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# JUST A SCALE AND TAPE MEASURE AWAY

BODY METRICS FOR HEALTH AND VITALITY

By Jeffrey Race

**K**nowing the value of two simple body metrics can go a long way towards ensuring your good health and vitality. Surprisingly, most people have never heard of body metrics, or don't realise their significance. These two metrics are the Body Mass Index (BMI) and the Waist / Hip Ratio.

Studies have shown these to be strongly and causally related to health. They are easy to measure, and require only a scale and tape measure. Everyone should know his own metrics, and if the values exceed optimal limits, a get-well plan should be developed. This is easy for RBSC members, as we are blessed with excellent and convenient exercise facilities.

## Body Mass Index

The calculation is easy: multiply your height—in metres—by itself, then divide the result into your weight in kilogrammes. For example:

Height: 1.757 m. Weight: 76.6 kg.

$$1. 1.757 \times 1.757 = 3.08$$

$$2. 76.6 / 3.08 = 24.87$$

A person with this body metric (myself) has a BMI of 24.87.

Why is this important to know, and fix if necessary? First, large-scale studies have shown that for men, the lowest death rates from all causes are found at BMI values between 23.5 and 24.9. For women, the lowest death rates fall between 22.0 and 23.4. These dramatic findings are graphically portrayed in the accompanying two images from *The New England Journal of Medicine*. (Different standards apply to children and trained athletes.)

Second, people feel better when their BMI is within the optimal range. Finally, an experiment with 40 male students, shown photographs of different female body types, found that women whose BMIs fell between 18 and 21 were viewed as the most attractive. In the words of the study, "Body mass index emerges as the major factor

in determining sexual attractiveness, since it is a good predictor of health and reproductive potential." BMI was actually found to be a better indication of attractiveness than the traditionally ideal waist measurement (70 per cent of hips).

Though most people consider gaining weight as they get older to be normal, an important and unusual conclusion of this study is that one's optimum weight remains the same throughout life!

## Waist/Hip Ratio

In some countries, "fat-acceptance" campaigns now promote the view that "body shape does not matter". To some extent, this has grown out of a sound concern that female youths may undernourish themselves in the quest for fashionable thinness. This "fat acceptance" encourages them to "feel good" about themselves, regardless of their body shape.

But "feeling good about yourself"

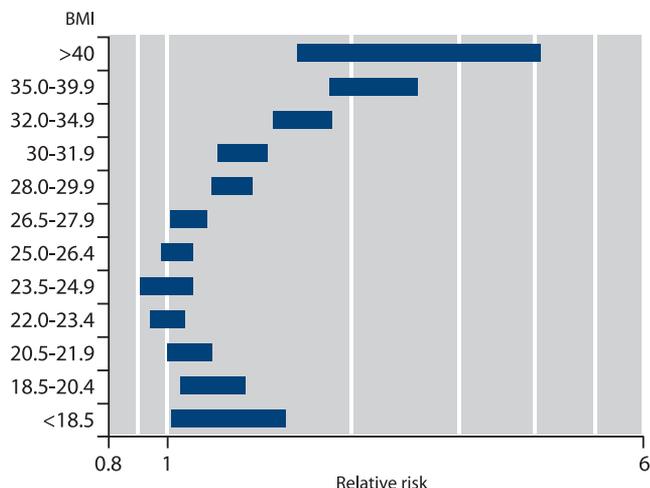


Figure 1: Relative risk of all cause death for men who never smoked and who had no history of disease

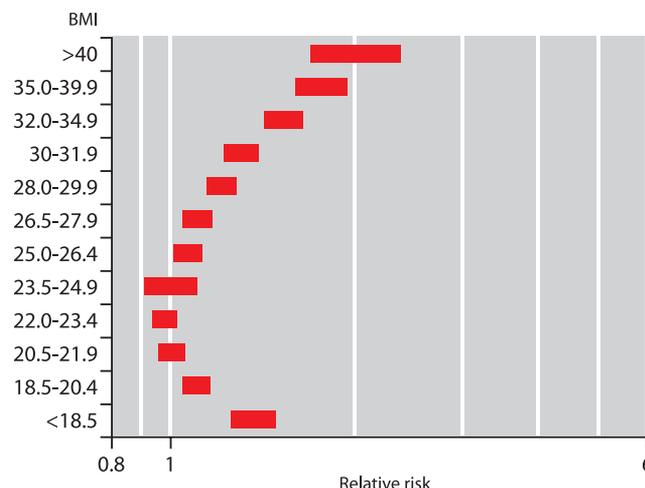


Figure 2: Relative risk of all cause death for women who never smoked and who had no history of disease

