

Heart Smart Nutrition



Maureen Elhatton is a registered dietitian involved in the area of cardiac rehabilitation. She specializes in heart health nutrition in Edmonton, Alberta.

Nutrition Interventions for CHF

By Maureen Elhatton, RD

In Canada, declining death rates from cardiovascular disease and myocardial infarction are good news for the medical profession. However, with the increased survival rate from improved medical practices (*i.e.*, angioplasty, surgery) comes the patient with more heart muscle damage and a greater risk of developing congestive heart failure (CHF).

Ischemic heart disease accounts for 70% of the incidence of heart failure in Canada, followed by idiopathic

dilated cardiomyopathy, hypertension and valvular heart disease. One of the many long-term complications of hypertension is CHF. In fact, the one cardiovascular disease on the increase is heart failure. CHF counts as the most common reason for hospital admission for people aged ≥ 60 . The cost for Canadian hospital admissions alone is more than \$1 billion. After being diagnosed with heart failure, a patient's one-year mortality rate is 25% to 40%. Treatment often requires multiple drug therapy and intensive medical follow-up. A multi-disciplinary approach, including diet therapy, is a vital adjunct in the successful long-term treatment of CHF patients.¹

During the past 10 years, the philosophy of heart failure treatment has evolved from symptom control to a combined prevention and symptom management strategy. Recent clinical trials have proven early detection can delay the progression of CHF. The treatment of hypertension in the Systolic Hypertension in the Elderly Program decreased the risk for development of heart failure by 81%.² The treatment of hypercholesterolemia in the Scandinavian Simvastatin Survival Study



Nutrition

Table 1

Dietary Guidelines for a Sodium-Restricted Diet

Food Category	Low Sodium	High Sodium
Fruit/vegetables	Fresh or frozen without added sauces	Canned and pickled vegetables, vegetables juices, sauerkraut
Grain products	Whole grains, cereals, rice, pasta	Commercial crackers, packaged pasta/rice mixes, seasoned coating mixes
Dairy products	Milk, unsalted margarine	Processed and aged cheese, cottage cheese
Meats/alternatives	Lean beef, poultry, fish, pork prepared without salt	Cured and processed meats, canned meats, smoked meat or fish
Miscellaneous	Fresh or dried herbs and spices	Condiments, canned soup, seasoning mixes

Adapted from: USDA Nutrient Data Laboratory accessed 20 March 2002, Reports by single nutrient-potassium & sodium.

(4S Trial) reduced the risk for the development of heart failure by 20%. In these early stages of CHF, most individuals are seen by their family physicians, who need to identify these patients and begin preventative therapy.²

The goals of diet therapy are to improve CHF symptoms using the following strategies:

- Complementing the drug therapy these patients follow (*i.e.*, low-sodium diet, high-potassium diet);
- Reducing myocardial workload (*i.e.*, improving body weight, reducing fluid overload); and
- Nutrition support to improve the quality and duration of life.^{3,4}

Diet therapy emphasizes the use of a food program low in sodium, usually < 3,000 mg per day. Unfortunately, many people with CHF are not aware of the hidden sources of sodium in their diet and are unaware of how to read a food label to determine sodium content. Table 1 provides a general guideline of foods with a higher sodium content. A general rule of thumb is to advise patients not to cook with salt and to avoid adding any to their food. Table salt is a chemical compound, called sodium chloride, and contains approximately 2,000 mg of sodium in 5 mL (1 tsp). It is helpful to advise patients to think of the millennium year (2000) when trying to remember the sodium content of 5 mL (1 tsp) of salt.

Nutrition

A good source of dietary potassium is important if the patient is on diuretics (non-potassium sparing).³ Potassium is found abundantly in the many foods, and its concentration is highest in certain fruits and vegetables. Consuming high potassium foods will supplement urinary losses of the mineral. While a typical diet contains approximately 2,000 mg to 4,000 mg of potassium, in this situation, consuming an additional 2,000 mg of potassium would be advised. Potassium supplements are also available by prescription. It is important to monitor

a patient's potassium level as excesses of the mineral may be just as harmful as deficiencies. Table 2 provides some of the best food sources of potassium.

A comprehensive evaluation of the CHF patient's dietary requirements by a registered dietitian is advised.⁴ Many individuals have multiple medical problems that require them to follow several therapeutic diets. A food item that might be acceptable with one diet may not be advised with another. For example, tomato juice is an excellent source of potassium, but with 535 mg of sodium in one cup, it is not advised for CHF patients. It is a better idea to consume a fresh tomato.

Table 2

Best Food Sources of Potassium

Food Item	Potassium Content
Banana, 1 whole	467 mg
Cantaloupe, 250 mL (1 cup)	494 mg
Potato, baked, 1 whole	610 mg
Raisins, 250 mL (1 cup)	1089 mg
Orange juice, 250 mL (1 cup)	496 mg

Adapted from: USDA Nutrient Data Laboratory accessed 20 March 2002, Reports by single nutrient-potassium & sodium.

Fluid restrictions are generally reserved for individuals taking high doses of diuretics, who have recurrent CHF. In these situations,

all foods liquid at room temperature are considered part of the fluid allowance. Such complex dietary restrictions make the involvement of family members, especially those involved in meal preparation, critical for the successful long-term treatment of CHF.⁴

Overweight individuals with CHF are advised

to lose weight slowly (0.5 kg per week) through a reduction in food portions. A moderate exercise program will also facilitate weight loss and contribute to an overall sense




Nutrition



A comprehensive cardiac rehabilitation program can provide exercise and education guidelines for the CHF patient.

of well-being for the patient. A comprehensive cardiac rehabilitation program can provide exercise and education guidelines for the CHF patient.

Dietary non-compliance caused by failure to counsel the CHF patient, may be the reason for hospital re-admission for many individuals. With the incidence of CHF and the cost of treating it on the increase, medical nutrition therapy — through dietary counseling — is an important step in its treatment. 

References

1. Kostuk WJ: Congestive heart failure: What can we offer our patients. *Can Med Assoc J* 2001; 165(8):1053-5.

2. Gombert-Maitland M, Baran DA, Fuster V: Treatment of congestive heart failure: Guidelines for the primary-care physician and the heart failure specialist. *Archives of Internal Medicine* 2001; 161:342-52.
3. Douglas S: Nutrition guidelines for congestive heart failure. *Heartbeat, Dietitians of Canada National Cardiology Network* 2001; Summer: 2-3.
4. Gibbs CR, Jackson G, Lip GY: ABC of heart failure non-drug management. *BMJ* 2000; 320:366-9.
5. USDA Nutrient Data Laboratory accessed 20 March 2002, Reports by single nutrient-potassium & sodium. www.nal.usda.gov/fnic/foodcomp/index.html

Internet Resources

www.dialadietitian.org

British Columbia Dietetic Association provides diet copies and nutrition information

www.dietitians.ca

Dietitians of Canada Web site to help you find a registered dietitian in your area.