



# International Chair on Cardiometabolic Risk

March 2007

## Chair Holds National Education Forum on Abdominal Obesity and Related Health Risks

**T**hirty-four guests with a wide range of expertise in the area of health attended the National Education Forum on Abdominal Obesity and Related Health Risks held in Ottawa on March 28. The Chair hosted the Forum to engage various stakeholders in an interactive discussion that would allow a multidisciplinary approach to finding solutions to a serious and escalating public health problem in Canada.

Attendees represented different groups including government, provincial chapters of the Heart and Stroke Foundation and the Canadian Diabetes Association, the Canadian Lipid Nurses Network, dietitians, pharmacists, the Best Medicines Coalition and the Kidney Foundation of Canada.

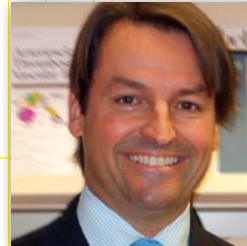
In his opening remarks, Dr. Jean-Pierre Després acknowledged that the current medical model is not adequately equipped to deal with what he called a “societal problem of major proportions” and stated his objective of entering into a partnership with those present to drive change.

Three other medical experts representing the fields of cardiology, endocrinology and family practice rounded out the speakers at the event. All spoke of the dangers associated with the current obesity trend and postulated that today’s children would not outlive their parents if drastic action is not taken soon.

Dr. Milan Gupta shared data demonstrating the strong link between obesity and cardiovascular disease. Ischemic heart disease, he said, is projected to be the number one cause of disability and death by the year 2020. Dr. Rafik Habib, who readily acknowledged that he’s dealing with a very difficult problem, spoke of the crying need for more dietitians and kinesiologists in hospital clinics. “They are badly needed to offer long-term and detailed support to patients who need to lose weight,” he said.

Dr. David Lau’s presentation was equally compelling. He noted that each additional kilo of weight increases the risk of diabetes by almost five per cent, and that at least half of all cases of diabetes could be eliminated if weight gain in adults could be prevented. He highlighted some facts from the International Diabetes Federation that state that overweight adolescents have a 70 per cent chance of becoming overweight or obese adults, and that the number goes up to 80 per cent if one or both parents are overweight or obese.

## Speakers at the Forum



**Dr. Jean-Pierre Després**

*Quebec*  
Scientific Director,  
International Chair on  
Cardiometabolic Risk



**Dr. Milan Gupta**

*Ontario*  
Cardiologist, William Osler  
Health Centre, Brampton.  
Assistant Clinical Professor,  
McMaster University,  
Hamilton



**Dr. Rafik Habib**

*Quebec*  
Professor of Family Medicine,  
Université de Montréal  
Director, Laval  
Cardiovascular Centre



**Dr. David Lau**

*Alberta*  
Endocrinologist,  
Professor of Medicine,  
University of Calgary

## About the Chair

The International Chair on Cardiometabolic Risk, based at Université Laval in Quebec, was launched in 2006 to promote educational activities and stimulate scientific research on the prevention and management of patients with cardiometabolic risk factors who are at high risk of cardiovascular disease and type 2 diabetes. Cardiometabolic risk combines classic risk factors such as smoking, high cholesterol and hypertension with a recently defined set of emerging risk factors that are closely associated with abdominal obesity.

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# The Scope of the Problem

In speaking about our ‘toxic’ lifestyle or ‘the path to self-destruction’ as he termed it, Dr. Després emphasized that we are the architects of the current epidemic. He blamed, as the main culprits, a sedentary lifestyle, an unhealthy diet, excessive food intake, and an infrastructure designed to compound the problem. Showing U.S. obesity maps from 1985 through 2004, he noted that two-thirds of Americans today are overweight or obese. A frightening statistic, he said, is that one of every 20 Americans is morbidly obese to the point where the only treatment possible is surgery.

Canadian data reveal similar obesity patterns, as do data from Europe and Asia. There are currently 1.1 billion overweight or obese people in the world. More and more, children are joining the ranks. Dr. Després warned that unless trends reverse, Canada’s future looks bleak: Young sedentary, overweight/obese adults at high risk of diabetes and cardiovascular disease.