does not change the mortality tables. Body shape is important to health, and a key metric is the waist / hip ratio, which should be monitored from youth. Not only is an excessive ratio “not pretty”, it is unhealthy and dangerous. Numerous studies show that persons plumper through the stomach than the hips (beer belly or apple shape) are more prone to cardiovascular problems than the normally proportioned person or even people whose upper body is smaller than their waist and hips.

The waist / hip ratio calculation is simple: measure your waist at its narrowest point (usually the navel) and then your hips at their widest (usually the bony prominence). Now, divide the waist size by the hip measurement.

For men, a ratio over 1.00 signals an increasing risk of heart attack or stroke; for women the danger begins at 0.8. As a good approximation, men should aim to achieve a ratio of 0.85 and women 0.8 or less. Studies show that just a few centimetres of girth can make a big difference to one’s health.

Is it difficult to get into this range? As an informal test in preparing this article, I spent a week of slightly more intensive exercise—a daily average of 20 more minutes—then remeasured my ratio. It had fallen from 0.89 to 0.87. With another week, I could reach 0.85. You can do it, too!

### What You Can Do

Calculate your BMI and waist / hip ratio. If they are out of the range, develop a get-well plan based on a combination of diet (additional fibrous foods, but a lesser overall intake) and

more exercise. The best exercise mixes both aerobic and anaerobic, because the latter increases lean-muscle mass, helping you to burn more calories, even while sitting still. Then, determine what it will take to get into the range, and allocate the time to do it right!

Simply taking a walk or jogging is easy for most of us. As a baseline, figure that losing one kilogramme requires working off 6,600 calories. For an average person this means walking about 40 km, which is three times around the RBSC racetrack, every other day, for two weeks...assuming the food intake remains constant. Altering food consumption can speed up the process and make you even healthier, as does running instead of walking.

However, if calculations are tedious and not much fun for you, it might be better just to modify your food consumption in terms of volume and content (less meats and sweets, more fruits and vegetables), and exercise more. Still, taking the initial measurements, and again after one week, will show you the difference. You will be encouraged by the change in your body, and develop an intuitive feel for what you must do to achieve and maintain your BMI and waist / hip ratio. In my case, I know exactly how much I have to swim, run and figure-skate to keep my body metrics in a safe range...even in the face of the many delicious meals my family prepares for me.

Interestingly, I immediately found my need for sleep was reduced by half of the time I used for exercise. It is reasonable to believe that, over the long

term, I will receive back the remainder in longevity and in reduced downtime from illness and fatigue.

Make sure to consult your doctor for guidance before embarking on an exercise plan to change these two body metrics. In my case, I took a 30-minute stress test, which showed that I could safely raise my heart rate to at least 10 per cent over my maximum value (calculated as 220 minus age in years). This gave me the confidence to push myself on the jogging track and the rowing machine.

### Conclusion

BMI and waist / hip ratio are just two elements of a bigger picture. Good health requires proper values for blood pressure, blood sugar and blood lipids, as well as proper nutrition, appropriate sleep and stress control. BMI and waist / hip ratio are easy to measure and easy to correct. If they aren’t right, other body metrics are likely to be off as well.

If you have difficulty controlling food intake, ponder what is happening in your life. Sometimes overeating results from habit or the call of sociability, but sometimes it is an emotional response to personal pain, stress or emptiness.

So take time to care for your own chassis as you would for your car’s. Spend an hour a day for exercise (about five per cent of 24 hours), which is a reasonable maintenance budget compared to any large organisation. If you do this, especially with friends or family, you will feel better, and those who depend on you can be assured you will be there for them.