

Position Statement

OVERWEIGHT, OBESITY, AND HEART DISEASE AND STROKE

FACTS

- Overweight and obesity contribute to type 2 diabetes, high blood pressure and some cancers¹⁻³ and are a risk factor for heart disease and stroke.
- There are two common measures of overweight and obesity. One way is through the Body Mass Index (BMI). BMI is calculated by dividing weight (in kilograms) by the square of height (in metres). In other words:

$$\text{BMI} = \frac{\text{weight (in kilograms)}}{\text{height (in metres)} * \text{height (in metres)}}$$

- A BMI in the range of 25 to 29.9 kg/m² is considered overweight. A BMI equal to or greater than 30 kg/m² is considered obese. For some very muscular people, BMI may not be an accurate reflection of body fatness¹.
- The other way to measure obesity is by waist circumference (WC). Carrying excess weight around your abdomen is associated with increased risk of heart disease and stroke, high blood cholesterol, type 2 diabetes and high blood pressure. Waist circumference measures fat stored around the belly. If waist measures 102 cm (40 in) or more for men, or 88 cm (35 in) or more for women, then a person is at increased risk of developing diabetes, high blood pressure, heart disease and stroke. The risk of developing these health problems increases with increasing waist circumference. In some ethnic groups (i.e. Asian or South Asian origins), high risk is observed at levels lower than the general cutoffs given above⁴.
- For more information about healthy weight, overweight and obesity, consult your health professional or visit the Heart and Stroke Foundation Web site (www.heartandstroke.ca).
- Based on the BMI of 25-29.9 for overweight and 30+ for obese, rates of overweight and obesity are increasing in Canada. The latest statistics tell us:
 - Nearly one quarter (23.1%) of adult Canadians, 5.5 million people age 18 or older, are obese. An additional 36.1% (8.6 million) are overweight⁵; and
 - 26% of Canadian children and adolescents aged 2 to 17 are overweight or obese; 8% are obese⁶.
- From 1985 to 2000, 57,000 deaths in Canada were associated with overweight and obesity⁷ and the total direct costs of obesity in 1997 were estimated to be over \$1.8 billion or 2.4% of total health care expenses in Canada⁸.
- Aboriginal, and Canadians of Chinese, and South Asian descent may have higher rates of overweight and obesity-related chronic diseases (for example diabetes, high blood pressure, and heart disease)⁹.
- For Canadian females, rates of overweight and obesity tend to be higher among women with middle levels of income. For Canadian males the situation is different, with higher rates of overweight and obesity found among higher income men⁵.
- Rates of overweight and obesity vary from province to province in Canada with higher rates in the Atlantic region and lowest rates in British Columbia⁵. And rates tend to be higher in rural areas than urban areas in Canada¹⁰.
- Weight gain during adolescence and young adult life may be one of the most important determinants of heart disease and stroke later in life.
- Healthy behaviours including regular physical activity and a healthy balanced diet (beginning with breast-feeding), that begin at a young age and continue through all stages of life are important to achieving and maintaining a healthy weight and reducing risk of heart disease and stroke.



HEART &
STROKE
FOUNDATION
OF CANADA

Finding answers. For life.

OVERWEIGHT, OBESITY, AND HEART DISEASE AND STROKE

- In urban centres, community and neighbourhood planning and design that does not take health-related issues into account may contribute to rates of overweight and obesity¹¹. Community designs that support healthy living include availability of sidewalks and bike paths, street patterns, the width of roads and whether there is a mix of schools, workplaces, stores and services within walking distance of houses.

- Also, research suggests that the more time people spend commuting to and from work in a car, the less likely they are to be physically active and the more likely they are to be overweight and obese¹¹.

RECOMMENDATIONS

The Heart and Stroke Foundation of Canada recommends that:

Canadians

1. Eat a healthy, balanced diet that includes foods from the four food groups and in portion sizes as recommended by *Canada's Food Guide to Healthy Eating* (www.healthcanada.ca/foodguide).
2. Look for the Heart and Stroke Foundation of Canada's Health Check™ on packaged foods when shopping. Food products bearing the Health Check™ symbol are part of a healthy diet.
3. Follow *Canada's Physical Activity Guides to Healthy Active Living*. Engage in 30 to 60 minutes of moderate level† physical activity, most days of the week (www.paguide.com).
4. Visit www.heartandstroke.ca for more information about healthy eating and active living.

Governments

1. Implement tax incentives to promote physical activity and healthy eating in Canada.
2. Improve opportunities for children to be physically active at school and improve the nutritional quality of foods and beverages available in schools in Canada.
3. Work with organizations like the Heart and Stroke Foundation of Canada to improve awareness and knowledge about the health effects of overweight and obesity and the benefits of healthy living for all Canadians.
4. Support and improve Canada's health research data and surveillance systems to track rates of overweight, obesity, nutrition and physical activity in Canada throughout all stages of life. These data improvements will help researchers identify the factors that influence overweight and obesity, how those factors change over the life-course, and the effectiveness of prevention and treatment measures.
5. Develop neighborhoods and communities and invest in infrastructure in Canada that encourages physical activity (e.g., diversity, density and design, "mixed use" neighborhoods that allow people to walk to a variety of shops, services, workplaces and schools; sidewalks, bike paths, reliable and frequent public transit; and good quality parks and affordable recreation facilities).

