



Nutrition for a Healthy Heart Recovery

A guide to eating after cardiac surgery

This handout explains some common issues with eating that many patients have after cardiac surgery. It offers suggestions for dealing with loss of appetite, treating constipation, and eating right to help your body heal and fight infection.

Common Issues After Surgery

Decreased Oral Intake

After cardiac surgery, patients may experience decreased appetite, increased feelings of fullness, and taste changes. Some reasons for these responses may be:

- The effects of the bypass machine during surgery
- Fluid retention
- Increased medical stress
- New medicines
- Constipation

These side effects can lead to decreased food and fluid intake, which limits the body's ability to heal and fully recover.

Constipation

Constipation is a common problem after surgery. It can be caused by medicines, iron supplements, changes in food and fluid intake, and limited physical activity. To treat constipation, make sure you eat **high-fiber foods** and drink plenty of fluids. Some examples of fiber-rich foods are:

- Fresh fruits and vegetables
- Whole grains (whole-wheat breads, cereals, oatmeal, and bran)
- Legumes (beans)

Diet for Recovery

Do not limit or restrict your food intake until your healing is complete and you have fully recovered. Your body needs adequate nutrients for healing.

- Adequate **protein** maintains and rebuilds muscle tissue.
- **Calories** are your body's fuel. They are needed for maintaining weight and supporting all the body's processes.
- **Vitamins and minerals** are required for wound healing. *Vitamin C, vitamin A, and zinc* may be needed in higher amounts during recovery.

Meeting Your Protein Needs

You will need _____ servings of protein each day until your healing is complete.

Below are foods that are rich in high-quality protein. The amount of each food on the list is equal to **1 protein serving**, which supplies about **7 grams of protein**.

- 1 ounce of any cooked fish, poultry, or lean meat
- 1 ounce of cheese (such as cheddar, mozzarella, or Swiss)
- 1 egg or ¼ cup liquid egg substitute
- 1 cup milk (skim, 1%, 2%, or whole)
- ¼ cup dry powdered milk
- 1 cup yogurt (low-fat or nonfat)
- ¼ cup canned tuna, salmon, or chicken
- 2 tablespoons peanut butter or 1 ounce of nuts
- 1 cup pudding
- ¾ cup custard
- ¼ cup firm tofu
- 2 ounces of shrimp, clams, lobster, scallops, or crab
- ½ cup cooked peas or beans
- ¼ cup cottage cheese

Note: Adding 1 scoop of whey or soy protein powder to drinks provides up to 3 servings of protein (21 grams).

Simple Ways to Boost Protein

- Use milk, evaporated milk, or cream instead of water for cooking hot cereal, soup, custard, and cocoa.
- Add extra chopped meat to eggs, soups, or gravies. For example, add chopped ham to scrambled eggs.
- Add hard-cooked, chopped whole eggs or egg whites to sauces, soups, casseroles, and salad mixtures.
- Spread peanut butter on toast, crackers, and raw fruit or vegetables. Try apple slices, bananas, and celery.
- A handful of nuts makes a high-calorie, high-protein snack. Try sprinkling nuts on other foods such as salads, hot and cold cereal, and yogurt.
- Add grated cheese to vegetables, sauces, soups, and casseroles.
- Try breakfast bars, granola bars, or high-protein energy bars for an easy, quick way to increase protein.
- Oral nutrition supplements, such as Carnation Instant Breakfast, Ensure, and Boost can also provide lots of protein.
- Add protein powders to oral supplements, milk, juice, or smoothies.

Simple Ways to Boost Calories

- Eat smaller meals more often (5 or 6 smaller meals each day).
- Take medicines with oral nutrition supplements instead of water.
- Use dried fruits and nuts in baking and for snacks.
- Eat fresh avocado slices or guacamole for a tasty way to add calories at mealtime.
- Use milk or cream instead of water in oatmeal and hot chocolate.
- Cook with extra oil (olive, canola, vegetable, or grapeseed).
- Oral supplements: There are many brands of oral supplements. Select the product and flavor that tastes best to you. Look for drinks with “Plus” on the label. A “Plus” product will have 350 to 360 calories and 13 to 14 grams of protein. Several oral supplements are:
 - Boost Plus
 - Carnation Instant Breakfast
 - Ensure Plus
 - Glucerna (for people who have diabetes)
 - Resource Fruit Beverage
 - Slimfast High Protein
 - Ultimate Meal (powder)

Special Drinks

The following recipes can help add calories and protein to your diet. You can change these recipes to suit your own taste. Sugar substitutes, unsweetened fruit, fruit juice, water, or sugar-free liquid meals can be used in place of ingredients listed below to decrease sugar content. Lactaid or calcium-fortified soymilk can be used if cow's milk is difficult to digest.

