

# YOUNG ADULTS AND HEART DISEASE

## Introduction



Download the mp3 of this Introduction at [newsinreview.cbclearning.ca](http://newsinreview.cbclearning.ca).

### Focus

In late January 2010, a medical report warned that Canada could be facing a future epidemic of heart disease. The report said that because so many Canadians are not eating or exercising properly even young adults are now at risk. In this *News in Review* story we'll look at the problem and what can be done to try to correct it.

### Quote

"Some doctors [are] warning that the children of today could be the first generation to live shorter lives than their parents." — *News in Review* video, March 2010

Canada's young people are less healthy today than they were in previous decades. Medical doctors see more cases of children and adolescents with high blood cholesterol, high blood pressure, and diabetes. An alarming rise in the incidence of childhood and youth obesity has also occurred.

What are the reasons for this trend of poor health? Young people simply do not move their bodies as much as in previous generations. Sitting for hours in front of a computer or television has become normal behaviour, whereas in previous decades more time was spent being physically active.

The eating habits of young people have also changed. Kids today have a diet higher in fat, calories, and salt because they consume a great deal of

processed food. Low physical activity combined with high-calorie foods has resulted in higher body weights. Children with high body weights tend to become adults with high body weights. These adults face increased risk of heart disease, diabetes, problems with their bones, and other chronic diseases.

This trend of ill health is a major concern for individuals, families, and communities. An unhealthy population puts a strain on the human resources of families and communities in addition to the financial resources of the Canadian health-care system. Ultimately, young people, in partnership with their families, communities, and schools, must face up to their risky health behaviours and make a combined effort to change for a healthy future.

## To Consider

1. Read the statements below and record in your notebook whether you agree, disagree, or are not sure about each of the statements. Then, with a partner or in a small group, discuss your responses.
  - a) What I eat and the amount I exercise are personal matters and therefore no one's business but my own.
  - b) Young people are very concerned about their health and well-being.
  - c) Young people are very well informed in schools about how to lead healthy lifestyles.
  - d) Television and computers are the main reasons for unhealthy lifestyles in young people.
  - e) Our society is too obsessed with physical perfection.
2. What do you think are the main reasons for young people not eating and exercising properly?

# YOUNG ADULTS AND HEART DISEASE

## Video Review

### Did you know . . .

Michelle Obama, the First Lady of the United States, has announced that her personal mission while in the White House will be to promote healthy lifestyles for young children and adolescents.

### Quote

"Experts estimate that 10 to 25 per cent of all teenagers and 20 to 50 per cent of all adults have a weight problem. It is known that obesity brings many health hazards with it, including heart attacks, strokes, and diabetes with all of its complications." — Obesity Canada, [www.obesitycanada.com](http://www.obesitycanada.com)

### Pre-viewing Activity

Before you watch the video, discuss the following questions with a partner or in a small group.

1. What do you know about heart disease and diabetes?

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2. Does anyone in your family suffer from heart disease or diabetes? If so, how does this affect their quality of life?

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3. What role do you think schools could play in promoting healthy lifestyles among students?

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4. Do you think you lead a healthy lifestyle? Why or why not?

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5. Do you think schools and governments can successfully change the eating habits and activity levels of their students? Why or why not?

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### Viewing Questions

As you watch the video respond to the questions in the spaces provided.

1. What is the average life expectancy for a baby born in the years 2005 to 2007? \_\_\_\_\_.

2. Obesity has overtaken \_\_\_\_\_ as the number-one threat to health.

3. The two factors responsible for the increase in obesity are:

\_\_\_\_\_ and \_\_\_\_\_.

4. Why can it be hard to convince younger people to live healthier lifestyles?

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**Did you know . . .**

The Childhood Obesity Foundation of Canada promotes the 5-2-1-0 rule to encourage healthy lifestyles. That means five servings of fruits and vegetables per day; two hours of screen time or less per day; one hour of physical activity per day; and zero sugar-sweetened drinks per day. — Childhood Obesity Foundation of Canada, [www.childhoodobesityfoundation.ca](http://www.childhoodobesityfoundation.ca)

5. Describe the lives and problems of some of the kids at City Park Collegiate in Saskatoon.

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6. What strategy did teacher Allison Cameron use to try and help her students?

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7. What impact did this strategy have on her students?

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8. How much exercise is required to sharpen the brain?

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9. What is different about our lifestyles today from those of our ancestors in previous generations?

**Post-viewing Activity**

After you have watched the video, discuss and respond to the following questions. Your teacher may choose to place you in a small group with other students.

