

Common Nutrition Calculations

Hamwi Formula to Calculate Ideal Body Weight (IBW)

Women

IBW = 100 lbs. for first 5 feet in height + 5 lbs. for each inch over 5 feet.

Men

IBW = 106 lbs. for first 5 feet + 6 lbs. for each inch over 5 feet.

Frame Adjustments (Men and Women)

For a small frame, subtract 10 percent of the total

For a large frame, add 10 percent to the total

For heights less than 60", subtract 5 lbs. for each inch below 60

How to Calculate Percent of IBW

Percent of IBW = (Actual Weight ÷ IBW) x 100

How to Calculate Percent of Weight Change

Percent weight change = [(Usual weight - Actual weight) ÷ usual weight] x 100

BMI Classifications for both Men and Women

Underweight	BMI < 18.5
Healthy Weight	BMI 18.5-24.9
Overweight	BMI 25-29.9
Obese	BMI 30 or greater

Formulas for Calculating BEE for Clients Over 18 Years*

Men

Harris-Benedict Equation:

$$\text{BEE} = 66 + (13.7 \times \text{weight in kg}) + (5 \times \text{height in cm}) - (6.8 \times \text{age in years})$$

$$\text{Alternate Formula: BEE} = 1.0 \times (\text{weight in kg}) \times 24$$

Mifflin-St. Jeor Equation:

$$\text{BEE} = (10 \times \text{weight}) + (6.25 \times \text{height}) - (5 \times \text{Age}) + 5$$

Women

Harris-Benedict Equation:

$$\text{BEE} = 655 + (9.6 \times \text{weight in kg}) + (1.8 \times \text{height in cm}) - (4.7 \times \text{age in years})$$

$$\text{Alternate Formula: BEE} = 0.9 \times (\text{weight in kg}) \times 24$$

Mifflin-St. Jeor Equation:

$$\text{BEE} = (10 \times \text{weight}) + (6.25 \times \text{height}) - (5 \times \text{Age}) - 161$$

**Note:*

To convert pounds to kilograms, divide by 2.2 (2.2 lb. = 1 kg). To convert inches to centimeters, multiply by 2.54 (1 in = 2.54 cm) There are height-weight percentile tables for clients under age 18.

Activity Factors (Add These To The BEE)

- 0.2 x BEE for a patient who is in bed most of the time
- 0.3 x BEE for an individual who is ambulatory and/or moderately active
- 0.5 x BEE for an individual who is very active

Injury Factors (Add these to the BEE)

- 0.2 x BEE following surgery
- 0.35 x BEE following skeletal trauma (bone fractures)
- 0.1 - 0.4 x BEE following other trauma
- 0.1 x BEE for each degree (F) of fever
- 2.1 x BEE for severe burn

For protein-calorie malnutrition:

Add an amount for weight gain/growth. This might be 500-1,000 calories per day.

To achieve weight loss (for an overweight individual):

Subtract 500-1,000 calories per day to promote a loss of 1-2 lbs./week.

Estimating Daily Protein Needs

- For a healthy adult: 0.8 grams x body weight in kg
- For a malnourished client: 1.2-1.5 grams x body weight in kg
- Following surgery: 1.0-2.0 grams x body weight in kg
- Following trauma, severe burn, or multiple fractures: 2.0 grams x body weight in kg

Estimating Daily Fluid Needs

For Average Adults: 30 mL/kg

For Adults with Infection or Draining Wounds: 35 mL/kg

For Adults with CHF or Renal Disease: 25 mL/kg