

THE SINISTER SIDE OF **SITTING**

Nature didn't drag us up off of all fours only to have us sit on our duffs all day

JANE LANGILLE

STATE OF THE NATION: SEDENTARY

According to the Canadian Health Measures Survey, adults spend an average of 9.5 hours a day in sedentary pursuits, the equivalent of about 69% of their waking hours. For children and youth, 8.6 hours a day, or 62% of their waking hours, are sedentary.



WARNING: YOU MAY WANT TO READ THIS standing up! If you're like the average Canadian and sit for most of your waking hours, you have double the risk of degenerative conditions such as diabetes and heart disease and of dying, according to a large U.K. analysis of 18 studies involving almost 800,000 subjects. That risk holds true even if you're meeting the physical activity guidelines of at least 150 minutes of moderate to vigorous exercise per week, as recommended for most adults by the Canadian Society for Exercise Physiology.

"Even if you're exercising a lot, the more you sit, the less healthy you're likely to be," says Travis Saunders, a doctoral candidate in human kinetics at the Children's Hospital of Eastern Ontario Research Institute (CHEORI) in Ottawa. Saunders is currently researching the health risks of sedentary behaviour in youngsters.

SEDENTARY BEHAVIOUR

According to the Sedentary Behaviour Research Network, this behaviour is not simply a lack of exercise, which is referred to as "inactive behaviour." Rather, it is any waking conduct that uses minimal energy while sitting or reclining. Minimal energy consumption has been defined as 1.5 METs or less. MET stands for metabolic equivalent, a unit of energy expenditure. Swimming, for example, uses about seven METs, washing the kitchen floor about three and digging in the garden around five. If most of your day is spent on your behind, you're a victim of sedentary behaviour — even if, in terms of active behaviour, you regularly jog or play sports.

WHO'S AT RISK?

Anyone whose daily work entails sitting for long periods is at risk. Christine Peets, a freelance writer in Napanee, Ont., was surprised to learn that at the young age of 40 she already had prediabetes — elevated blood glucose levels not high enough to qualify as diabetes, but high enough to put her in the danger zone.

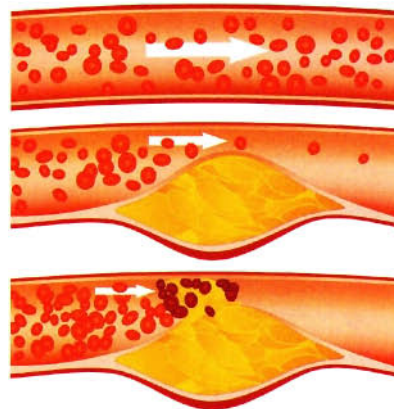
Christine, who has a family history of diabetes, thought she was living a healthy preventive lifestyle. "I walk at least three kilometres four times

a week, I do Pilates and I teach a strength-training class," she says. "My body-mass index is an acceptable 25, and I eat a healthy diet, but my blood glucose levels are still only one small step away from the diabetic zone."

Like the average Canadian adult, Christine sits for more than half her waking hours, in excess of nine hours per day. Kids don't fare much better: the average Canadian child sits more than eight hours per day.

WHAT HAPPENS IN THE BODY

Researchers are now discovering what actually happens in your body when you're too sedentary. "We think that when someone sits for several hours at a stretch, the transport proteins and enzymes that would normally take sugar and fat out of the blood basically shut off," says Saunders. "When blood sugar levels rise too high, the body starts pumping out excess insulin, which can lead to problems such as diabetes. And having too much fat in



High levels of fat in the blood can form fatty deposits that block arteries and cause heart disease.



your blood can lead to artery and heart disease and the accumulation of fat in your heart and liver."

Increasingly, studies suggest that anyone who sits for long periods of time should be taking frequent activity breaks to lower the risk of chronic diseases.

