



# Basal Metabolic Rate

Your basal metabolic rate (commonly referred to as “BMR”), and the associated resting metabolic rate (RMR), is the amount of energy spent while at rest in a controlled environment, in the post-absorptive state (meaning that the digestive system is inactive). The release of energy in this state is adequate only for the optimal functioning of your vital organs (i.e. heart, lungs, brain, nervous system, liver, kidneys, sex organs, muscles and skin). Your BMR inevitably will decrease with age as well as with the loss of lean body mass. One effective method of delaying/slowing this decrease is by increasing muscle mass to increase your BMR. Although in the past scientists suggested aerobic fitness level (aerobic=requires oxygen) did not to show a relationship with BMR, recent research has however begun to come public which suggests aerobic exercise does increase resting energy consumption. Scientist are further advising that illness, previously consumed food and beverages, environmental temperature, and stress levels are some of the chief components adversely affecting overall energy expenditure as well as your BMR. Your BMR is influenced by other factors as well including: age, weight, height, gender, dieting, and exercise habits. It is also true that the taller and heavier a person is, the faster their metabolism. Also, as a result of the greater percentage of lean muscle tissue in the male body, men generally have a 10-15% faster BMR than women.

## **BMR FORMULA IN POUNDS**

- Men:  $BMR = 66 + (6.23 \times \text{Weight in pounds}) + (12.7 \times \text{height in inches}) - (6.8 \times \text{age in years})$
- Women:  $655 + (4.35 \times \text{weight in pounds}) + (4.7 \times \text{height in inches}) - (4.7 \times \text{age in years})$

## **BMR FORMULA IN KILOGRAMS**

- Men:  $BMR = 66 + (13.7 \times \text{weight in kg}) + (5 \times \text{height in cm}) - (6.8 \times \text{age in years})$
- Women:  $BMR = 655 + (9.6 \times \text{weight in kg}) + (1.8 \times \text{height in cm}) - (4.7 \times \text{age in years})$

Once you know your BMR, you can calculate your Daily Calorie Needs based on your activity level using the Harris Benedict Equation.

## **AMR (Active Metabolic Rate)**

In order to sustain your normal bodily functions, your body uses more calories throughout the day than at rest. Your AMR is the total amount of calories you expend through different types of activities throughout the day, regardless of intensity (doing dishes vs. running a mile).

## **HARRIS BENEDICT EQUATION**

Use the applicable activity factor and multiply your BMR calculated above to determine your daily caloric needs (Calories – Calculation)

- Sedentary(little to no exercise)= BMR x 1.2
- Somewhat active(little exercise, sport leisure 1-2 days week)= BMR x 1.375
- Reasonably active(reasonable exercise, sport leisure 3-5x/week)= BMR x 1.55
- Very active(sports 6+x/week, vigorous exercise)= BMR x 1.725
- Overly Active(sports, physical labor job, intense exercise daily)= BMR x 1.9

After multiplying your BMR by your chosen activity factor, the resulting number is the total number of calories you need in order to maintain your current weight. If calculations are somewhat difficult, try these simple calorie formulas in order to determine daily caloric needs:

The **rapid method** is based on your current total body weight. This is a quick & easy method of determining your daily caloric needs:

- For Fat Loss: Use 12-13 calories X Per each pound of bodyweight
- For Maintaining Bodyweight: Use 15-16 calories X Per each pound of bodyweight
- For Weight Gain: Use 18-19 calories X Per each pound of bodyweight
- Negative calorie balance is essential to lose body fat.

All in all, the most important thing to remember is calories not only add up, they are the chief factor when it comes to fat loss. If you are eating more calories than you burning, you will not lose fat regardless the foods you eat. Some foods do get stored as fat more easily than others, but always bear in mind that too much of anything will get stored as fat (“Too much of even a good thing, is a bad thing”). You must be in a calorie deficit to burn fat. This will force your body to use stored body fat to make up for the energy deficit.

There are 3500 calories in 1-pound of stored body fat. If you create a 3500-calorie deficit in a week through diet, exercise or a combination of both, you will lose one pound (7000=2 pounds, 10,500=3 pounds, etc). The calorie deficit should be accomplished via multiple methods including (but not limited to)

- diet
- exercise

*To get assistance using these calculations, or get started on your fitness and nutrition journey, please contact*

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