- 1. Based on what you have seen in the video, return to the pre-viewing questions and add any new information.
- 2. Would you be willing to work out in class during the day? Why or why not?

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3. Do you agree that working out in class is different than being in a physical education class? Why?

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4. Based on what you learned from the video story, what aspects of your behaviour might be the result of lack of exercise (e.g., restlessness, trouble concentrating)?

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# YOUNG ADULTS AND HEART DISEASE

## *The Grim Statistics*

### Note to Teachers

Teachers should be aware that the teaching of sensitive and controversial issues such as body image, disease, and other health issues may provoke emotional responses from students. A high degree of care should be taken before the lesson to ensure that the learning environment allows for conflicting sets of values to be processed analytically and with respect for differences in people and their identities, cultures, and world views.

### Further Research

A health advocacy group found that popular foods such as cereal, hamburgers, and submarines in Canada had much higher amounts of salt than the same brands sold in other countries. Too much salt in food can lead to hypertension and heart disease. For the complete report go to the World Action on Salt Web site at [www.worldactiononsalt.com](http://www.worldactiononsalt.com).

### Before Reading

In your notes, create a chart like the one below to record information as you read. The chart will summarize two or three significant points of information for each question. Be prepared to share your chart with a partner after reading the information to discuss any similarities and differences in your summary charts.

The Grim Statistics
<p>1. How unhealthy are Canadians?</p> <ul style="list-style-type: none"> <li>• The Heart and Stroke Foundation says that thousands of young Canadians will suffer heart attacks, stroke, or die prematurely from cardiac disease.</li> <li>•</li> </ul>
<p>2. What is heart disease?</p> <ul style="list-style-type: none"> <li>•</li> <li>•</li> </ul>
<p>3. . . . .</p>

#### 1. How unhealthy are Canadians?

The Canadian Heart and Stroke Foundation's 2010 research report, *A Perfect Storm of Heart Disease Looming on Our Horizon*, warned that unless something changes, thousands of young Canadians will suffer heart attacks, stroke, or die prematurely from cardiac disease. Dangerous risk factors such as unhealthy diet, inactivity, obesity, diabetes, and heart disease have increased by as much as 260 per cent among Canadians aged 12–34 between 1995 and 2005. The only health risk factor that has diminished overall is smoking. The study was a wake-up call to Canadians of all ages to learn about how lifestyles affect personal health. The Canadian government is concerned that it will not be able to afford the health-care costs associated with this increase in heart disease and diabetes.

#### 2. What is heart disease?

The Heart and Stroke Foundation defines heart disease as any condition affecting the structure and functions of the heart. The

heart is a muscle that gets energy from blood that carries oxygen and nutrients. A constant supply of blood keeps the heart working the way it should. When blood vessels in the heart become blocked or narrowed, blood cannot reach the heart, a condition called coronary artery disease. It can cause chest pain and heart attack.

#### 3. How can you prevent heart disease?

The Heart and Stroke Foundation suggests that you can reduce the risk of heart disease by doing the following:

- Do not smoke.
- Be physically active.
- Eat a healthy diet.
- Achieve and maintain a healthy weight.
- If you have diabetes, get help to manage it.
- Do not drink alcohol.
- Reduce stress.
- Visit a doctor regularly.

#### 4. What is type 2 diabetes?

Along with heart disease, diabetes is the second major disease threatening the health of young people in Canada.

### Further Research

Find out more about diabetes by visiting the Web site of the Canadian Diabetes Association at [www.diabetes.ca](http://www.diabetes.ca). Click on the tab "Diabetes and You" and then check out the information under the heading "Youth."

According to the Canadian Diabetes Association (CDA) one in every three Canadian children may be diagnosed with diabetes in their lifetime. This represents a shocking number of people who will require special medical assistance and lifestyle changes in order to cope with this disease and prevent related complications and premature death.

Type 2 diabetes is a life-long condition where the pancreas does not produce enough insulin. Insulin is required by the body to control the level of sugar (glucose) in the blood needed to make energy. Without the required insulin, glucose builds up in the blood in an unhealthy way. Complications include heart disease, blindness, kidney problems, and nerve damage. The development of type 2 diabetes is closely related to obesity; about 95 per cent of children with type 2 diabetes are overweight. The number of obese children in Canada tripled from 1981 to 1996. This number concerns health-care experts because obese children tend to become obese adults.

People with type 2 diabetes can have a healthy life by eating healthy food, doing regular physical activity, and maintaining healthy blood glucose levels.

#### 5. How can you prevent type 2 diabetes?

Many of the lifestyle suggestions for a

healthy heart will also reduce the risk of type 2 diabetes—especially achieving and maintaining a healthy weight and engaging in regular activity.