Suspecting that sedentary days might put even youngsters at risk, Saunders and his colleagues compared blood levels of insulin, glucose, triglycerides and cholesterol (potential predictors of diabetes or heart disease) in a group of children ages 10 to 14. The kids experienced three different scenarios in random order: sitting for eight hours straight; sitting for eight hours but interrupting chair time every 20 minutes with light-paced two-minute walks; and adding 20 minutes of moderate physical activity twice a day to the regular two-minute walks. Results will soon be available for his Canadian study, the world's first to measure the metabolic effects of breaks in sedentary time among children.

REGULAR PHYSICAL ACTIVITY

Although periodic breaks from sitting for study or work are recommended, they are not enough. "Regular physi-

cal activity is still essential for all age groups,” says Dr. Mark Tremblay, who is director of healthy active living and obesity research at CHEORI. Adults still need to get their weekly quota of 150 minutes of moderate to vigorous physical activity. What activities count? Any that raise your heart rate and make you sweat a little and breathe harder. Even 10 minutes a day of these can extend your life by almost two years. “At the same time, it is also key to avoid excessive sedentary behaviour, a separate and distinct risk factor for chronic disease, even for people who are getting enough physical activity,” Tremblay stresses.



REDUCING YOUR DERRIÈRE-ON-CHAIR TIME

• **Get up and move often** The best part? You don’t even have to break a sweat to reap the benefits. In an Australian study, overweight people who walked for two minutes after sitting for 20-minute intervals throughout the day had 20% lower glucose and insulin levels in their blood than those who sat for seven hours straight. Surprisingly, that was true whether they walked at a light or a moderate pace.

Try walking around during phone calls, get up and meet with people in person instead of sending emails and conduct walking meetings. When

watching television, get up and move during commercials.

• **Consider a standing desk** You burn 15 calories per hour while standing but only five while sitting. More workplaces are starting to offer options such as standing desks, treadmill desks and sit/stand workstations for their employees.

• **Limit kids’ screen time** “Regular physical activity is essential at a young age as it contributes to bone and motor skill development, psychosocial health, cognitive development and healthy body weights,” says Tremblay. “Screen time for kids should be limited, especially because lifestyle patterns set in the early years predict health outcomes later in life.”

Christine is thrilled to learn that something as easy as reducing how much time she sits every day could have a significant impact on her blood glucose levels. She is now setting a timer on her computer to remind her to get up and take walk breaks and she is considering changing to a standing desk. “My attitude is that if my condition might develop into full-blown diabetes, I need to do everything I can to delay onset, so the impact and side effects may then not be as severe.”

To assess and reduce your risk for heart disease and diabetes, and to get guidance on fitness and weight loss, go to myhealthcheckup.com/ch ■

SITTING: NOT SO PRETTY

As well as metabolic ill effects that promote diabetes and heart disease, prolonged sitting also has mechanical consequences: neck and lower back pain, disc compression and sciatica. The seated position is actually one of the most challenging for the spinal column since it significantly increases the pressure on the vertebral discs. With the legs more or less out of commission, the entire weight of your heavy upper body — head, neck, shoulders and all the organs of the respiratory, cardiac and upper digestive systems (not to mention that extra belly fat!) — lands on your lower spine. “In our modern society, where we spend more and more time sitting down, it’s not surprising that people suffer from back pain,” says Dr. Gilles Maurais, chief of orthopaedic services in the University of Montreal’s medical faculty.

And according to the Canadian Centre of Occupational Health and Safety, spending long periods sitting down can restrict blood flow to the lower back and upper thighs, thereby increasing the risk of back and leg discomfort.

Recently retired telemarketing manager Caitlin Dowell, 63, of Cambridge, Ont., is testimony to that. “For years, I spent nine hours a day working the phones at a desk,” she says. “And now my lower back pain is so bad, I can’t sit down for any length of time. I have to stand or recline to do things.”

So what are you waiting for? Get up off that chair, stretch and move!

– Diana Swift