

## General Statistics

- Self-reported data indicates that in 2001 an estimated 4.9 million Australians were estimated to be overweight (but not obese – 42% men / 25% women – aged 18 years and older)
- A further 2.4 million Australian adults were estimated to be obese (16% men / 17% women)
- The prevalence of obesity has increased significantly over time. Between 1989-90 and 2001, the prevalence of obesity has increased from 9% to 16% in men and 10% to 17% women)
- Applying the current (2001) rate of obesity to projected populations for 2010 suggests that there would be 5.6 million overweight (but not obese) Australians and 2.7 million who were obese.
- Continuing the projections to 2020 could see 6.3 million overweight (but not obese) Australians and 3 million Australian's are obese.

*(AIHW 2003 A growing problem: trends and patterns in overweight and obesity among adults in Australia, 1980 – 2001: Bulletin 8)*

## Children

- 14.3% of boys and 16.4 girls (ages 2-14) were overweight
- additional 3.7% of boys and 5.6% considered to be obese.
- Childhood obesity in Australia has been estimated to be rising at an annual rate of 1% meaning half of all young Australia's will be overweight by the year 2025

*(AIHW 2005 Australia's Children)*

- There is evidence to suggest that weight status is not distributed equitably among children in the population – with body fatness in girls being higher in middle and lower SES areas compared to girls living in higher SES areas

*(Salmon J, Timperio A, Cleland V, Venn A. 2005 Trends in children's physical activity and weight status in high and low socio-economic status areas of Melbourne, Victoria, 1985-2001. Aust and NZ J of Pub Health vol 29(4): 337-342)*

- Overweight children are 50 per cent more likely to become overweight adults, and children with overweight parents have twice the risk of becoming overweight as those with parents who fall into the healthy weight category.

*(Excerpt from AMA position statement on Nutrition – referenced from : British Medical Association. Preventing childhood obesity. 2005 Available at: [http://www.bma.org.uk/ap.nsf/content/childhoodobesity/\\$file/PreventingObesityfinal.pdf](http://www.bma.org.uk/ap.nsf/content/childhoodobesity/$file/PreventingObesityfinal.pdf) (Accessed August 2005)*

## Adults

- 2.4 million adult Australians are obese (16% men; 17% women) – BMI 30 and above

- additional 4.9 million Australian adults are overweight with BMI above 25, but below 30 (42% men; 25% women)
- Waist circumference is independent risk factor for Type 2 diabetes, coronary heart disease and other health problems
- 27% of men and 34 % of women over 25 in Australia are abdominally obese (waist circumference of more than 102cm in men and 88cm in women) in 2000
- Additional 28% of men and 22% of women are abdominally overweight (waist circumference of more than 94cm in men and 80cm in women).

*(AIHW 2004 Australia's Health)*

- Obese people were 8% more likely to be 'not in the labour force' than non-obese people
- Obese employees are 17% more likely than non-obese employees to have been absent from work as a result of illness or injury at least one day during the two weeks prior to being interviewed
- For people who were absent for personal illness or injury, the average absence was longer for obese employees than non-obese employees
- It has been estimated that absenteeism associated with obesity may be over 4 million days per year

*(AIHW 2005 Obesity and workplace absenteeism among older Australians: Bulletin 31)*

### **Rural, regional and remote people**

- People living in regional areas were more likely to be overweight / obese than their major city counterparts
- In 2001, males in regional areas were 1.05 times more likely to be overweight / obese and females were 1.10 times as likely to be as their counterparts in major cities

*(AIHW 2005 Rural, regional and remote health: Indicators of health)*

**Some useful definitions** (these can be found with some other definitions at the back of the AMA Position Statement on Nutrition)

#### Body Mass Index

Overweight and obesity is commonly defined by calculating an individual's Body Mass Index (BMI). BMI is calculated by measuring an individual's weight in kilograms and dividing it by the square of the height in metres (kg/m<sup>2</sup>).

For adults, a BMI measurement between 18.5 – 25 is considered to be within a healthy weight range, 25-30 is considered overweight and a BMI 30 and over is considered obese. As BMI increases, so do the associated health risks. BMIs under 18 may also pose various health concerns. The BMI definitions of underweight, overweight and obese varies with the age and sex of a child. Boy and girl BMI charts are used to calculate if a child is either over or under weight.

Much research on the health impacts of obesity has been undertaken using BMI as the measurement of obesity. Increasingly, BMI is being replaced with girth or waist - hip ratio as being more strongly correlated with the negative health impacts of obesity.

#### Girth and hip waist ratio

Girth, waist circumference and the related abdominal obesity is increasingly highlighted as an independent risk factor for conditions such as Type 2 Diabetes, CVD and other health problems. A waist circumference of more than 102cm in men and 88cm in women is deemed to be obese, with a measurement of more than 94cm in men and 80cm in women to be overweight. Waist hip ratio is calculated by dividing the waist measurement by the hip measure to form a ratio. A ratio of more than 1.0 for men and 0.9 for women is classed as a high-risk category. This measurement is not ideal for use with children.

#### Calorie

A calorie is the amount of energy or heat needed to increase the temperature of one gram of water by one degree Celsius. For many years this has been the measure that has been used to calculate the energy content of food, and many Australians have some understanding of how to use it to calculate the correct energy intake for their needs.

