

Achieving a Healthy Body Weight

by

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INTRODUCTION

This is the second article in our Healthy, Fit and Happy lifestyle series. One of the primary goals of many people on their path to a healthy and happier life is to reduce their body weight. In this article we will determine what is a healthy body weight value for you. Then we will determine what energy intake value is most effective to achieve this goal. In articles that follow I will go through specific diet and exercise plans. However, first the important decision of how much you should weigh, and what energy intake is most appropriate to begin your weight loss journey, needs to be clearly established.

HOW MUCH SHOULD I WEIGH?

Every person's body is different and unique and hence everybody will have an individual ideal bodyweight. This optimal weight should be based on scientific and medically established facts and data. However, it should also be determined by one's own personal feelings and views of what suits them best. Of course this will change over time as one ages. Once all these factors are considered, an ideal target body weight value can be established, and this becomes the most important and easiest identifiable goal to be achieved in the quest for a healthy, fit and happy life.

From a scientific and medical point of view there are certain data that can be used to estimate the optimal body weight. Often the Body Mass Index (BMI) is used as a easy and practical indicator of a healthy body weight. Another practical measure often used is the girth of the stomach, measured around the widest part of the belly. There is also the option of measuring the percentage of body fat, using skin fold calipers or bioelectrical impedance devices.

Body Mass Index (BMI)

Historically the BMI has been the most widely used measure to estimate a healthy body weight. The BMI is the body mass, measured in kilograms, divided by its height, measured in meters squared. To give you a specific example, I currently weigh 92 kg and am 1.78 m tall. Hence my $BMI = 92 / (1.78 \times 1.78) = 29.0$.

Most credible health authorities classify the BMI in the following way:

Table 1: Body Mass Index (BMI) values and associated weight classifications according to the World Health Organisation.

Category	BMI
Underweight	<18.5
Normal body weight	18.5-24.9
Over-weight	25-29.9
Obese	>30

Hence my current BMI value of 29 is classified as over-weight. For me to be classified as normal body weight I would have to weigh about 79 kg ($1.78 \times 1.78 \times 24.9$). I use to be an elite powerlifting athlete and hence I have big bones and muscles and I do not think I would look good at a weight of 79 kg. I would be too skinny for my large body type. However, for most normal, non-athletic individuals, the BMI provides a fairly good indicator of a healthy body weight.

BMI values are generally applied in the same manner for males and females. However, as most women have lighter bone structures than men it is likely that women should have a slightly lower BMI than men. Hence, when looking at the typical healthy BMI range of 18.5 to 25, most women should be towards the lower end i.e. 20, whereas many men would suit a BMI more towards 23; depending on the individual body type and bone structure. The World Health Organisation estimates that by 2015 there will be 2.3 billion adults who are overweight, and more than 700 million who will be obese. In Australia approximately 25% of the adult population is obese. The purpose of these series of articles is to try and ensure that you are not one of these statistics! In Table 2 the BMI equation is used to provide information in relation to body weight for individuals of different heights from 1.46 to 2.02 meters.

Waist Circumference

Often used in conjunction with BMI is an individual's waist circumference, measured around the belly button. A value of 94 cm or more in males and 80 cm and above in females is generally classified as abdominal overweight. A waist circumference of 102 cm or more in males and 88 cm and above in females is often classified as abdominal obese. A 102 cm waist measurement if you are only 1.55 m in height looks much worse than if you are 1.90 m tall. However, these guidelines do not take height and body type into account. Nevertheless, they are another variable to consider in formulating an optimal target body weight.

My current waist circumference is 91 cm, which places me below the abdominal overweight category. This strengthens my belief that my current body weight of 92 kg is suitable for my body type, even though it is classified as over-weight according to the BMI standards.

Table 2: Body weights (kg) for various BMI classifications including Under-Weight (BMI = 18.4); Normal (BMI = 22); Over-Weight (BMI = 25) and Obese (BMI 30)

