

Formula to calculate caloric need: Helpful in a very overweight patient who may need more calories than the estimate may reflect.

Estimated Energy Requirement—The EER represents the average dietary energy intake that will maintain energy balance in a healthy person of a given gender, age, weight, height, and physical activity level. The calorie levels for the food intake patterns were matched to age/sex groups using EERs for a person of average height, healthy weight, and sedentary activity level in each age/sex group. The sedentary level was selected in order to not overestimate calorie needs.

EER formulas for various age/sex groups (from IOM Dietary Reference Intakes macronutrients report, 2002):

- Male 24 mos.: $EER = (89 * WT - 100) + 20$
- Female 24 mos.: $EER = (89 * WT - 100) + 20$

- Male 3-8: $EER = 88.5 - (61.9 * AGE) + PA * (26.7 * WT + 903 * HT) + 20$
- Female 3-8: $EER = 135.3 - (30.8 * AGE) + PA * (10 * WT + 934 * HT) + 20$

- Male 9-18: $EER = 88.5 - (61.9 * AGE) + PA * (26.7 * WT + 903 * HT) + 25$
- Female 9-18: $EER = 135.3 - (30.8 * AGE) + PA * (10 * WT + 934 * HT) + 25$

- Adult males: $EER = 662 - (9.53 * AGE) + PA * (15.91 * WT + 539.6 * HT)$
- Adult females: $EER = 354 - (6.91 * AGE) + PA * (9.36 * WT + 726 * HT)$

Note: Heights (HT) are in meters, weights (WT) in kilograms. Physical activity (PA) coefficients for sedentary, low active and active levels of physical activity are:

Activity level	Sedentary	Low Active	Active
MALES		PA Coefficient	
3 to 18 years old	1.00	1.13	1.26
Adults 19 and older	1.00	1.11	1.25
FEMALES		PA Coefficient	
3 to 18 years old	1.00	1.16	1.31
Adults 19 and older	1.00	1.12	1.27

Activity levels for EER calculations—

- **Sedentary** means a lifestyle that includes only the physical activity of independent living.
- **Low Active** means a lifestyle that includes at least 30 minutes per day of moderate physical activity (equivalent to walking about 1.5 to 3 miles per day at 3 to 4 miles per hour) in addition to the activities of independent living.
- **Active** means a lifestyle that includes at least 60 minutes per day of moderate physical activity (equivalent to walking more than 3 miles per day at 3 to 4 miles per hour) in addition to the activities of independent living.

Sedentary Behaviors—In scientific literature, sedentary is often defined in terms of little or no physical activity during leisure time. A sedentary lifestyle is a lifestyle characterized by little or no physical activity.

Moderate Physical Activity—Any activity that burns 3.5 to 7 kcal/min or the equivalent of 3 to 6 metabolic equivalents (METs) and results in achieving 60 to 73 percent of peak heart rate. An estimate of a person's peak heart rate can be obtained by subtracting the person's age from 220. Examples of moderate physical activity include walking briskly, mowing the lawn, dancing, swimming, or bicycling on level terrain. A person should feel some exertion but should be able to carry on a conversation comfortably during the activity.

Vigorous Physical Activity—Any activity that burns more than 7 kcal/min or the equivalent of 6 or more metabolic equivalents (METs) and results in achieving 74 to 88 percent of peak heart rate. An estimate of a person's peak heart rate can be obtained by subtracting the person's age from 220. Examples of vigorous physical activity include jogging, mowing the lawn with a nonmotorized push mower, chopping wood, participating in high impact aerobic dancing, swimming continuous laps, or bicycling uphill. Vigorous-intensity physical activity may be intense enough to represent a substantial challenge to an individual and results in a significant increase in heart and breathing rate.