Dr. Gupta says he knows too well the implications of this data. He says he often treats people in their 30s and 40s who have already suffered a heart attack. Many of these individuals have type 2 diabetes. “If people develop diabetes in their early teens, they could easily be having heart attacks and strokes by their thirties,” he said.

Dr. Lau supported this statement when he spoke of the Hux data recently published in *The Lancet* that concluded that diabetes rates in Ontario have already soared to levels that had not been expected to be reached until 2030. He said that even moderate weight gain is associated with an eight-fold increase in the risk of diabetes.

## Abdominal Obesity: The newly-identified risk factor for diabetes and cardiovascular disease

Much of the discussion at the Forum centered on abdominal obesity and the importance of waist circumference measurement as a simple way to identify people at risk. Dr. Després, who calls this “the cholesterol of the 21st century,” presented plenty of supporting evidence to illustrate why abdominal obesity is harmful to health. He referred to the INTERHEART study (S. Yusuf et al.) that concluded that abdominal obesity, identified by high waist circumference, is an independent risk factor for myocardial infarction. He also presented data from the IDEA (International Day for the Evaluation of Abdominal Obesity) study that revealed that a high waist circumference correlated with

an increased incidence of diabetes, even in people with a healthy Body Mass Index (BMI). Dr. Gupta, in turn, made reference to the IOWA Women’s Health Study and the Nurses Health Study, both of which confirmed the link between a high waist circumference and the likelihood of developing heart disease and type 2 diabetes.

### NOT ALL FAT IS CREATED EQUAL

When it comes to fat distribution, all speakers noted, location matters. Patients who carry their excess weight around their mid-section (as opposed to their thighs or buttocks), are usually characterized as also presenting with a host of other cardiometabolic risk factors such as high triglycerides, low HDL (good) cholesterol, high alipoprotein B, insulin resistance, glucose intolerance, and altered fibrinolysis and endothelial dysfunction. That’s because visceral fat in the abdomen releases chemicals that interfere with the normal workings of major organs in the body, such as the liver.

Dr. Lau further elaborated on the endocrine role of intra-abdominal fat, explaining how the secretions from these adipocytes are also associated with hyperglycemia, hypertension and pro-thrombotic (blood clot formation)/pro-inflammatory states. For this reason, noted Dr. Gupta, liposuction has no health benefits as this intervention removes only the subcutaneous fat (or fat just below the skin). Dr. Gupta concluded that abdominal obesity is an independent predictor of cardiometabolic risk, though the effect on CV outcomes remains unknown at this time.

### THE LIMITATIONS OF BMI AS PREDICTOR OF RISK

Although the speakers agreed that BMI is still a useful measure, there was general consensus regarding the need to move beyond BMI when assessing risk. “BMI is limited because it doesn’t tell us whether or not intra-abdominal fat is present,” said Dr. Després.



To illustrate his point, Dr. Després showed the audience the CAT scans of two patients with the same BMI, where one clearly had more of the dangerous visceral fat than the other. Dr. Gupta pointed to well-known personalities such as Arnold Schwarzenegger and Sylvester Stallone who clearly had high BMIs (32 and 33 respectively), yet were not considered obese or unhealthy. Dr. Lau concluded by endorsing the belief that waist circumference measurement is a valuable indicator of the presence of excess visceral fat, stating that it should be considered the “new vital sign,” and promoting its use in standard clinical practice.

### WHAT IS A ‘HEALTHY’ WAIST SIZE

Research is still ongoing as to what constitutes a healthy waist size for various populations. In the past few years, however, the medical community has been guided by two different measures. One is the American ATP111 values, which state that the appropriate cut-offs are 88 cm for women and 102 cm for men. The other measure is the one used by the International Diabetes Federation (IDF), which proposes lower cut-off values based on ethnicity (see chart).

### WAISTLINE WARNING: Where the Fat is Located Matters

Canadians should have their waist circumference measured during regular check-ups. The measurement is taken at the top of the hip bone (iliac crest). Healthy waist size differs according to ethnicity, as indicated below.