Height (meters)	Body weight (kg) if BMI is 18.4 (underweight)	Body weight (kg) if BMI is 22 (optimal weight)	Body weight (kg) if BMI is 25 (over-weight)	Body weight (kg) if BMI is 30 (obese)
1.46	39.2	46.9	53.3	63.9
1.48	40.3	48.2	54.8	65.7
1.5	41.4	49.5	56.3	67.5
1.52	42.5	50.8	57.8	69.3
1.54	43.6	52.2	59.3	71.1
1.56	44.8	53.5	60.8	73.0
1.58	45.9	54.9	62.4	74.9
1.6	47.1	56.3	64.0	76.8
1.62	48.3	57.7	65.6	78.7
1.64	49.5	59.2	67.2	80.7
1.66	50.7	60.6	68.9	82.7
1.68	51.9	62.1	70.6	84.7
1.7	53.2	63.6	72.3	86.7
1.72	54.4	65.1	74.0	88.8
1.74	55.7	66.6	75.7	90.8
1.76	57.0	68.1	77.4	92.9
1.78	58.3	69.7	79.2	95.1
1.8	59.6	71.3	81.0	97.2
1.82	60.9	72.9	82.8	99.4
1.84	62.3	74.5	84.6	101.6
1.86	63.7	76.1	86.5	103.8
1.88	65.0	77.8	88.4	106.0
1.9	66.4	79.4	90.3	108.3
1.92	67.8	81.1	92.2	110.6
1.94	69.3	82.8	94.1	112.9
1.96	70.7	84.5	96.0	115.2
1.98	72.1	86.2	98.0	117.6
2	73.6	88.0	100.0	120.0
2.02	75.1	89.8	102.0	122.4

Percent Body Fat

Another useful indicator in relation to optimal body weight is percentage body fat. This can be determined by the use of skinfold calipers, bioelectrical impedance measuring devices, underwater weighing, and even dual-energy x-ray absorptiometry for a very accurate body composition analysis. The estimated minimal level of body fat compatible with health is 5% for

males and 12% for females. However, values of about 15% for males and 22% for females are considered healthy for most people, and can be useful target values on the path to the establishment of a healthy body weight.

Medical Factors

An important factor to consider in relation to optimal body weight is the health of the body at different body weight values. For example, your blood pressure, blood glucose levels, cholesterol values etc should be determined by your medical doctor before you begin your weight loss journey and also periodically throughout the program. Once you achieve what you believe to be your optimal body weight these values should be compared to standard healthy values. For example, normal blood pressure is generally considered to be 120/80 mmHg (systolic blood pressure/diastolic blood pressure). High blood pressure is generally considered to be 140/90 mmHg or above. Blood pressure tends to vary directly with body weight so that typically as you gain extra body weight the blood pressure increases. Hence once you have achieved your target body weight value it is useful to have your blood pressure and blood chemistry work done and see whether the values are within the normal ranges. If, for example, you have lost some bodyweight and think you may be at your optimal weight, but your blood pressure was still high, it may be advantageous to your health to lose a few more kilograms, provided you are not already under-weight (i.e. BMI<18.5). These medical factors should be important considerations in the overall determination of your optimal body weight.

Personal Factors and Self-Image

Your body weight is a major determinant of your own personal body image and self-esteem and hence it is a very personal factor. According to my BMI I should lose about 13 kg to achieve the normal range. However, to accomplish this I would have to lose some of my muscles and I don't want to do this. My strong physique is an important part of my self-image and hence I do not want to lose much weight. Similarly a woman who enjoys having a voluptuous curvy body will likely have a body weight target that is higher than one who wants to have 6 pack abdominals. For other people it may be very important to have 6 pack abdominals, and hence they may wish to have a lower bodyweight target to show off their abs.

Many people also like to try and lose weight around the face and neck area to avoid having a double chin appearance, and this can be a very important goal to achieve that is closely related to over-all body weight. Conversely, if too much weight is lost, the face can appear too thin and gaunt and the person may have a sickly appearance that would be improved with a few more kilograms of body weight.

Your Optimal Body Weight

After considering all the data in relation to BMI, waist circumference, percent body fat, blood pressure, blood chemistry and your own personal desires, a firm but reasonable optimal body

weight target should be established. This target is very important and should be determined in consultation with your family doctor and supportive family members and loved ones. Once established this is the key driver towards improved health and the main source of feedback in relation to progress. Every morning you should wake up, go to the toilet and check your body weight and over time you should be making progress to achieving your goal. You will succeed or fail largely on your capacity to obtain a healthy body weight. There is no more useful or practical goal on your path to a healthy, fit and happy life.

The Effects of Ageing

Over time your ideal body weight will likely change. I am quite happy at a bodyweight in the low 90's at the moment. However, as I continue to age my levels of growth hormone and testosterone will continue to fall and so will my muscle mass. I will train hard to reduce this deterioration and eat appropriate food, but it will eventually happen and my muscles will progressively reduce in size and strength. These are natural and normal effects of the ageing process and try as we like we can slow the process but not stop it. Hence by the time I am in my mid 50's it is likely that my optimal body weight will have dropped to the high 80's. By the time I am in my early 60's it is likely that my optimal weight will have continued to drop to the low 80's. And by the time I have reached my 70's it is likely that my desired body weight will be in the mid to high 70's and I will have finally achieved a normal BMI classification.

