

Position Statement

LOW CARBOHYDRATE DIETS AND HEART DISEASE AND STROKE

A lot of public discussion and media attention has focused on low carbohydrate diets. The Heart and Stroke Foundation of Canada is a leader in educating the public about the importance of eating a healthy and balanced diet. The following Position Statement was developed to help the public better understand nutrition, personal food choices, and their relationship to low carbohydrate diets.

FACTS

- Carbohydrate is a component of food that should be the main source of energy for the body. Health Canada advises Canadians to consume 45-65% of daily intake of calories from carbohydrate, 20-35% of daily intake of calories from fat, and 10-35% of calories from protein.¹
- Carbohydrate is found in the Grain Products, Vegetables and Fruit, Milk Products, Meat, and Alternatives (legumes) food groups of *Canada's Food Guide to Healthy Eating*.
- Foods with carbohydrate have important vitamins and minerals like vitamin C, iron, calcium, folic acid, potassium, and magnesium. Eliminating carbohydrates from your diet can put you at risk for vitamin and mineral deficiencies.²
- Foods with carbohydrate, for example whole grain breads and brown rice, are an important source of fibre which can help reduce cholesterol, improve your bowel function, and promote blood sugar control.¹
- Low carbohydrate diets allow very low amounts of carbohydrates – typically less than 20% of total calorie intake (less than 100 grams of carbohydrate per day, some as low as 20 grams per day). Thus, individuals have a higher intake of fat and protein, often above the intake recommended by Health Canada.
- Eating a diet higher in fat (more than 35% of your total daily calories), particularly higher in saturated and trans fat, will increase your risk of heart disease and stroke.³
- Eating habits that will lower your risk for heart disease and stroke include eating a high-fibre, lower-fat diet, eating 5 to 10 servings of vegetables and fruit per day, and eating portion sizes of food that are in line with your level of physical activity.⁴
- Engaging in regular physical activity will lower your risk of heart disease and stroke.
- Weight loss occurs when you reduce your food intake⁵ and when you increase your physical activity. Health Canada recommends that Canadians enjoy regular physical activity and healthy eating to achieve and maintain a healthy weight.⁶
- Most people who are trying to lose weight are not following the recommended combination of healthy eating and regular physical activity.⁷
- The restriction of carbohydrate in the diet is of concern because of the possible long-term implications for overall health.



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RECOMMENDATIONS

The following recommendations are made to various groups so that working together we can improve the health of Canadians and reduce the current level of obesity.

The Heart and Stroke Foundation of Canada recommends that:

Canadians

1. Do not follow a low carbohydrate diet for purposes of weight loss. These diets tend to be high in saturated and trans fats.
2. Enjoy regular physical activity and healthy eating to achieve and maintain a healthy weight. This means:
 - a. Engaging in at least 30 minutes of physical activity, most, preferably all days of the week.
 - b. Eating a balanced diet according to *Canada's Food Guide to Healthy Eating*. This diet is higher in fibre, lower in fat - especially saturated and trans fats, and includes 5 to 10 servings of fruit and vegetables every day.
 - c. Using *Health Check™*, the Heart and Stroke Foundation of Canada's food information program, to help identify healthy food choices in the grocery store.
3. Discuss diet and weight loss strategies with a healthcare professional such as a registered dietitian or a family physician.
4. Visit the Heart and Stroke Foundation of Canada's Web site at www.heartandstroke.ca for more information on healthy eating, physical activity, and healthy living.

Governments

1. Ensure compliance with nutrition labelling regulations that restrict carbohydrate nutrient claims on foods sold in Canada.
2. Revise *Canada's Food Guide to Healthy Eating* to provide needed guidance to Canadians regarding healthy eating and weight loss, specifically, guidance about reducing food intake while eating a healthy diet that provides adequate nutrients.
3. Explore a full range of measures to promote healthy living and reduce obesity, such as pricing strategies that promote healthy eating and physical activity; mass media campaigns that encourage physical activity and healthy eating; the creation of healthy communities that facilitate active living; curbing advertising of unhealthy foods to children and youth; reducing access to unhealthy foods in schools; and implementation of an easy to understand food labeling system.

Health Professionals

Work together to provide consistent, meaningful messages and tools that help Canadians address the growing obesity problem in Canada.