Yogurt Shake

Makes one 10-ounce serving: 290 calories/11 grams protein

Blend: ½ cup whole milk
¼ cup plain yogurt
½ cup fresh or canned fruit
½ banana
4 walnut halves
3 tablespoons raw rolled oats

Katie Drink

Makes one 6-ounce serving: 215 calories/7 grams protein

Blend: 2 tablespoons cottage cheese
⅓ cup jello, prepared
½ cup vanilla ice cream

“Milkshake”

Makes one 12-ounce serving: 340 calories/10 grams protein

Blend: ½ cup whole milk
1 cup ice cream
1 package instant breakfast

Orange Julius

Makes one 10-ounce serving: 236 calories/15 grams protein

Blend: ½ cup orange juice
½ cup whole milk
½ cup liquid egg substitute
1 teaspoon sugar

Banana-Cocoa Smoothie

Makes one 10-ounce serving: 340 calories/17 grams protein

Blend: 1 banana
½ cup silken tofu
½ cup soymilk
2 tablespoons unsweetened cocoa powder
1 tablespoon honey

Heart-Healthy Diet After Recovery

Once you are back to normal and your recovery process is complete, a heart-healthy diet is recommended for life.

Eat a Diet Rich in Fruits, Vegetables, and Whole Grains

Fruits, vegetables, and whole grains contain vitamins, minerals, *antioxidants*, and *phytochemicals*. All of these nutrients help keep your body's cells healthy and help prevent disease. These foods also contain fiber, which keeps your digestive tract healthy and helps control your cholesterol.

- Include **at least 5** servings of fruits and vegetables in your meal plan every day.
- Choose fresh produce in a variety of colors to increase your antioxidant intake.
- Limit “white” foods such as breads, rice, and potatoes. Instead, choose whole-grain products (such as whole-wheat bread and pasta, brown rice, and quinoa).

Emphasize Good Fats

Saturated fats, trans-fatty acids, and excessive calories may increase your blood cholesterol levels. High blood cholesterol can lead to clogged arteries. Always check nutrition labels for saturated and trans fat content. Estimate the amount of saturated fat to include in your diet according to your calorie intake:

Calories per Day	Saturated Fat (grams)
1,200	9
1,500	11.5
2,000	15

- Limit saturated fats to no more than 7% of your calorie intake. Saturated fats are found in animal products such as meat and high-fat dairy products.
- Trans-fatty acids should be eliminated completely. They are found in processed foods.
- Choose protein sources that are low in fat, such as legumes, nonfat or low-fat dairy products, and lean meats.
- Cook with healthy oils such as olive, canola, and grapeseed oils, which contain heart-healthy mono- and polyunsaturated fats.

- Some foods that contain omega-3 fats are fish, nuts, ground flaxseeds, and flaxseed oil. These fats help lower your LDL (bad) cholesterol and raise your HDL (good) cholesterol.
- Eat 2 servings of fish or fish oil per week. If you have coronary heart disease, then 1 gram daily is recommended. If your cholesterol is high, then 2 to 4 grams daily are recommended.

Increase Physical Activity

Physical activity will help you lose and/or maintain your weight, and it lowers your risk of heart disease. Studies show that losing 10% of body weight can lower cholesterol, blood pressure, and risk of heart disease.

Do 30 minutes of some kind of activity every day. Limit your sedentary activities, such as watching television or playing computer games.

Here are some suggested daily activities:

- Walking
- Jogging
- Bicycling
- Swimming
- Aerobics
- Golf
- Gardening
- House cleaning
- Dancing
- Stretching/yoga

To get started on your exercise routine:

- Consult with your doctor or health care provider before starting any exercise program.
- Set a goal.
- Use a pedometer to see how far you walk each day.
- Make exercise a priority. Put it on your schedule.

Limit Added Sugars and Sodium

- Reduce sodium to 2,300 milligrams (mg) daily to help to lower your blood pressure.
- Remember to read food labels. Processed foods such as frozen dinners, canned items, and deli meats are high in sodium.
- Added sugars in sweetened products like candy, soda, and bakery items are high in calories and low in nutrients. They can contribute to weight gain, and can even raise your triglycerides and lower your HDL level as the body turns the extra sugar into fats.

Sources of Fats

Saturated Fats	Trans Fats	Omega-3 Fats
• Butter	• French fries	• Flaxseed
• Cheese	• Doughnut	• Walnuts
• Ground beef	• Cake/Pastries	• Salmon
• Whole milk	• Shortening	• Halibut
• Doughnut	• Crackers	• Soybeans
• Chicken skin	• Margarine	• Fish oil supplement
• Sour cream	• Potato chips	• Shrimp
• Sausage	• Candy bars	• Scallops
• Full-fat ice cream	• Cookies	• Winter squash

Resources**Cookbooks**

- *Craig Clairborne's Gourmet Diet*, by Craig Clairborne and Pierre Franey
- *The Road to a Healthy Heart Runs Through the Kitchen*, by Joseph Piscatella
- *The American Heart Association Cookbook*
- *The Fat and Sodium Control Cookbook*
- *Cooking Light Magazine*
- *Healthy Homestyle Cooking*, by Evelyn Tribole, MS, RD

Questions?

Your questions are important. Call your doctor or health care provider if you have questions or concerns. UWMC clinic staff are also available to help.

Dietitian/Diet
Technician:

Web Sites

- www.mealsforyou.com (select *Recipes*)
- www.diabetes.org
- www.prevention.com (select *Nutrition & Recipes*, then *Recipes*)
- www.cookinglight.com

To Learn More

If you have questions after discharge, please feel free to contact a registered dietitian or diet technician:

Dietitian/Diet Technician: _____

Phone: _____

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