6. Address the needs of Canadians living in rural areas by ensuring that the environment provides opportunities for physical activity (e.g. availability of recreation and community centres and walking and hiking trails).
7. Work across levels of governments and ministries to address the social and environmental factors that affect obesity such as socioeconomic status, and food affordability and accessibility to nutritious food.

Researchers

1. Use a standard definition and a standard measurement technique for determining obesity in children.
2. Improve our understanding of the factors that lead to overweight and obesity among children, youth, older Canadians, ethnic minorities, Aboriginal people, low, middle and high income people, women and men; the health consequences of overweight and obesity; and the effectiveness of obesity prevention programs and treatments.
3. In partnership with planners, develop standard ways to measure how community planning and design affect Canadians' ability to lead active, healthy lives.

Food Industry

1. Encourage and promote healthy food choices and restrict the advertising of 'junk foods' (energy dense, nutrient-poor foods) to children, for example during children's television programming and in schools.
2. Improve the nutritional quality of foods that are available in school environments and remove junk foods from elementary and high school vending machines and cafeterias, including high fat foods and high sugar fruit drinks.
3. Reduce portion sizes and ensure that portions and prices are in alignment. Make the healthy choice the less expensive choice and promote these choices.
4. Improve nutrition information available to consumers in quick serve restaurants. Canadians should have access to better nutrition information on the overhead and table menus to help make healthier choices at the point of purchase.

† Examples of moderate level activities include brisk walking, biking, raking leaves, swimming, dancing, and water aerobics.



HEART &
STROKE
FOUNDATION
OF CANADA

Finding answers. For life.

OVERWEIGHT, OBESITY, AND HEART DISEASE AND STROKE

Health Professionals

1. Assess overweight and obesity by measuring patient's height, weight and waist circumference as part of routine health check ups.

2. Promote healthy living and lifestyle changes that will help patients achieve and maintain a healthy weight.

BACKGROUND INFORMATION

Statistics tell us that the rates of overweight and obesity have been climbing over the past 20 years. Since 1985 the number of obese adults in Canada has doubled and the number of overweight and obese children has tripled.

There are many factors that contribute to overweight and obesity including the choices individuals make, the environments in which people live, work and play, and income and education¹¹.

- Individual factors for overweight and obesity
 - Nutrition (the amount or portion size and kinds of food we eat)¹²
 - Physical activity (the amount and kinds of physical activity)¹²
 - Genetic factors¹³
 - Ethnicity¹¹
 - Sex¹⁴
- Environmental factors for overweight and obesity¹¹
 - Food availability, marketing and cost (the availability, accessibility and kind of food stores and food service outlets near where we live, the quality of the food and cost of healthy foods in these stores and outlets)¹⁵
 - The way communities are planned and designed, the kinds of facilities in communities that encourage physical activity and whether people can safely walk and bike in their communities
- Social factors for overweight and obesity¹¹
 - Socioeconomic status (education and income levels)
 - Behaviour
 - Environment
 - Cultural differences

Many solutions are needed to reduce overweight and obesity rates in Canada and to help future generations achieve a healthy weight.

Table 1: Health Risk According to Waist Circumference and BMI¹⁵

Waist Circumference	BMI Category		
	Normal 18.5 - 24.9 kg/m ²	Overweight 25 - 29.9 kg/m ²	Obesity 30kg/m ² and over
Men: < 102 cm Women: < 88 cm	Least Risk	Increased Risk	High Risk
Men: ≥ 102 cm Women: ≥ 88 cm	Increased Risk	High Risk	Very High Risk

NOTE: The BMI and waist circumference categories and cut-points described in Table 1 may not be applicable to people: aged 65 and older; of ethnic descent; or with very muscular body types. The chart should not be used for children and youth; and women who are pregnant or breastfeeding¹⁶. The chart may not apply to First Nations people. Different criteria have been proposed for Canadians of Asian descent. For example, a report from the World Health Organization suggests that for people of Asian origin, the BMI cutoff for overweight starts at 23 and at 27 for obesity⁴. A report from Obesity Canada indicated that waist circumference, as a measure of central obesity for Asians (i.e., South Asian & Chinese), should be revised as follows: ≥ 90 cm for males and ≥ 80 cm for females²⁰. Also, the risk of developing health problems from overweight or obesity can be higher or lower than the table indicates.

Increasing obesity levels among children and youth are a major concern in Canada. Twenty percent of overweight four-year-olds will become overweight adults, 40 percent of older children and up to 80 percent of teenagers who are overweight will become overweight adults¹⁷.