#### Kilojoules

One calorie is the equivalent to 4.286 kilojoules (kJ). This measurement is now the standard legislated measure of the energy value of food in Australia and must be displayed on food labels. It is not clear that the general public has much understanding of the measure or ability to use it.

### **How much food should I consume and what role does physical activity play in weight loss and weight maintenance**

#### Weight loss using exercise

1 kg of fat = approximately 9,000 kilocalories or 38,500 kilojoules

If you are sedentary and become moderately active or are moderately active and become active as defined for Table 3 below you will increase your daily kilocalorie intake by approximately 200. Therefore with this increase in exercise alone, with no change in eating patterns, it would take the average person 45 days to lose 1kg of fat. Hence, although exercise plays an important role in weight maintenance and a healthy lifestyle, it has only a limited role in weight loss.

#### Guidelines for daily energy intake

The following tables are taken from the [\*Dietary Guidelines for Americans 2005\*](#). These guidelines are published jointly every 5 years by the Department of Health and Human Services (HHS) and the Department of Agriculture (USDA). The *Guidelines* provide authoritative advice for people two years and older about how good dietary habits can promote health and reduce risk for major chronic diseases.

It should be noted that in the Dietary Guidelines for Americans:

- weights are in lbs (1 kg = 2.2lbs) and
- energy is in kilocalories (1 kilocalorie = 4.286 kilojoules)
- 154lb individual is a 70 kg adult

**TABLE 3. Estimated Calorie Requirements (in Kilocalories) for Each Gender and Age Group at Three Levels of Physical Activity<sup>a</sup>**

Estimated amounts of calories needed to maintain energy balance for various gender and age groups at three different levels of physical activity. The estimates are rounded to the nearest 200 calories and were determined using the Institute of Medicine equation.

		Activity Level <sup>b,c,d</sup>		
Gender	Age (years)	Sedentary <sup>b</sup>	Moderately Active <sup>c</sup>	Active <sup>d</sup>
Child	2-3	1,000	1,000-1,400 <sup>e</sup>	1,000-1,400 <sup>e</sup>
Female	4-8	1,200	1,400-1,600	1,400-1,800
	9-13	1,600	1,600-2,000	1,800-2,200
	14-18	1,800	2,000	2,400
	19-30	2,000	2,000-2,200	2,400
	31-50	1,800	2,000	2,200
	51+	1,600	1,800	2,000-2,200
Male	4-8	1,400	1,400-1,600	1,600-2,000
	9-13	1,800	1,800-2,200	2,000-2,600
	14-18	2,200	2,400-2,800	2,800-3,200
	19-30	2,400	2,600-2,800	3,000
	31-50	2,200	2,400-2,600	2,800-3,000
	51+	2,000	2,200-2,400	2,400-2,800

<sup>a</sup> These levels are based on Estimated Energy Requirements (EER) from the Institute of Medicine Dietary Reference Intakes macronutrients report, 2002, calculated by gender, age, and activity level for reference-sized individuals. "Reference size," as determined by IOM, is based on median height and weight for ages up to age 18 years of age and median height and weight for that height to give a BMI of 21.5 for adult females and 22.5 for adult males.

<sup>b</sup> Sedentary means a lifestyle that includes only the light physical activity associated with typical day-to-day life.

<sup>c</sup> Moderately active means a lifestyle that includes physical activity equivalent to walking about 1.5 to 3 miles per day at 3 to 4 miles per hour, in addition to the light physical activity associated with typical day-to-day life

<sup>d</sup> Active means a lifestyle that includes physical activity equivalent to walking more than 3 miles per day at 3 to 4 miles per hour, in addition to the light physical activity associated with typical day-to-day life.

<sup>e</sup> The calorie ranges shown are to accommodate needs of different ages within the group. For children and adolescents, more calories are needed at older ages. For adults, fewer calories are needed at older ages.

**TABLE 4. Calories/Hour Expended in Common Physical Activities**

Some examples of physical activities commonly engaged in and the average amount of calories a 154-pound individual will expend by engaging in each activity for 1 hour. The expenditure value encompasses both resting metabolic rate calories and activity expenditure. Some of the activities can constitute either moderate- or vigorous-intensity physical activity depending on the rate at which they are carried out (for walking and bicycling).

<b>Moderate Physical Activity</b>	<b>Approximate Calories/Hr for a 154 lb Person<sup>a</sup></b>
Hiking	370
Light gardening/yard work	330
Dancing	330
Golf (walking and carrying clubs)	330
Bicycling (<10 mph)	290
Walking (3.5 mph)	280
Weight lifting (general light workout)	220
Stretching	180
<b>Vigorous Physical Activity</b>	<b>Approximate Calories/Hr for a 154 lb Person<sup>a</sup></b>
Running/jogging (5 mph)	590
Bicycling (>10 mph)	590
Swimming (slow freestyle laps)	510
Aerobics	480
Walking (4.5 mph)	460
Heavy yard work (chopping wood)	440
Weight lifting (vigorous effort)	440
Basketball (vigorous)	440

<sup>a</sup> Calories burned per hour will be higher for persons who weigh more than 154 lbs (70 kg) and lower for persons who weigh less.

Source: Adapted from the 2005 DGAC Report.