

Managing weight & diabetes.

Body Mass Index and Waist Circumference



How to calculate Body Mass index (BMI)

BMI is a simple calculation using a person's height and weight. The formula is $BMI = \frac{kg}{m^2}$ where kg is a person's weight in kilograms and m² is their height in metres squared. A BMI of 25.0 or more is overweight while the healthy range is 18.5 to 24.9. BMI applies to most adults 18-65 years.

BMI is not used for muscle builders, long distance athletes, pregnant women, the elderly or young children. This is because BMI does not take into account whether the weight is carried as muscle or fat, just the number. Those with a higher muscle mass, such as athletes, may have a high BMI but not be at greater health risk. Those with a lower muscle mass, such as children who have not completed their growth or the elderly who may be losing some muscle mass may have a lower BMI. During pregnancy and lactation, a woman's body composition changes, so using BMI is not appropriate.

Link to Health Canada's Canadian Guidelines for Body Weight Classification in Adults at <http://www.hc-sc.gc.ca/fn-an/nutrition/weights-poids/guide-ld-adult/index-eng.php> where you will also find a BMI calculator.

Waist Circumference (WC)

WC is an indicator of health risk associated with excess fat around the waist. A waist Circumference of 102 cm (40 inches) or more in men, or 88 cm (35 inches) or more in women, is associated with health problems such as type 2 diabetes, heart disease and high blood pressure.



How to measure Waist Circumference

1. Remove clothing from the waist line.
2. Stand with feet shoulder width apart (25-30cm or 10-12 inches) and back straight.
3. Locate the top of the hip bone. This is the part of the hip bone at the side of the waist not at the front of the body. Use the area between the thumb and index finger to feel for the hip bone at the side of the waist.
4. Align the bottom edge of the measuring tape with the top of the hip bone. Wrap the tape measure all the way around the waist. Ensure that the tape measure is parallel to the floor and not twisted.
5. Take 2 normal breaths and on the exhale of the second breath tighten the tape measure so it is snug but not digging into the skin.
6. Take the measure of the waist to the nearest 0.5 cm (1/4 inch)

These instructions are taken from the Heart and Stroke Foundation website. Follow the link below to view the video demonstration. <http://www.heartandstroke.com/site/c.ikIQLcMWJtE/b.3876195/>

Gender and ethnic specific waist circumferences

The Canadian Diabetes Association 2013 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada provides a guideline for waist circumference targets on based gender and ethnicity. Below is a table summarizing waist circumference measurements that lead to increased health risks.

Ethnic-specific values for waist circumference (WC)

Country or Ethnic Group	Central obesity as defined by WC	
	Men - cm (inches)	Women – cm (inches)
European, Sub-Saharan African, Eastern Mediterranean and Middle Eastern (Arab)	94 (37.6) or greater	80 (32) or greater
South Asian, Chinese, Japanese, South and Central American	90 (36) or greater	80 (32) or greater

Across the country, the Canadian Diabetes Association is leading the fight against diabetes by helping people with diabetes live healthy lives while we work to find a cure. Our community-based network of supporters help us provide education and services to people living with diabetes, advocate for our cause, break ground towards a cure and translate research into practical applications.

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