



# MALNUTRITION:

## ARE YOU GETTING ENOUGH PROTEIN AND CALORIES?

**P**rotein and the right number of calories are critical to good nutrition. Calories provide energy to keep you going, and the right proteins help you fight infections, build muscles, produce hormones and repair tissues. If you are not getting enough, you can become malnourished, which is a problem shared by as many as 50% of people with end-stage renal disease.<sup>1</sup>

People on dialysis often need extra protein, because dialysis removes protein from the body. Many people have a hard time making up for the loss of protein because they do not consume enough of it.

Lack of appetite, nausea, vomiting or altered taste are all factors which can contribute to malnutrition. Furthermore, the disruption of our daily lives due to dialysis can be a factor as well.

Infections, surgery and certain diseases such as diabetes and heart failure can also lead to malnutrition. Over 40% of people on dialysis have diabetes.<sup>2</sup> Studies have shown that the longer people are on dialysis, the higher the risk is of becoming malnourished.

Of course prevention is the best medicine, so we would like to share some tips to help you consume an adequate number of calories and the correct amount of good protein.

### Complete Protein Incomplete Protein

When you break down protein into its smallest components, you find amino acids: 20 amino acids, actually, nine of which are essential for life. Your body does not produce these complete proteins naturally; so you must get them from the foods you eat. Foods containing all 20 amino acids are called sources of "complete" proteins and include:

- Poultry ● Pork ● Beef ● Fish
- Eggs ● Seafood ● Dairy products

Other good sources of protein are plants, legumes and vegetables. While important for good nutrition, these foods lack all of the 20 essential amino acids you need, so by themselves they are "incomplete" proteins. In order to meet all of your nutritional needs, you must eat a combination of proteins from different sources.

### How to increase your protein and energy intake

- Take your time and do not eat "on the go"
- Eat in calm, relaxed surroundings
- Eat three meals and 2 to 3 snacks a day
- Eat foods that you like and that are easy for you to digest
- Include a complete protein source in each meal, such as meat, poultry, fish or eggs
- If certain smells make you feel nauseous, eat meat cold or lukewarm which reduces the aroma
- Cover your pots and use the stove exhaust fan when cooking. If possible, opt for cooking methods such as grilling outdoors
- If you are tired of meat, try other complete sources of protein, such as eggs, poultry and cheese
- Avoid drinking fluids before or during meals so as not to reduce your appetite
- Find out about "meals on wheels" and catering services in your area and learn about their low-sodium foods and special diets
- Have you tried your hospital's cafeteria? It may be better than you think and is worth a try. Ask your dietitian about good food choices at the cafeteria
- Appetite comes with eating. Sometimes you may have to start eating to build an appetite.

### How to make food preparation easier

- Cook larger quantities and freeze meals in portions
- Use "time savers" such as frozen mixed vegetables, already cut fresh vegetables, low-sodium frozen foods and fresh pasta. Always check the labels!

- Plan for leftovers: make some more meat, chicken or fish and use the leftovers for sandwiches
- Prepare a variety of snacks such as cookies and muffins and alternate between them
- Make one-pot meals such as meat and vegetables cooked in a slow cooker or oven, meatloaf, quiche or soup with meat
- Try a nutritional drink as a base ingredient and make a variety of recipes with it (see next paragraph)
- Mix your own energy drinks (find **Boost your energy drink** and **Cinnamon almond smoothie** recipes on our website [www.myspiceitup.ca](http://www.myspiceitup.ca)).

### Nutritional Drinks

You may already have tried **Nepro® Carb Steady**, **Suplena®** or **Novasource Renal®**. These nutritional drinks or supplements are made for people with acute or chronic kidney failure. They vary in their nutrient content and it is important that you ask your renal dietitian to find the product that is right for you.

These products are easy to carry, easy to consume, and are a complete source of nutrition, when you do not feel like cooking or eating a complete meal. If you get tired of the standard flavours add a bit of variety, be creative and mix it with some of your own flavourings.

Please note that the following recipes and corresponding nutrient analysis were created to be made with **Nepro® Carb Steady**. If you are using other products you may need to make some adjustments to the recipes (and nutrient analysis).

#### References:

1. McKnight K et al. Can J Diet Res 2010;71(1):27-32.
2. US Renal Data System. <http://www.usrds.org> Assessed on Dec 27, 2011.
3. <http://nepro.com/recipes> Assessed on Dec 27, 2011.
4. <http://www.abbottnutrition.ie/recipes> Assessed on Dec 27, 2011.

## PEACH SMOOTHIE<sup>3</sup>

### INGREDIENTS

- 1 237mL bottle Nepro® Carb Steady, chilled**
- 1 cup regular peach yoghurt**
- 1/2 cup canned peaches, drained**

### PREPARATION

- 1 Combine ingredients in blender, blend until smooth, pour into glass and garnish with mint leave.
- 2 Create your own favourite drinks by changing the fruit and flavour. (For example use blueberry yoghurt and blueberries).

#### Nutrient Analysis

PER SERVING ( 1/2 of recipe )	
<b>Renal exchange:</b>	1 Protein +1 Milk Product +1 Fruit
Calories	<b>325Kcal</b>
Protein	<b>15g</b>
Carbohydrates	<b>42g</b>
Fiber	<b>2.5g</b>
Total Fat	<b>11g</b>
Saturated Fat	<b>0.9g</b>
Cholesterol	<b>5mg</b>
Sodium	<b>194mg</b>
Potassium	<b>402mg</b>
Phosphorus	<b>220mg</b>

## FRENCH TOAST<sup>4</sup>

### INGREDIENTS

- 1 237mL bottle Nepro® Carb Steady, chilled**
- 2 eggs**
- 1 tablespoon sugar**
- 1/2 teaspoon cinnamon**
- 4 slices of Italian bread (or another soft bread)**
- 1 tablespoon margarine**

### PREPARATION

- 1 In a medium bowl, combine the **Nepro**, eggs, sugar and cinnamon.
- 2 Soak the bread in this mixture until it is saturated.
- 3 Melt the margarine over medium heat in a large frying pan.
- 4 Fry the bread for approximately 10 minutes on each side, until golden brown and serve warm.

#### Nutrient Analysis

PER SERVING ( 1/2 of recipe )	
<b>Renal exchange:</b>	1 Protein + 2 Starch + 1 Milk Product
Calories	<b>556Kcal</b>
Protein	<b>22g</b>
Carbohydrates	<b>61g</b>
Fiber	<b>2.3g</b>
Total Fat	<b>25g</b>
Saturated Fat	<b>3g</b>
Cholesterol	<b>193mg</b>
Sodium	<b>479mg</b>
Potassium	<b>264mg</b>
Phosphorus	<b>224mg</b>

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