With age, the wear and tear on the bones and joints often take their toll and it is generally advantageous to have a lighter body weight to reduce the pressure on the bones and joints, particular in the lower body. This also has the effect of providing more energy to pursue life as the body is not so heavy to carry around. Hence the target bodyweight will need to be adjusted over time to take into account the ageing process and also the changing demands and desires as one ages. I expect to be fit, lean and healthy at 75 years of age, but I will not be as big and strong, and this needs to be understood and built into the program. The biggest change will be a large reduction in the amount of food I eat. It will likely be about half of what I am currently consuming (2800 to 1600 calories). Sensible reductions in my exercise routine will also need to be made, but we will talk about that more in a later article.

LOSING BODY WEIGHT

As outlined in the first article in this series, basically the body gains weight when the intake of energy through the consumption of food is greater than the expenditure of energy through the normal functioning of the body, plus any exercise. Often this happens when relatively small amounts of additional food are eaten above that expended and the small energy surplus accumulates into progressive weight gain over time. What we need to do is reverse this process so that we are losing weight by establishing an energy deficit of about 500 calories per day by eating less food and doing more exercise. This energy deficit needs to be maintained until the

desired body weight is achieved and thereafter a maintain program should be adopted with a balanced energy intake and expenditure.

How Much Energy should I Eat?

There are a number of methods to determine the appropriate energy intake value that will provide for long term body weight loss. The world's most respected institution in relation to food is the US Department of Agriculture (USDA). This institution has been setting the world standard for dietary advice over the past 100 years. The USDA have a useful free website called SuperTracker that can quickly and effectively determine a reasonable starting point for your energy intake value. The website is www.supertracker.usda.gov click on Create Your Profile button and enter your details for Name, Age, Gender, Physical Activity, Height and Weight and click on the Submit button down the bottom and then select the "move towards a healthier weight" option and click submit again and then click on the option to "View your plan." This will provide you with an energy intake target, as well as diet recommendations, which will be our best starting point for the development of a weight loss plan. Copy and save this plan as we will be using it to help determine our initial food intake.

For example, if on the USDA SuperTracker website I enter my name (Greg), age (48 years), gender (male), physical activity (>60 minutes) height (178 cm), weight (92 kg) and then click the "move towards a healthier weight" option the system tells me I should eat 2800 calories per day.

It must be understood that this is only a first estimate. The best guess we can come up with based on the information provided and a good starting point for our weight loss journey. Please make sure you enter accurate information. Your exercise routine and food intake will be varied according to your progress, or lack there of, on the body weight scales. Hence we will organise our food intake and exercise options around the starting point of the value provided by the USDA website, and then make sensible changes in the food and exercise plan on the basis of how your body weight changes over time. This will allow us to personalise the plan as every person is different and your body will respond differently to the diet and exercise and hence the overall plan must be progressively modified to ensure the desired weight loss target is achieved.

Safe Weight Loss Targets

The generally accepted upper safe limit to weight loss is 1 kg per week and this is achieved with an energy deficit of about 1000 calories per day. Personally I think it is more realistic to target 0.5 kg of weight loss per week, with an energy deficit of about 500 calories per day. It has taken a long time for you to put on all the extra weight and it makes sense to develop a realistic long term plan that is not too extreme to gradually take it off and then be able to sustain the plan to keep it off and achieve a healthy long term lifestyle. The calorie value provided by the USDA SuperTracker will already have an energy deficit of about 500 calories built into the value. So it is the perfect starting point for us.

Fine Tuning the System

What we need to do is to establish a food plan based around the USDA recommended energy intake value that provides you with all the important nutrients and suits your personal tastes and

lifestyle. We then monitor the change in bodyweight that is caused by the new regime, and fine tune it in terms of diet and exercise to ensure the desired results are achieved. Hence if there is no weight loss in the first few weeks, the amount of daily exercise is slightly increased and the amount of food eaten slightly reduced until the desired weight loss of 0.5 kg per week is obtained. As outlined in the first article, weight loss is about 90% diet and 10% exercise, so most of the focus will be on ensuring the diet is strictly followed and then progressively modified as needed. This is the most important aspect of weight loss and where the battle will be won or lost.