Studies indicate that breastfeeding may reduce the risk of overweight and obesity later in life^{18,19}, and the longer the duration, the greater the effect. Although the observed reduction is relatively small, a small benefit over a large population (i.e., all newborns) is important for overall population effects. Protecting, promoting and supporting breastfeeding through policy and program initiatives is also beneficial for its many other health benefits.

In 2006, the World Health Organization launched global Child Growth Standard for infants and children up to the age of five. These growth charts outline body mass index standards for infants and children in different regions of the world and describe how children in different regions of the world *should* grow. The charts are designed to be used by doctors and healthcare professionals in clinics and other health facilities, and by research institutions, child health advocacy organizations and ministries of health. The charts can be accessed at www.who.int/nutrition/media_page/en/.

Healthy behaviours, including regular physical activity and a healthy, balanced diet that begin at a young age and continue through all stages of life are important to achieving and maintaining a healthy weight and reducing risk of heart disease and stroke.



**HEART &
STROKE
FOUNDATION
OF CANADA**

Finding answers. For life.

OVERWEIGHT, OBESITY, AND HEART DISEASE AND STROKE

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 evidence contained in this position statement is current as of: June 2007

REFERENCES

1. Health Canada. *Canadian Guidelines for Body Weight Classification in Adults* (Catalogue H49-179) Ottawa: Health Canada, 2003.
2. Gilmore J. Body mass index and health. *Health Reports* 1999;11(1):31-43.
3. Canadian Institute for Health Information. *Improving the Health of Canadians*. Ottawa: Canadian Institute for Health Information, 2004.
4. World Health Organization Expert Consultation. Appropriate body-mass index for Asian populations and its implications for policy and intervention strategies. *Lancet* 2004;363:1077.
5. Tjepkema M, Shields M. *Nutrition: Findings from the Canadian Community Health Survey – Adult Obesity in Canada* (Catalogue 82-620-MWE2005001) Ottawa: Statistics Canada, 2005.
6. Tjepkema M, Shields M. *Nutrition: Findings from the Canadian Community Health Survey – Overweight Canadian children and adolescents* (Catalogue 82-620-MWE2005001) Ottawa: Statistics Canada, 2005.
7. Katzmarzyk PT, Ardern CI. Overweight and obesity mortality trends in Canada 1985-2000. *Canadian Journal of Public Health* 2004;95(1):16-20.
8. Birmingham CI, Muller JI, Palepu A et al. The cost of obesity in Canada. *Canadian Medical Association Journal* 1999;169:483-438.
9. Canadian Cardiovascular Society. Canadian Cardiovascular Society 1998 Consensus Conference on the Prevention of Cardiovascular Diseases: The role of the cardiovascular specialist. Available at: http://www.ccs.ca/download/consensus_conference/consensus_conference_archives/1998_CC_role_Cardiovascular_Specialist.pdf (Access date: September 27, 2006).
10. Reeder BA, Yue C. Regional and rural differences in obesity in Canada. *Canadian Medical Association Journal* 1997;157(1):S10-16.
11. Raine KD. *Overweight and obesity in Canada: A population health perspective*. Canadian Institutes for Health Information: August 2004.
12. World Health Organization. *Obesity: Preventing and managing the global epidemic*, WHO technical report series no. 894. Geneva: World Health Organization, 2000.
13. Hill JO, Wyatt HR, Melanson EL. Genetic and environmental contributions to obesity. *Medical Clinics of North America* 2000;84(2):333-346.
14. Krauss RM, Winston M, Fletcher BJ, Grundy SM. Obesity: Impact on cardiovascular disease. *Circulation* 1998;98:1472-1476.
15. Alter DA, Ery K. The relationship between the supply of fast-food chains and cardiovascular outcomes. *Canadian Journal of Public Health* 2005;96(3):339.
16. Douketis JD, Paradis G, Keller H, Martineau C. Canadian guidelines for body weight classification in adults: application in clinical practice to screen for overweight and obesity and to assess disease risk. *Canadian Medical Association Journal* 2005;172(8):995-998.
17. Gaven ML, Dowshe SA, Izenber N. *FitKids*. Toronto, Ontario, Canada: Dorling Kindersley Ltd, 2004.
18. Harder T, Bergmann R, Kallischnigg G, Plagemann A. Duration of breastfeeding and risk of overweight: A meta-analysis. *Am J Epidemiol* 2005;162:397-403.
19. Gillman MW, Rifas-Shiman SL, Berkey CS, Frazier AL, Rockett HR, Camargo CA Jr., Field AE, Colditz GA. Breastfeeding and overweight in adolescence. *Epidemiology* 2006;17(1):112-114.
20. Lau DCW, Douketis JD, Morrison KM, Hramiak IM, Sharma AM, Ur E. 2006 Canadian clinical practice guidelines on the management and prevention of obesity in adults and children [summary]. *Canadian Medical Association Journal* 2007; 176 (8 Suppl): 51-13



HEART &
STROKE
FOUNDATION
OF CANADA

Finding answers. For life.