	MEN	WOMEN
European	Less than 94 cm (37 in.)	Less than 80 cm (32 in.)
South Asian, Chinese	Less than 90 cm (35 in.)	Less than 80 cm (32 in.)
Japanese	Less than 85 cm (33 in.)	Less than 90 cm (35 in.)
South and Central American	Less than 90 cm (35 in.)	Less than 80 cm (32 in.)
Sub-Saharan African	Less than 94 cm (37 in.)	Less than 80 cm (32 in.)
Eastern Mediterranean and Middle East	Less than 94 cm (37 in.)	Less than 80 cm (32 in.)

SOURCE: CANADIAN MEDICAL ASSOCIATION JOURNAL

Dr. Gupta acknowledged that the ATP111 values may be too high. He said that South Asians, Aboriginals and Hispanics tend to be at higher risk for insulin resistance, type 2 diabetes, and cardiovascular disease at the ATP111 cut-off levels, and that the thresholds for these groups need to be modified accordingly.

It is mainly for this reason that the first-ever evidence-based Canadian clinical guidelines on the prevention and management of overweight and obesity, published in the April 10th edition of the Canadian Medical Association Journal, used the IDF cut-off values.

## KEY MESSAGES

- There is an urgent need to tackle the obesity epidemic in Canada
- The current medical model is not equipped to deal with the problem
- The time has come to act and develop public health policies that will reverse the current alarming trend
- A shift in current thinking is needed to lessen the emphasis on BMI while placing a greater focus on the more dangerous abdominal fat
- Abdominal obesity is predictive of an increased risk of diabetes and cardiovascular disease
- Abdominal fat is metabolically active and leads to other cardiometabolic risk factors
- Measurement of waist circumference is vital to identify patients with abdominal obesity
- Trimming about five centimeters from the waistline can reduce the risk of developing type 2 diabetes by as much as 60%



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# Barriers and Solutions

*There was consensus that widespread and massive change needs to be implemented through public policy. In a workshop session to identify barriers and possible solutions to the problem of abdominal obesity and related health risks, the following points emerged:*

## Barriers

- Stigma associated with obesity; need to change the perception that obesity is the result of a personal failing driven by gluttony and sloth
- Cynicism on the part of medical professionals who don't believe people can lose weight and keep it off
- Lack of a cohesive grassroots organization; no advocacy (unlike breast cancer)
- Government lack of understanding as to what success looks like – they may not understand the tremendous benefits associated with modest amounts of weight loss and the loss of abdominal obesity as measured by waist circumference, and may only perceive success to be a significant and highly visible weight loss
- Inertia – until pressure explodes on an issue, no one takes ownership or action
- Very little insurance coverage for dieticians, kinesiologists and management of obesity
- Physicians face time pressures to measure waistlines
- Infrastructure designed to limit physical activity

## Solutions

- Create incentives for people to lose weight; *i.e., paying employees who 'stay fit'*
- Create tax breaks in appropriate areas
- Capitalize on the upcoming Olympics
- Create access to wellness coaches
- Seek celebrity endorsements – pop culture figures and well-known scientists to spread the message
- Launch a media campaign aimed at educating everyone about the diabetes and CVD risks associated with abdominal obesity
- Break down silos that currently exist between constituents (government, medical community, associations) and start working together
- Combat portion distortion (engage with food industry to promote healthy portions)
- Include waist circumference measurement in all appropriate clinical guidelines
- Create an environment less conducive to a sedentary lifestyle – *i.e., well-lit stairs, walking paths*
- Focus on schools – increase time allotted to physical education (one group mentioned a 'walking school bus' – walk pooling to increase physical activity time)



## The path forward: Time for action

The speakers were unanimous in stating that major societal change, mediated through public policy, is needed to combat abdominal obesity and reduce risk of diabetes and cardiovascular disease.

"Doctors can't achieve this alone – but collectively, we can – that's why we're here," was the main conclusion echoed. One of the main issues to deal with is the

current paradigm of treating an individual only after the complications associated with being overweight begin to manifest themselves in the form of dyslipidemia, hypertension and type 2 diabetes.

Doctor Lau reminded the audience of the importance of not blaming the patients, but to consider obesity as a chronic disease that requires a long-term approach to management and treatment.

He acknowledged it would require a tremendous mobilization of resources to change the current way of thinking.

Dr. Després closed the session with a call to action, impressing on the participants that they can all play an important role in ensuring that change takes place.