



## **Weight Loss for Health Gain**

### **Chapter 1**

#### **Fat – The Bigger Picture**

This book is written for those who are concerned about body weight. Generally speaking, there are two principal sources of concern which most of us share. The first relates to the various psycho-social issues surrounding fatness and body image; the second relates to the health consequences of being overweight or obese. Both of these are important.

Body image is a fundamental part of how we see ourselves in general. This is something we all know by intuition, but the truth of it was brought home to me as a young doctor in postgraduate training. The consultant and I were chatting at the end of another busy morning in the psychiatric out-patients' clinic. He pointed out the rarity of finding someone who is fully happy with his or her body. 'Most of us would change our body shape', he announced, 'in one way or another, if we were given the opportunity. We would rather be taller or shorter; or have smaller feet, more muscles, fewer spots, no blemishes, bigger breasts, smaller breasts, a more rounded nose, straighter teeth, more weight or a thinner waist!' He reminded me that the popular appeal of cosmetic surgery merely reflects this common discontent. Then he wrapped up his impromptu lesson: 'Individuals who are entirely happy with their body image tend to be very psychologically stable.' He was not referring to those who put great effort into their physical appearance; nor to those who through the good fortunes of genetic inheritance are well proportioned and naturally good looking. He was referring to the innate contentment which accompanies self-acceptance - warts and all. It is indeed a great gift to be able to accept ourselves as we are, complete with our physical individuality, whether we be thin, fat or anywhere in between.

Many obese persons will readily admit that they suffer some degree of psychological impact as a direct result of their 'weight problem'. They frequently feel bad about themselves, their fat and their appearance. For some, their self-esteem may be severely challenged. Others put on a

brave and jolly face, and would seem to endorse the notion we inherit from folklore; namely, that fat people are thick-skinned, larger than life, and live life to the full. But the sad fact is that overweight and obesity are associated with quite the opposite characteristics: depression and poor self-image. All of this is compounded by the pervasively rude and moralistic attitudes which are meted out to the overweight by those who, for some strange reason, consider themselves entitled to pass judgement. Tacit accusations ranging from gluttony to slovenliness are frequently invoked and poorly disguised. The truth is that these vices have little if anything to do with the vast majority of ordinary people who happen to be overweight. Nevertheless, the overweight are teased and bullied, and may even find themselves at the receiving end of downright hostility and discrimination.

Social attitudes are fickle and subject to change. There was a time when 'plumpness' was considered attractive, and when our present-day skin-and-bone supermodels would have been shunned in favour of those with a little more fat. Social attitudes are also subject to cultural influence. For example, obesity is treasured in some societies as a status symbol: 'Look at me! I'm fat because I can afford good food and my servants do all the hard work.' Likewise, some cultures would question a husband whose wife does not fatten during their first year of marriage: her failure to gain weight would lead in-laws to suspect that their daughter was not being properly cared for! It seems clear, then, that the psychological burden of the overweight is determined by the dominant attitudes of the society in which we live.

This book will focus particularly on the health aspects of weight. Since I am neither a psychologist nor a sociologist, I am not qualified to delve into the important issues of psychology and sociology. However, I believe that a full understanding of the health aspects of weight will lead us away from futile and harmful anxieties over appearance, into a much more positive frame of mind.

### **The most compelling reason for losing weight**

The Metropolitan Life Assurance Company issued a report in 1937 which drew attention to the importance of body weight in relation to life expectancy. They were amongst the first to prove that being overweight was a significant risk factor for premature death. Needless to say, their interest in all of this was not medical, but financial - they wanted to reduce their exposure to early payouts. Having now demonstrated conclusively that the overweight were much more likely to die young and have their policies cashed in, the company felt justified in charging them higher premiums for life cover in the first place. The

association between excess body weight and mortality was independent of all other known risk factors such as cigarette smoking, high blood pressure, family history, and so forth. These early findings have been confirmed by subsequent large-scale studies and are now widely accepted by health professionals internationally.

This is why you are weighed when you go for a life insurance medical examination! The insurer knows that the risk to life increases steadily with increasing weight. Being slightly overweight is associated with a slight increase in risk, whereas being grossly overweight is associated with a serious increase in risk. Thus, the single most compelling reason for losing excess fat and achieving an acceptable body weight is to extend life.

### **The ideal body weight**

Fortunately, as far as health is concerned, the concept of an ideal body weight is a fluid one and should really be thought of as an acceptable body weight range. We can put a more precise figure on this range by using the concept of the body mass index (BMI). The BMI is a simple measurement which takes account of your age, bone structure, body shape, muscle mass, gender, etc. Using a calculator you can calculate your BMI quite simply:

- Weigh yourself in kilograms
- Measure your height in metres
- Multiple your height by itself (height squared)
- Divide your weight by your height squared
- The result is your BMI.

