

Weight management

Being overweight, and in particular obese, is known to be associated with numerous adverse health conditions. Excess weight increases the risk of developing Type 2 diabetes, cardiovascular disease, hypertension, certain cancers, sleep apnoea, osteoarthritis, psychological problems, and reproductive problems for women. It is also associated with a reduced life expectancy.¹

Weight reduction, if appropriate, should be an integral component of the management of people with these conditions, as well as of all preventive health programs.

Assessing and measuring body weight

Weight should not be considered in isolation, but in conjunction with risk factors for associated health conditions. For example, for cardiovascular disease, factors such as blood pressure, lipids and smoking status should also be considered and addressed.

Abdominal (central) obesity

Abdominal or visceral fat deposition is associated with an increased risk of morbidity independent of total body fat. While it is the mass of the visceral fat that is important, waist circumference, measured at the narrowest part of the torso, is a more practical measure of increased disease risk due to overweight and obesity (see Table D.14).

Table D.14 Waist circumference and risk of disease²

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Risk of disease ^a	Waist circumference (cm)	
	Males	Females
Increased	≥94	≥80
Substantially increased	≥102	≥88

a. Risk of Type 2 diabetes, hypertension and cardiovascular disease

Waist circumference will not be an accurate measure of body fat in people who are pregnant or have medical conditions that distend the stomach. Further, the circumference ranges are based on Caucasian adults. Cut-offs for Asians and Indians at the same level of risk are thought to be lower, and cut-offs for Pacific Islanders and African-Americans are thought to be higher.²

The waist-to-hip ratio (WHR) may also be used as a measure of abdominal obesity. It is a better predictor of cardiovascular disease than waist circumference and body mass index. An Australian study has suggested that increasing cardiovascular death rates appear to occur when the WHR is >0.80 in women and >0.90 in men.³ However, WHR may be less valuable as a relative measure after weight loss because of the loss of hip as well as waist dimensions in some individuals.²

Body mass index

Body mass index is defined as body weight (in kilograms) divided by the square of the height (in metres):

$$\text{BMI} = \frac{\text{weight (kg)}}{\text{height (m)}^2}$$

Considering the population as a whole, the BMI is closely correlated with body fat, although the correlation can be misleading because it does not distinguish fat mass from muscle mass. Thus BMI may be physically underestimated in the elderly due to their reduced muscle mass and overestimated in muscular people.

The ranges of BMI shown in Table D.15 are used in Australia to classify adults according to weight.

Table D.15 Body mass index²

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Classification	BMI (kg/m ²)
Underweight	<18.5
Acceptable weight	18.5–24.9
Overweight	≥25
Pre-obese	25–29.9
Obese I	30–34.9
Obese II	35–39.9
Obese III	≥40

The 'acceptable weight' range is based on a number of prospective studies which indicate that BMIs in this range are associated with the lowest death rate. However there are some limitations in using these cut-offs²:

- The BMI does not reflect body fat distribution. A measure of fat distribution is important as abdominal fat is a potential risk factor for disease independent of total body fat.