The CDA also suggests the following changes to your lifestyle:

- Drink water, not pop or juice or energy drinks.
- Drink low-fat milk and eat low-fat dairy products.
- Eat lots of fruits and vegetables.
- Walk or bike whenever possible.
- Reduce "screen time" and do something fun and active instead.

#### 6. Who is more at risk?

There are certain racial groups that are at greater risk of heart disease, stroke, and diabetes than the general population. Research has shown that Aboriginal people, people of South Asian descent, and people of African descent are more likely to have high blood pressure and type 2 diabetes. The Heart and Stroke Foundation research on the health of Canadians warns that Aboriginal people in particular "are experiencing a full-blown cardiovascular crisis." Type 2 diabetes is being found in Canadian Aboriginal peoples as young as eight years of age. A drastic intervention is required to improve the health of Aboriginal peoples in particular and all young Canadians in general.

### Post-reading Activities

1. Take the Health and Stroke Foundation's risk assessment at [www.heartandstroke.on.ca](http://www.heartandstroke.on.ca) to find out how your age, family history, and medical conditions affect the health of your heart.
  - a) What did you learn?
  - b) Were you surprised by anything you learned?
  - c) Are there any behaviours you should change to improve your heart health?
2. Research the health of your province or territory as reported in the Canadian Heart and Stroke Foundation's 2010 Annual Report of Canadians' Health at [www.heartandstroke.on.ca](http://www.heartandstroke.on.ca).
  - a) Do you live in a particularly healthy area or not?
  - b) Why do you think there are discrepancies in the health of people in certain provinces and territories?

# YOUNG ADULTS AND HEART DISEASE

## Social Determinants of Health

### Quote

“Adolescents—young people between the ages of 10 and 19 years—are often thought of as a healthy group. Nevertheless, many adolescents do die prematurely due to accidents, suicide, violence, pregnancy-related complications, and other illnesses that are either preventable or treatable. In addition, many serious diseases in adulthood have their roots in adolescence. For example, tobacco use, sexually transmitted infections—including HIV—and poor eating and exercise habits lead to illness or premature death later in life.” — World Health Organization Web site, Adolescent Health page at [www.who.int/topics/adolescent\\_health/en/](http://www.who.int/topics/adolescent_health/en/)

The World Health Organization (WHO) has found that social determinants of health account for major discrepancies between the health within national communities and between nations of the world. These discrepancies are considered preventable through proactive government policy decisions.

### *What are social determinants of health?*

They are socio-economic conditions that shape the health of individuals and communities. These conditions lay outside the realm of personal choices—for example where someone was born, their sex, ethnicity and culture, their socio-economic status, and how local and national governments support the health of the population as a whole. Other important social determinants include access to: medical care, education, healthy food, healthy workplaces, healthy environments, adequate shelter, decent employment, and other social supports.

### *Why should Canadians worry about these social determinants of health?*

### Thinking It Through

Consider how the following social determinants of health may impact on a person’s ability to lead a healthy lifestyle that includes a high level of physical activity, access to healthy food, access to health care, and access to education. For each example, state a way in which the school, community, and local, provincial, or federal government could improve the person’s chance of leading a healthy lifestyle.

- a) A family lives in a remote geographic area.
- b) Schools have more organized sporting teams for boys than for girls.
- c) A family has recently immigrated to Canada.
- d) A person faces discrimination due to their racial/ethnic group and cannot secure regular employment.
- e) A young person cannot afford to join the local hockey team or pay for a school ski trip.
- f) A young person goes to school and works nights to help pay the rent.

A major health disparity exists between various groups in our society. These disparities are mostly attributed to socioeconomic status, Aboriginal heritage, sex, and geographic location. These disparities are shaped by the distribution of money, power, and resources at national and local levels, which can be seen as unfair and avoidable differences caused by policy choices of governments.

Poor and socially disadvantaged people in Canada and the rest of the world are more likely to be unhealthy and suffer from major preventable diseases. The World Health Organization challenges all governments throughout the world to answer the question: “Why treat people if you don’t change what makes them sick?”

### Making Changes

The problem of the poor health of Canadians is one with no easy solutions. It will take individuals, institutions, communities, and governments working together to try to avert a health-care crisis that will impact on the future of all Canadians.

