

## **BODY MASS INDEX (BMI)**

### **NATIONAL & INTERNATIONAL STANDARDS & PRACTICE GUIDELINES (IS&GS)**

**HHS**=Health & Human Services & its divisions & collaborating partners (CDC etc)

**WHO**=World Health Organization & its divisions & collaborating partners (Includes HHS)

### **I. BMI CALCULATIONS**

#### **1. [BMI CALCULATOR](#) (From HHS [NIH])**

**2. CALCULATION OF BMI (From CDC):** BMI is calculated the same way for both adults and children. The calculation is based on the following formulas:

<b>Measurement Units</b>	<b>Formula and Calculation</b>
<b>Kilograms and meters (or centimeters)</b>	<p>Formula: <math>\text{weight (kg)} / [\text{height (m)}]^2</math></p> <p>With the metric system, the formula for BMI is weight in kilograms divided by height in meters squared. Since height is commonly measured in centimeters, divide height in centimeters by 100 to obtain height in meters.</p> <p>Example: Weight = 68 kg, Height = 165 cm (1.65 m) Calculation: <math>68 \div (1.65)^2 = 24.98</math></p>
<b>Pounds and inches</b>	<p>Formula: <math>\text{weight (lb)} / [\text{height (in)}]^2 \times 703</math></p> <p>Calculate BMI by dividing weight in pounds (lbs) by height in inches (in) squared and multiplying by a conversion factor of 703.</p> <p>Example: Weight = 150 lbs, Height = 5'5" (65") Calculation: <math>[150 \div (65)^2] \times 703 = 24.96</math></p>

"Although the BMI number is calculated the same way for children and adults, the criteria used to interpret the meaning of the BMI number for children and teens are different from those used for adults.

For children and teens, BMI age- and sex-specific percentiles are used for two reasons: 1. The amount of body fat changes with age. 2. The amount of body fat differs between girls and boys.

The CDC BMI-for-age growth charts take into account these differences and allow translation of a BMI number into a percentile for a child's sex and age.

For adults, on the other hand, BMI is interpreted through categories that do not take into account sex or age."

## **II. BMI GUIDELINES FOR ADULTS (Similar for WHO & HHS)**

1. [BMI GUIDELINES FOR ADULTS](#) (From HSS [CDC])
2. [BMI GUIDELINES FOR ADULTS](#) (From WHO)

## **III. WHO-BMI GUIDELINES FOR CHILDREN (Less than 19 Years)**

1. [WHO CHILD GROWTH STANDARDS](#) .
2. WHO-BMI FOR AGE PERCENTILES BIRTH-19 YEARS include the following:
  - A. [WHO BMI-for-age GIRLS Birth to 5 years](#) (z-scores)
  - B. [WHO BMI-for-age BOYS Birth to 5 years](#) (z-scores)
  - C. [WHO BMI-for-age GIRLS 5 to 19 years](#) (z-scores)
  - D. [WHO BMI-for-age BOYS 5 to 19 years](#) (z-scores)

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