Calculating Calorie Needs

While we do not advocate focusing on calories or counting calories, occasionally some find it useful to know a basic estimated target calorie goal, for instance, when they are determining macronutrient ratios. This handout provides several methods you can use to estimate calorie needs.

Total daily calorie need is the number of calories necessary for a human body to execute its vital functions, as well as to perform physical activity, during a 24-hour period.

In order to calculate the daily caloric needs, it is necessary to first know the basal metabolic rate (BMR), or the number of calories that a body would need for 24 hours at complete rest or sleep.

After calculating the BMR, add the calories corresponding to the physical activity to the result to get the total calorie need for a day.

The number of calories that a person needs in a day can then be used as the basis for calculation of percentages for the macronutrients: carbohydrate, protein, and fat.

To calculate daily caloric need, you can apply a formula manually or use an online calculator *(see below)*.

There is a margin of error with both formulas and calculators because not all factors are accounted for, such as age, weight history, and ethnicity, but the results are a good start!

The total daily calorie need results can be refined based on how the person feels and performs, as well as by using the help of a health professional.

BMR AND DAILY CALORIE NEEDS ONLINE CALCULATOR
- https://manytools.org/handy/bmr-calculator/

HARRIS-BENEDICT EQUATION FOR BMR WITH DAILY CALORIE NEEDS
- Women: BMR = 655 + (4.35 x weight in pounds) + (4.7 x height in inches) - (4.7 x age in years)
  - ◉ Example for a 37-year-old woman weighing 118 pounds and 5'4" in height:
    - 655 + (4.35 x 118) + (4.7 x 64) - (4.7 x 37)
    - 655 + 513.3 + 300.8 - 173.9 = **1,295.2 calories spent at rest (BMR)**

- Men: BMR = 66 + (6.23 x weight in pounds) + (12.7 x height in inches) - (6.8 x age in years)
  - ◉ Example for a 45-year-old man weighing 175 pounds and 6 feet in height:
    - 66 + (6.23 x 175) + (12.7 x 72) - (6.8 x 45)
    - 66 + 1,090.25 + 914.4 - 306 = **1,764.65 calories spent at rest (BMR)**

Example: Now the female example above does restorative yoga and walks two to three times per week, so let's apply the Harris-Benedict formula below to estimate her daily calorie need.

- We will use the <u>light exercise</u> parameters from the list below
  - ◉ Daily calorie need = BMR x 1.375
  - ◉ 1,295.2 x 1.375 = 1,780.9 **Total daily calorie need**

DAILY CALORIE NEEDS FORMULA (WITH PHYSICAL ACTIVITY)
- Sedentary (little or no exercise):
  - ◉ Daily calorie need = BMR x 1.2
- Lightly active (light exercise/sports one to three days/week):
  - ◉ Daily calorie need = BMR x 1.375
- Moderately active (moderate exercise/sports three to five days/week):
  - ◉ Daily calorie need = BMR x 1.55
- Very active (hard exercise/sports six to seven days/week):
  - ◉ Daily calorie need = BMR x 1.725
- Extra active (very hard exercise/sports & physical job or 2x training):
  - ◉ Daily calorie need = BMR x 1.9

SIMPLE METHOD OF ESTIMATING CALORIE NEEDS
This method is based on a standard number of calories per kilogram (kcals/kg) of body weight per day. It is a common quick method used by registered dietitians in replacement of the more advanced formula above. It is based on verified standards:
- 25 to 30 kcals/kg/day for normal, healthy individuals
- 30 to 35 kcals/kg/day for clients with goal to gain weight, moderate illness, injury, or malnutrition. This level can also be applied to athletes.
- 35 to 40 kcals/kg/day for clients with critical illness or injury, such as in a critical care hospital setting.

Example of how to apply the Simple Method considering a client weighing 125 pounds:
- First, convert 125 pounds to kilograms by dividing the number of pounds by a conversion factor of 2.2. In this example, 125 pounds divided by 2.2 = 56.8kg.
- For a person with normal health, the daily estimate for calories ranges from 1,420 cals (56.8 x 25) to 1,704 kcals (56.8 x 30). This is a range of almost 300 calories and provides only a general guide. Further adjustments may need to be made.