## Follow-up

1. Calculate your body mass index (BMI) at the National Heart Lung and Blood Institute ([www.nhlbisupport.com/bmi/](http://www.nhlbisupport.com/bmi/)) to determine if you are underweight, at normal weight, overweight, or obese.
  - a) What did you find out?
  - b) Were you surprised by the results?
  - c) Do you consider this a valid predictor of your future health? Why or why not?
2. At the same Web site learn about how the portion sizes served in restaurants have increased in the last two decades by reading the results of research entitled "Portion Distortion."
3. Think about the saying "Prevention is the best medicine." How does this saying apply to your health and the health of other young Canadians?
4. Go to the "My Food Guide" section of Canada's Food Guide Web site ([www.hc-sc.gc.ca/fn-an/food-guide-aliment/myguide-monguide/index-eng.php](http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/myguide-monguide/index-eng.php)) to see what types of food and quantities you should be eating. Keep a health journal for a week to see if you are following the guidelines.
5. Children and adolescent do not typically eat or stay active because of perceived health benefits. They eat because they like certain foods, and they get active when they have the choice of doing something they find fun. What do you think does, or could, motivate you to eat well or stay active?

Sources: Public Health Agency of Canada (2008), "Healthy Living and Healthy Weight Among Canadian Youth"; Childhood Obesity Foundation, [www.childhoodobesityfoundation.ca](http://www.childhoodobesityfoundation.ca); Public Health Agency of Canada (2009). Canada's Response to the WHO Commission on The Social Determinants of Health, 2005-2008.

# YOUNG ADULTS AND HEART DISEASE

## *Healthy Body, Healthy Mind*

### **Did you know . . .**

One in four Canadian children and adolescents ages two to 17 is overweight or obese ([www.jumpropeforheart.ca](http://www.jumpropeforheart.ca)).

### **Before Reading**

Think about the mind-body connection in terms of healthy living. How are the mind and body interconnected in terms of health? What positive and negative emotions do you associate with food? What positive and negative emotions do you associate with exercise and physical activity?

### **Mind-Body Connections**

The relationship between the mind and the body is an important consideration for a healthy lifestyle. Your attitudes and feelings influence your choices. You must want to change in order to change. One of the major challenges for some young people in becoming healthier is that they are not motivated to change unhealthy behaviours. Some young people feel invincible and cannot imagine a future of heart disease or diabetes. Some young people are motivated to maintain a slim figure due to societal pressures that have little to do with health benefits. Still others may view physical activity in a negative light due to their own previous negative experiences in competitive, non-supportive, or punitive environments.

### **Body Image**

Young people in Canada realize that bullying, discrimination, and stereotyping are wrong. However, there is one group in Canadian society—those who are overweight—who continue to face bigotry without the same degree of moral outrage that other types of bigotry meet. It seems that “fat” people are easy targets for hate. Those who are overweight are seen as lacking in self-control and motivation. Young people’s self-esteem can be largely based on their perceptions of their bodies and whether they accept or reject the body they live in. Overweight children often suffer from low self-esteem—exhibited as feelings

of loneliness, sadness, and anxiety—that continues into their adolescent years. The media perpetuate the negativity with countless images and products that declare that obesity is undesirable.

### **Foundations for a Healthy School**

Merryl Bear suggests that schools that recognize the relationship between the mind and the body can do a great deal to promote healthy lifestyles (*Exercise, Physical Appearance and Self-Esteem in Adolescence*, Ontario Physical and Health Association, 1996). Schools can promote healthy attitudes and behaviours related to physical education and can prevent negative attitudes and behaviours associated with physical activity. Bear outlines the following guidelines for schools:

- Create a climate where students understand that healthy bodies come in a range of sizes.
- Model healthy attitudes and behaviours.
- Develop non-competitive forms of physical activities.
- Consider single-sex activities in order to create a safe and comfortable environment for exercise.
- Disapprove of any weight prejudice or disapproval of anyone’s body.

### **Addictive Behaviours and Health**

You may think of “addicts” as people who abuse alcohol or drugs, but there is growing evidence that some young people are suffering from addictions to

**Did you know . . .**

Anorexia, bulimia, and binge eating are psychological disorders that manifest themselves in a person's relationship to food. For some young adults, a main source of pleasure or displeasure is food. In an unhealthy mental state, cognitive therapy may be required to make the person aware of how their eating behaviour is a product of their emotions and how to build coping abilities and strategies.

video games. These “addicts” cannot self-regulate their gaming or draw the line between a “normal” amount of use and an “excessive” amount that takes them away from friends, family, and other balanced activities in life.

A research study in British Columbia in 1998 sought to answer the question “Why are so many young people today turning on their video-game consoles in search of excitement, distraction, and solace among the various other options for leisure, self-development, and entertainment?” (*Video Game Culture: Leisure and Play Preferences of B.C. Teens*, Media Analysis Laboratory, Simon Fraser University, 1998). The study revealed that the intense emotional experience of game play was the main reason for its appeal to young people. While the majority of teens still preferred sports, malls, and hanging out with friends as diversions, a significant amount of their available leisure time was already taken up with video-game play. If you find that you are spending

more time with a screen than with other people, you should consider talking to your family doctor for advice on how to break this habit.