Industry

Develop or reformulate foods to meet the growing consumer need for more healthy products that are easily accessible, economical and easy to prepare.



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BACKGROUND INFORMATION

There are many types of low carbohydrate diets however there is no clear definition of a low carbohydrate diet.⁸ Low carbohydrate diets for weight loss recommend that you restrict your intake of carbohydrate. These diets typically allow less than 20% of total calorie intake from carbohydrates (less than 100 grams of carbohydrate per day). Some allow as little as 20 grams of carbohydrate per day. Low carbohydrate diets often introduce small amounts of carbohydrate during stages or phases of the diet. However, the overall amount of carbohydrate eaten while following a low carbohydrate diet is below the amount recommended by Health Canada.

Researchers have not studied low carbohydrate diets long enough to know if they are safe to recommend to consumers. Based on what is known about nutrition and health, some of the concerns with low carbohydrate diets include an increased risk of heart disease, stroke, high blood pressure, bone mineral loss, gout (a type of arthritis), and kidney stones.¹

Low carbohydrate diets often lack vitamins and are low in fibre. A low fibre diet can result in constipation and can increase your risk of colon cancer.¹ Low carbohydrate diets tend to replace carbohydrate with fat and protein. High intake of protein can result in large amounts of calcium in the urine, and loss of bone mass.⁹ High intake of fat, particularly saturated and trans fat, can lead to atherosclerosis, heart disease or stroke. One observational study of 80,082 women found that each 5% increase of energy intake from saturated fat is associated with a 17% increased risk of developing heart disease.¹⁰

Randomized controlled clinical trials are considered to be the best method to assess the impact of a treatment. Seven randomized controlled clinical trials have compared weight loss between people eating a low carbohydrate diet and people eating a diet similar to *Canada's Food Guide to Healthy Eating* (less than 30% of total calorie intake from fat).^{8,9,11-15} It is important to note that these seven randomized controlled studies included very few people (less than 150 people per study) so it is difficult to say that these study results apply to the entire population. In addition, all studies examined the diets for only a short period of time (six months or less). The studies found that individuals eating a low carbohydrate diet for six months or less lost more weight than those on the diet similar to *Canada's Food Guide to Healthy Eating*. The only study to examine individuals after twelve months found no difference in the amount of weight lost between the groups.¹⁶

Many of the studies comparing low carbohydrate diet to a diet similar to *Canada's Food Guide to Healthy Eating* have a large drop-out rate which can affect the study results. The drop-out rate might

suggest that various diets are difficult to maintain. In one study, individuals on the low carbohydrate diet reported difficulty in maintaining the diet.¹¹

More studies are needed to evaluate not only weight loss over time, but also the health effects for individuals who remain on a low carbohydrate diet for longer than six months. In one six-month study, there was a low intake of calcium and fibre in the low carbohydrate group.⁶ This is important because over the long-term, calcium intake is important for healthy bones, and fibre helps reduce cholesterol, improve bowel habits and promotes blood sugar control.¹ A low fibre intake is also associated with cancer.¹

A review of observational diet studies tells us that people who eat a very low carbohydrate diet have a greater loss of body water than body fat during the early days of dieting. In contrast, people who eat a balanced diet lose more body fat. When the low carbohydrate diet is ended, people tend to regain the water weight.⁵

It is important to adopt a lifestyle that incorporates regular physical activity and life long healthy eating habits. Eating patterns are not to be followed for 8 days, 8 weeks, or 8 months, but rather form the basis of everyday food choices throughout your life.⁵

Individuals who are trying to lose weight should consume a diet that has plenty of scientific evidence behind it.⁵ There remains a lack of scientific data concerning the long-term effects of low carbohydrate diets. A reduced-calorie eating pattern that is rich in vegetables, fruit and whole grains, and lower in saturated and trans fats, can help individuals lose weight and lower their risk of heart disease and stroke.¹⁷



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The Heart and Stroke Foundation of Canada recognizes that the life-long heart health of Canadians is affected by both individual and social factors. Individual factors include genetic make-up, personal health choices and actions, and social support. Social factors include the social, economic and environmental conditions in which Canadians live, work, learn and play. The Foundation encourages Canadians to make heart-healthy choices and encourages governments and the private sector to develop policies and programs that support healthy communities and reduce inequalities that negatively affect health and well-being.

The information contained in this position statement is current as of: DECEMBER 2004

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