

# How to Determine Body Mass Index (BMI) Percentiles for Children and Teens

## Body Mass Index:

Body Mass Index (BMI) is a value that is calculated by dividing an individual's weight in kilograms by the square of his/ her height in meters. Although this value does not measure body fat directly, it is correlated with more direct measure of body fat composition. BMI is also correlated with various metabolic diseases and thus, can be used as method of categorizing a person's weight status and screening them for risk of health problems correlated with overweight or underweight status.

## Calculating BMI:

**Metric System Formula: weight (kg) / [height (m)]<sup>2</sup>**

Example: Weight = 68 kg, Height = 165 cm (1 cm = 100 m; so 165 cm = 1.65 m)  
Calculation:  $68 \div (1.65)^2 = 24.98$

**Imperial System Formula: weight (lb) / [height (in)]<sup>2</sup> x 703**

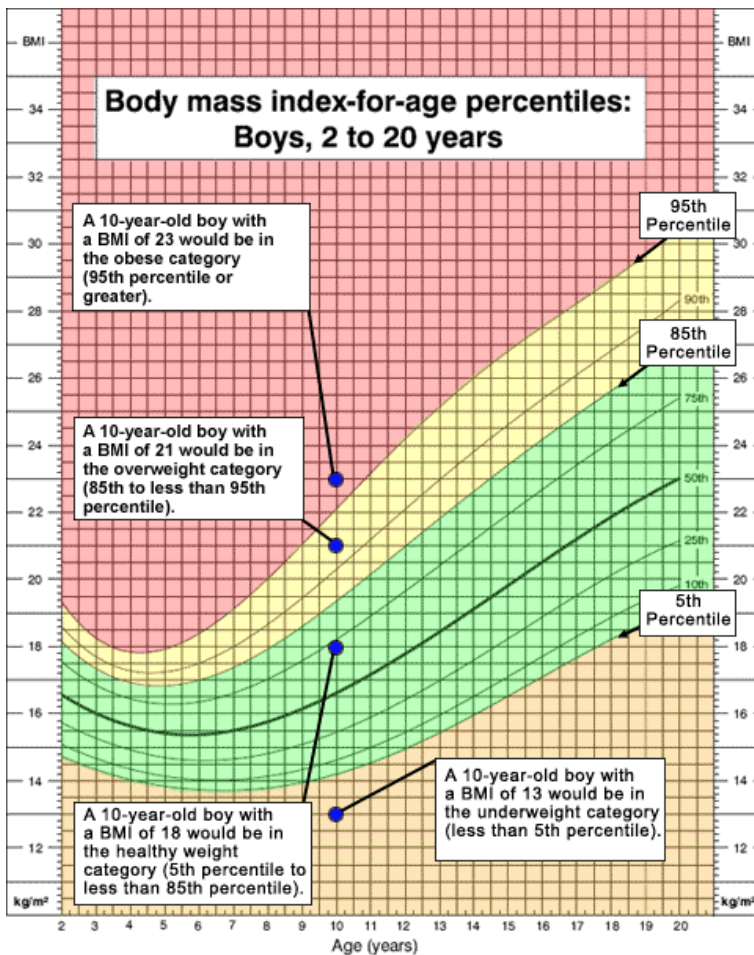
Example: Weight = 150 lbs, Height = 5'5" (65")  
Calculation:  $[150 \div (65)^2] \times 703 = 24.96$

## BMI for Children and Teens:

BMI is used as a screening tool to identify possible weight problems for children. **For children and teens, BMI is age- and gender-specific and is often referred to as "BMI-for-age."** BMI is calculated using the same method as adults, but is expressed, not as an absolute value, but as a percentile which can be obtained from either a graph or a percentile calculator. These percentiles express a child's BMI relative to other children of the same gender and age.

## Determining BMI Percentiles for Children and Teens (Age 2-20):

1. Obtain accurate height and weight measurements.
2. Calculate the BMI value by using the above formulas, a hand-held BMI Wheel™, or the CDC's online Child and Teen BMI Calculator at <http://nccd.cdc.gov/dnpabmi/Calculator.aspx>
3. Determine the BMI percentile by one of the following methods:
  - Plot the BMI number on the appropriate CDC BMI-for-age growth chart (for either girls or boys). CDC growth charts can be found online at [http://www.cdc.gov/healthyweight/assessing/bmi/childrens\\_bmi/about\\_childrens\\_bmi.html](http://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.html)
  - Use the CDC's online Child and Teen BMI Calculator at <http://nccd.cdc.gov/dnpabmi/Calculator.aspx> which will automatically display the BMI percentile when calculating the BMI number.
4. Find the *Weight Status Category* for the calculated BMI-for-age percentile



Weight Status Category	Percentile Range
Underweight	Less than the 5th percentile
Healthy weight	5th percentile to less than the 85th percentile
Overweight	85th to less than the 95th percentile
Obese	Equal to or greater than the 95th percentile