**Benefits of Physical Activity on Mental Health**

The American Heart Association's *Statement of Exercise* (1996) revealed a connection between mental health and regular exercise. One of the main findings of the review of research was that, compared with inactive people, active people are more likely to be “better adjusted . . . and to report fewer symptoms of anxiety and depression.”

This link between exercise and mental health may be due to the fact that exercise boosts activity in the brain's frontal lobes and the hippocampus. Exercise has also been found to increase levels of brain-derived neurotrophic factor (BDNF). This substance may improve mood and play a role in the beneficial effects of exercise.

**Analysis**

With a partner, or in a small group, respond to the following questions.

1. Compare advertising for food or exercise equipment. Is the focus on a healthy lifestyle or on a certain body image?
2. Motivation is one important factor in achieving healthy lifestyles. Work with a friend to commit to healthier living in two or three realistic ways.
3. Does physical activity improve your mood? Share your thoughts with a partner.
4. Decide on two or three changes you would like to make in the next month. Keep a health journal. Record your activity and eating patterns. Record how you feel as you try to achieve healthier lifestyle goals.

# YOUNG ADULTS AND HEART DISEASE

## **Activity: Schools on the Move**

When there is a problem in society, many people look to education for a solution. Schools have become more deliberate and determined in their efforts to promote healthy eating and lifestyles for their students, parents/guardians, and community members.

### **Consider Your School Community**

Answer the following questions to begin to gauge if your school promotes healthy eating and physical activity.

1. Do most students walk, bike, take the bus, or get driven to your school?
2. Do most students take part in physical education?
3. How many extra-curricular activities promote physical activity for fun?
4. How many extra-curricular activities promote physical activity for competition?
5. Are extra-curricular activities available equally to boys and girls?
6. Have you been taught about healthy food choices?
7. Have you been taught about the benefits of regular physical activity?
8. Does the school offer healthy food choices at reasonable prices?
9. What percentage of food found in the school (including vending machines) is healthy versus refined food high in fat, salt, and sugar?
10. Is there a park, recreation centre, or other area near your school where you can participate in physical activity for free?
11. How many fast food restaurants are within walking distance of your school?

### **Healthy Schools: Two Case Studies**

#### **City Park Collegiate — Saskatoon**

Allison Cameron is a teacher at City Park Collegiate in Saskatoon. She heard about the research findings of Harvard University psychiatrist John Ratey that connected exercise, specifically sustained aerobic movement, with brain function and was curious to see if she could improve her students' concentration and mental abilities. She moved exercise equipment into her classroom and asked students to work out for 20 minutes before the beginning of class. According to Cameron, the students' attention improved dramatically. At the end of the school year her grade eights on average had improved a full grade in reading, writing, and math.

#### **James S. Bell Public School — Toronto**

Boys enrolled in the behavioural class at James S. Bell school in Toronto also follow an aerobic exercise routine on stationary bikes and treadmills for 20

minutes before the start of class. The students report feeling more positive and less inclined to aggressive behaviours. The program began after the principal heard about the success of Allison Cameron in her Saskatoon classroom. Because of its success in improving student behaviour and academic success, the program is now running in the entire school.

### **School and Community-based Health Ideas**

There are a growing number of schools and communities working together to improve the health of young people. Planting and maintaining school and/or community gardens to provide low-cost, nutritious food, offering healthy breakfast and snack programs in collaboration with local businesses, and developing class timetables that include daily physical education for all students are some of the innovative ideas being tried.

### **Activity**

1. Choose what you think are the three best solutions from the list below that a school could adopt to improve the health of students. Create criteria on which to judge your selection of "best" (e.g., financial cost, degree of health benefit, level of engagement of young people).
  - Remove all unhealthy foods from vending machines.
  - Provide healthy food choices at reasonable cost in school cafeteria.
  - Make physical education mandatory in all grades.
  - Allow time for physical activity before the school day begins.
  - Remove all chairs from some classrooms and replace with balance balls.
  - Provide peer coaching and/or support groups for those who want to be healthier.
  - Create mandatory periods of daily physical activity (e.g., 20 minutes per day).
  - Teach all young people how to shop for and prepare healthy food.
  - Give every student a pedometer to encourage them to count their daily steps.
2. Create four or five of your own unique ideas for making your school and community a healthy place.