



Common Comparative Standards for RDs in LTC Settings

The Registered Dietitian uses reference data and standards to estimate nutrient needs and recommended body weight, BMI, and desired growth patterns. Below are some examples (not an all-inclusive list) from the [Nutrition Care Manual](#) [membership required to access]. Also see Nutrition Assessment Pocket Reference available for purchase from the [Academy of Nutrition and Dietetics](#).

Anthropometric

1. % Usual Body Weight = (current weight/usual weight) x 100
2. % Weight Change = (usual weight – current weight)/ 100
 - a. Significant weight change is
 - 5% or more in 30 days or less
 - 7.5% or more in 90 days or less
 - 10% or more in 180 days or less
3. Hamwi Method for Ideal Body Weight (IBW):
 - a. Female: 5 feet = 100#, every inch over add 5 lbs.
 - b. Male: 5 feet = 106#, every inch over add 6 lbs.
 - c. Calculated as a range of +/- 10% to accommodate for frame
4. Body Mass Index (BMI): (Weight in kilograms)/(height in meters)²
 - a. BMI < 18.5 = Underweight
 - b. BMI 18.5-24.9 = Normal
 - c. BMI 25-29.9 = Overweight
 - d. BMI 30-34.9 Class 1 Obesity
 - e. BMI 35-39.9 = Class 2 Obesity
 - f. BMI over 40 = Class 3 Extreme/Severe Obesity (Morbid Obesity)
 - g. For older adults normal BMI: 23-30 kg/m²

Estimating Energy Needs

1. Energy expenditure is most accurately estimated via indirect calorimetry.
2. Mifflin-St Jeor equation is a widely used tool to determine the resting metabolic rate [RMR], which is defined as the number of calories burned while the body is in complete rest.
 - a. Females: $(10 \times \text{weight [kg]}) + (6.25 \times \text{height [cm]}) - (5 \times \text{age [years]}) - 161$
 - b. Males: $(10 \times \text{weight [kg]}) + (6.25 \times \text{height [cm]}) - (5 \times \text{age [years]}) + 5$
 - c. Multiply by scale factor for activity level:
 - Sedentary x 1.2
 - Lightly active x 1.375
 - Moderately active x 1.55
 - Active x 1.725
 - Very active x 1.9
3. Ireton-Jones Equation used for bed-bound and spontaneously breathing people to estimate energy expenditure.
 - a. $\text{REE} = 629 - (11 \times \text{age in years}) + (25 \times \text{weight in kg}) - (609 \times \text{obesity factor})$
 - b. To determine Obesity factor: Is weight >30lbs above IBW? If the answer is yes, obesity factor is 1. If the answer is no, obesity factor is 0
4. The Harris-Benedict Equation is a formula that uses your BMR and then applies an activity factor to determine your total daily energy expenditure. Caution: may overestimate those who are sedentary.
 - a. Males: $\text{BMR} = 66.5 + (13.75 \times \text{weight in kg}) + (5.003 \times \text{height in cm}) - (6.75 \times \text{age})$
 - b. Females: $\text{BMR} = 655.1 + (9.563 \times \text{weight in kg}) + (1.850 \times \text{height in cm}) - (4.676 \times \text{age})$
 - c. Multiply your BMR by the appropriate activity factor, as follows:
 - Sedentary (little or no exercise): $\times 1.2$
 - Lightly active (light exercise/sports 1-3 days/week): $\times 1.375$
 - Moderately active (moderate exercise/sports 3-5 days/week): $\times 1.55$

- Very active (hard exercise/sports 6-7 days a week): $\times 1.725$
 - Extra active (very hard exercise/sports & a physical job): $\times 1.9$
5. Weight-based method for estimating energy needs:
- a. Underweight: 30-40 Kcal/kg/day
 - b. Normal: 25-30 Kcal/kg/day
 - c. Obesity: 15-20 Kcal/kg/day
 - d. Mild to moderate illness: 25-35 Kcal/kg/day
 - e. Head trauma: 35-45 Kcal/kg/day
 - f. Renal disease:
 - Normal: 35 Kcal/kg/day
 - Weight gain: 40-45 Kcal/kg/day
 - Weight loss: 25-30 Kcal/kg/day

Estimating Protein Needs

1. Maintenance: 0.8-1 g/kg/day
2. Older adults: 1 g/kg/day
3. Renal 1-5 (GFR < 50): 0.6-0.8 g/kg/day
4. Hemodialysis: 1.1-1.4 g/kg/day
5. Obesity 1.5-2 g/kg (IBW)

Estimating Fluid Needs

1. RDA method: 1 ml/Kcal estimated needs or a minimum of 1500 ml/day.
2. Weight method: 25-30 ml/kg (can be used if estimated kcal needs are calculated to promote weight loss or gain)