

CDC Home Search Health Topics A-Z

National Center for Chronic Disease Prevention and Health Promotion

Physical Activity

#### BMI: Body Mass Index

- Overview
- BMI for Adults
- <u>BMI-for-Age</u> (Children)
- <u>BMI Web Calculator</u>
- <u>Obesity and</u>
  <u>Overweight</u>

#### Nutrition and Physical Activity

- What's New!!
- <u>Nutrition</u>
- <u>Physical Activity</u>
- <u>Overweight and</u>
  <u>Obesity</u>
- <u>Public Health</u>
  <u>Programs</u>
- <u>Publications</u>
- <u>Recommendations</u>
- Data and Statistics
- Training and Tools
- <u>Related Links</u>

# Home | About Us | Site Map | Topic Index | Contact Us

#### **BMI for Children and Teens** (Also referred to as BMI-for-age)

## BMI is Used Differently with Children Than it is With Adults

In children and teens, body mass index is used to assess underweight, overweight, and risk for overweight. Children's body fatness changes over the years as they grow. Also, girls and boys differ in their body fatness as they mature. This is why BMI for children, also referred to as BMI-for-age, is gender and age specific.<sup>1, 2</sup> BMI-for-age is plotted on gender specific growth charts. These charts are used for children and teens 2 – 20 years of age. For the 2000 CDC Growth Charts and Additional Information visit <u>CDC's National Center for Health Statistics</u>.

Each of the CDC BMI-for-age gender specific charts contains a series of curved lines indicating specific percentiles. Healthcare professionals use the following established percentile cutoff points to identify underweight and overweight in children.

Underweight	BMI-for-age < 5th percentile
At risk of overweight	BMI-for-age 85th percentile to < 95th percentile
Overweight	BMI-for-age <u>&gt; 9</u> 5th percentile

#### What does it mean if my child is in the 60th percentile?

BMI decreases during the preschool years, then increases into adulthood. The percentile curves show this pattern of growth.

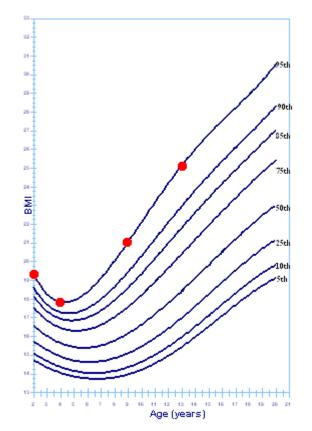
The 60th percentile means that compared to children of the same gender and age, 60% have a lower BMI.

#### Example

Let's look at the BMI for a boy as he grows. While his BMI changes, he remains at the 95th percentile BMI-for-age.

Age	BMI	Percentile
2 years	19.3	95 <sup>th</sup>
4 years	17.8	95 <sup>th</sup>
9 years	21.0	95 <sup>th</sup>
13 years	25.1	95 <sup>th</sup>

We see how the boy's BMI declines during his preschool years and increases as he gets older.



#### Boys: 2 to 20 years

#### Why is BMI-for-age a useful tool?

BMI-for-Age is used for children and teens because of their rate of growth and development. It is a useful tool because

- BMI-for-age provides a reference for adolescents that can be used beyond puberty.
- BMI-for-age in children and adolescents compares well to laboratory measures of body fat.
- BMI-for-age can be used to track body size throughout life.

### For the 2000 CDC Growth Charts and Additional Information visit CDC'S <u>National Center for Health Statistics</u>.

#### For more information on how to use the growth charts visit The

#### **Growth Chart Training Modules.**

#### References

<sup>1</sup> Hammer LD, Kraemer HC, Wilson DM, Ritter PL, Dornbusch SM. Standardized percentile curves of body-mass index for children and adolescents. *American Journal of Disease of Child*. 1991; 145:259–263.

<sup>2</sup> Pietrobelli A, Faith MS, Allison DB, Gallagher D, Chiumello G, Heymsfield, SB. Body mass index as a measure of adiposity among children and adolescents: A validation study. *Journal of Pediatrics*. 1998; 132:204–210.

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#### Home | About Us | Site Map | Contact Us

CDC Home | Search | Health Topics A-Z

This page last updated April 08, 2003

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