The formula looks like this:

$$\frac{\text{Weight (in kilograms)}}{\text{Height}^2 \text{ (in metres)}} = \text{BMI}$$

Let's take an example. Say your height is 1.74 metres, and your weight 90 kg. Multiply your height by itself:  $1.74 \times 1.74 = 3.0276$ . Now divide your weight (90) by your height squared (3.0276) to get your BMI, in this case 29.7.

The ideal BMI, as far as health is concerned, is anything between 20 and 25 - a reassuringly broad band. Hence, we do not need to be worried about a little excess flab here and there! A BMI between 25 and 30 is the current definition of 'overweight', and a BMI greater than 30 is defined as 'obesity'. Morbid obesity refers to a BMI of 40 or more. Now

we can quantify the risk of overweight and obesity a little more accurately: a BMI of 34 is associated with a 1.5 increased mortality risk, and a BMI of 36 with a two-fold increased risk, etc. In other words, you are twice as likely to die prematurely if you have a BMI of 36! The higher the BMI, the higher the risk.

Similarly, a BMI that is too low is also associated with ill-health and a risk to life. On a global scale this is most frequently and obviously seen during times of famine. In affluent societies, an unacceptably low BMI may arise during the course of physical and/or mental illness. Perhaps one of the saddest and most frustrating examples of this is anorexia nervosa, which is defined by a refusal to maintain even the absolute minimum acceptable body weight - a BMI of 17.5. Conversely, the ideal body weight (BMI 20-25) is associated with no increased risk to health or life.

### **Apples and pears**

People carry their excess weight in different ways. Some appear to wrap it all around their waist; others put it on their bottoms and thighs. These distributions of body fat give rise to distinct appearances. The former are affectionately referred to as 'apples', the latter as 'pears'. It would be more accurate to refer to these as android and gynoid distributions, for they are largely due to gender and hormonal influences. Most overweight men are android; most overweight women are gynoid ([see picture](#)). The differences between these two distributions of body fat are very important. The reason for this is that fat in the central (android) distribution is more metabolically active than fat in the gynoid distribution. It undergoes a more rapid turnover. The net effect of this will be seen in chapter 7. Meanwhile, we now have two more instruments with which to predict health risk, namely the waist circumference, and the waist to hip ratio.

The waist circumference is the easiest screening tool we have to identify the very high-risk patient. A waist circumference of greater than 100 cm in men and 88 cm in women is highly predictive of present or future susceptibility to chronic metabolic disease (see chapter 6). The waist/hip ratio is also a fairly good predictor of future health: a waist/hip ratio greater than 1.0 in men, and 0.90 in women, is associated with increased risk to life (mortality) and health (morbidity). Men, if your waist circumference is equal to, or greater than your hip circumference you are at particular risk. Ladies, if your waist circumference is almost equal to, equal to, or greater than your hip circumference you too are at risk.

Our life expectancy depends, at least in part, on our body weight, and on the distribution of that weight. In later chapters we will qualify this statement, we will examine how we gained weight in the first place, and we will consider the effect that overweight and obesity have on our general health and well-being.

***Body weight baseline measurements***

Measure your body mass index (BMI).<sup>\*</sup> For accuracy, weigh yourself first thing in the morning, without your clothes, and after going to the toilet.

- (a) Height in metres = \_\_\_\_\_ m
- (b) Height multiplied by itself = \_\_\_\_\_
- (c) Weight in kilograms = \_\_\_\_\_ kg
- (d) My BMI is (c) divided by (b) = \_\_\_\_\_

You can also calculate what your ideal body weight range would be. This is based solely on height.

- (e) For me, a BMI of 20 would be (b) x 20 = \_\_\_\_\_ kg
- (f) For me, a BMI of 25 would be (b) x 25 = \_\_\_\_\_ kg

Circle your current BMI:

<23	23	24	25	26	27	28	29	30	31
32	33	34	35	36	37	38	39	40	>40

*To measure waist circumference*

Measure your waist circumference. Using a flexible measuring tape, measure the waist circumference by wrapping the tape around your waist half way between the lowest rib and the wing of the pelvic bone ([see diagram](#)). If in doubt, measure the waist at its most prominent point, usually at or just above the level of the umbilicus (do not 'suck in' your stomach!). Record the measurement in centimetres.

Measure your waist/hip ratio. To measure your hip circumference, wrap the tape around your hips at the level of the hip bone. This is approximately where your trousers pockets would be. Record the measurement in centimetres. Now you can work out the ratio.

My waist/hip ratio

- (a) waist circumference in cm = \_\_\_\_\_
- (b) hip circumference in cm = \_\_\_\_\_
- (c) divide (a) by (b) = \_\_\_\_\_

You can also assess your body weight by more conventional means. Simply find the spot on the [graph](#) where your height and weight intersect.