

## What is METABOLIC RATE?

**Metabolism** is a term that is used to describe all chemical reactions involved in maintaining the living state of the cells and the organism. **Metabolism** can be conveniently divided into two categories: Catabolism - the breakdown of molecules to obtain energy. Anabolism - the synthesis (building) of all compounds needed by the cells and the body.

### Basal Metabolic Rate:

Even when resting, your body burns calories by performing basic functions to sustain life, such as: breathing, circulation, nutrient processing (digestion/absorption), cellular growth and repair and cellular function. Basal metabolic rate is the number of calories your body needs to accomplish its most basic (basal) life-sustaining functions. There is a minimal level of energy required to sustain the body's basic functions. The formula for basal metabolic rate uses variables such as your gender, height, weight and age to predict the speed at which you burn calories when in this basal state of metabolism.

**Total Metabolic Rate:** In reality, we don't just lie in a vegetative state all day long (stuck in your BMR), instead you move, you think, you talk, you exercise, you eat etc. The total metabolic rate is the amount of energy you actually need per day to maintain your weight.

### CALCULATING A BMR:

Example:        **MALES** (higher muscle mass)                      generally burn 1.0 kcal/Kg/Hour  
                      **FEMALES** (higher body fat)                      generally burn 0.9 kcal/Kg/Hour

So identify with the factor that best represents your body composition

- A) Then convert your weight in pounds to Kilograms (see example → 1 kg / 2.2 pounds)
- B) Then multiply your Kilograms by the factor you chose. ( \_\_\_ kg X Factor = kcal/hour)
- C) Then multiply your Kcal/hour by 24 hours in a day to get your BMR

SAMPLE:

Your BMR:

- |   |  |
|---|--|
| A) $135 \text{ lbs} \times \frac{1 \text{ Kg}}{2.2 \text{ lbs}} = 61.4 \text{ Kg}$                              |  |
| B) $61.4 \text{ Kg} \times \frac{0.9 \text{ kcal/hr}}{\text{Kg}} = 55.26 \text{ kcal/hr}$                       |  |
| C) $\frac{55.26 \text{ Kcal}}{\text{Hour}} \times 24 \text{ Hours} = 1326 \text{ kcals}$<br>BMR = 1326 Calories |  |

\*\*\*\* A 135 pound person needs way more than the 1326 Calories that was calculated, as they are ACTIVE and your BMR would be even higher than your calculation as you are young and your metabolism is way faster than an older person as you are growing and repairing at a way faster rate.

# ANALYZING YOUR METABOLISM

1. If you recognize that your dietary intake of calories, should consist of a balance of the three nutrient groups as follows:

- Approximately 27.5% (middle of range 25%-30%) of the diet's total kcalories should consist of fats.
- Approximately 55% (middle of range 50%-60%) of the diet's total kcalories should consist of carbohydrates
- Approximately 17.5% (middle of range 15%-20%) of the diet's total kcalories should consist of proteins.

According to your Active Metabolic Rate:

- a) How many kcals of your diet should come from fats? \_\_\_\_\_ kcal  
b) How many kcals of your diet should come from carbohydrates? \_\_\_\_\_ kcal  
c) How many kcals of your diet should come from protein? \_\_\_\_\_ kcal

2. Recalling that each nutrient group can be canabolized to release the following:

- One gram of fat releases → 9.3 kcals
- One gram of carbohydrate releases → 4.1 kcals
- One gram of proteins releases → 4.1 kcals

A) How many grams of fat (mostly good fats right?) should you have in your daily intake? \_\_\_\_\_ grams

B) How many grams of carbohydrates (mostly good carbs, not hyperglycemic refined carbs) should you have in your daily intake? \_\_\_\_\_ /grams

C) How many grams of proteins should you have in your daily intake? \_\_\_\_\_ /grams

3. List a few high caloric foods in your diet that you might consider cutting back on.

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4. If you had to increase your Active Metabolic Rate, what are some activities you could increase or take up at these various times of the year? (\*\*\*) If you are very active just list the activities that you participate in, at that time of year)

A) Spring : \_\_\_\_\_

B) Summer : \_\_\_\_\_

C) Autumn : \_\_\_\_\_

D) Winter : \_\_\_\_\_