 1 scrambled egg
- 1 slice toast with margarine
- 1/2 cup pears

Lunch:

- 8-fl-oz can NEPRO® with Carb Steady™
- 1 apple

Dinner:

- 3 oz roast chicken
- 1/2 cup rice
- 1/2 cup peas
- 1/2 cup cooked carrots
- 1 dinner roll
- Margarine or butter
- 1/2 cup ice cream

Snack:

- 1 cup cranberry juice
- 4 graham crackers

Sample Menu Plan with 1-2 cans of NEPRO® with Carb Steady™ per day

Menu based on a diet for: 2000 calories, 90g protein, 2800mg potassium, 3g sodium, 800-1200mg phosphorus, and 1000mL fluid.

Breakfast:

- 1 cup hot tea
- 1/2 cup peaches
- Toasted bagel
- 2 oz cream cheese
- 2 poached eggs
- 1/2 cup pineapple juice

Lunch:

- 2-oz hamburger
- Hamburger bun
- Mayonnaise, lettuce, onion
- 1/2 cup coleslaw
- 1/2 cup raw carrots and radishes
- 1/2 cup cranberry juice
- OR**
- 8-fl-oz can NEPRO® with Carb Steady™
- 1/2 cup pears

Snack:

- 1 cup iced tea
- 1/2 cup cottage cheese
- Toasted English muffin
- Margarine or butter
- OR**
- 1/2 8-fl-oz can NEPRO® with Carb Steady™

Dinner:

- 3 oz roast turkey breast
- 1/2 cup mashed potatoes
- Lettuce salad with 2 T French dressing
- 1/2 cup cooked broccoli
- 1 dinner roll
- Margarine or butter
- 1/2 cup applesauce

Snack:

- 2 cups popcorn with butter
- 1/2 cup grapes
- 1-oz chicken
- OR**
- 1/2 8-fl-oz can NEPRO® with Carb Steady™

Nepro[®] with **CARB STEADY[™]**

therapeutic nutrition
for people on dialysis

Available at
local pharmacies



Choose from 3 Delicious Flavors

- Homemade Vanilla
- Butter Pecan
- Mixed Berry

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