

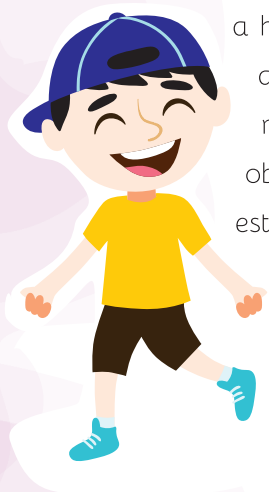
Is my Kid Obese?

Manage Obesity among Kids Effectively to ensure their overall development

Obesity and Depression are linked in Children

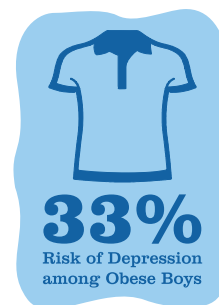
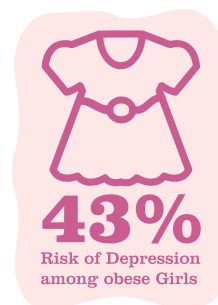


India has the second highest number of obese children in the world, with 14.4 million reported cases, according to a new study published in The New England Journal of Medicine¹. Overweight children have an increased risk of being overweight as adults and the genetics, behaviour, and family environment play a role in childhood obesity². Childhood obesity is a condition in which child is significantly overweight for his or her age and height. The prevalence of childhood obesity is continuously on rise which is a matter of big concern for a healthy living. A prevalence rate of around 16% in 2005 increased to more than 19% in 2010³. Childhood obesity may also lead to poor self-esteem and depression. According to a new research, obesity and emotional problems tend to develop hand in hand from as young as seven years. Emotional problems like low mood, anxiety and depression are closely linked to the obesity among kids. A study involving 12000 children, presented at the European



congress of Obesity, shows that girls with obesity were 43% more likely to develop anxiety or depression compared to those who are not obese or overweight. Similarly, boys with obesity are 33% increased risk for anxiety and depression.

To make sure that our kids are maintaining the right weight, we, parents and teachers must be well aware about our kids' status. Before taking the medical or professional help for our kids, we need to understand the status of our kids for obesity.



1) <https://www.downtoearth.org.in/news/health/india-has-the-second-highest-number-of-obese-children-in-the-world-58115>

2) Qazi I A et al, Childhood Obesity, Indian Journal of Endocrinology and Metabolism, 2010 Jan-Mar; 14(1): 19-25.

3) Harish Ranjani et al, Epidemiology of childhood overweight & obesity in India: A systematic review, Indian Journal of Medical Research, 2016 Feb; 143(2): 160-174 (Accessed from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4859125/> on 05th May 2019)

How to measure Obesity

Obesity is the state of being grossly fat or overweight. It is widely measured through Body Mass Index (BMI). BMI is calculated by the following formula;

$$\frac{\text{Weight (Kg)}}{[\text{height (m)}]^2} \quad \text{Or} \quad \frac{\text{Weight in KG}}{(\text{Height in Cm} * \text{Height in Cm}) / 10,000}$$

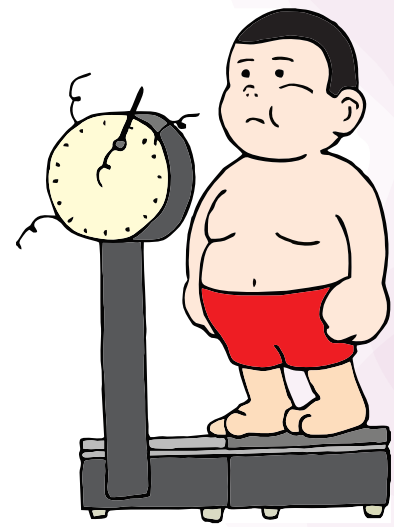
For measuring obesity among children, the BMI-for-age percentile growth charts are the most commonly used indicator in the United States and many other countries.

Lets do the following steps to know our kid's status on obesity;

Step 1: Measure the Height of the Kid

Measuring Height Accurately At Home⁴ (or at School)

- 1 Remove the child's shoes, bulky clothing, and hair ornaments, and upbraid hair that interferes with the measurement.
- 2 Take the height measurement on flooring that is not carpeted and against a flat surface such as a wall with no moulding.
- 3 Have the child stand with feet flat, together, and against the wall. Make sure legs are straight, arms are at sides, and shoulders are level.
- 4 Make sure the child is looking straight ahead and that the line of sight is parallel with the floor.
- 5 Take the measurement while the child stands with head, shoulders, buttocks, and heels touching the flat surface (wall). Depending on the overall body shape of the child or teen, all points may not touch the wall.



4. Centre for Disease Control and Prevention (CDC) (www.cdc.gov)

- 6 Use a flat headpiece to form a right angle with the wall and lower the headpiece until it firmly touches the crown of the head.
- 7 Make sure the measurer's eyes are at the same level as the headpiece.
- 8 Lightly mark where the bottom of the headpiece meets the wall. Then, use a metal tape to measure from the base on the floor to the marked measurement on the wall to get the height measurement.
- 9 Accurately record the height in centimetres. (Convert it to meter by dividing the height in centimetre by 100)

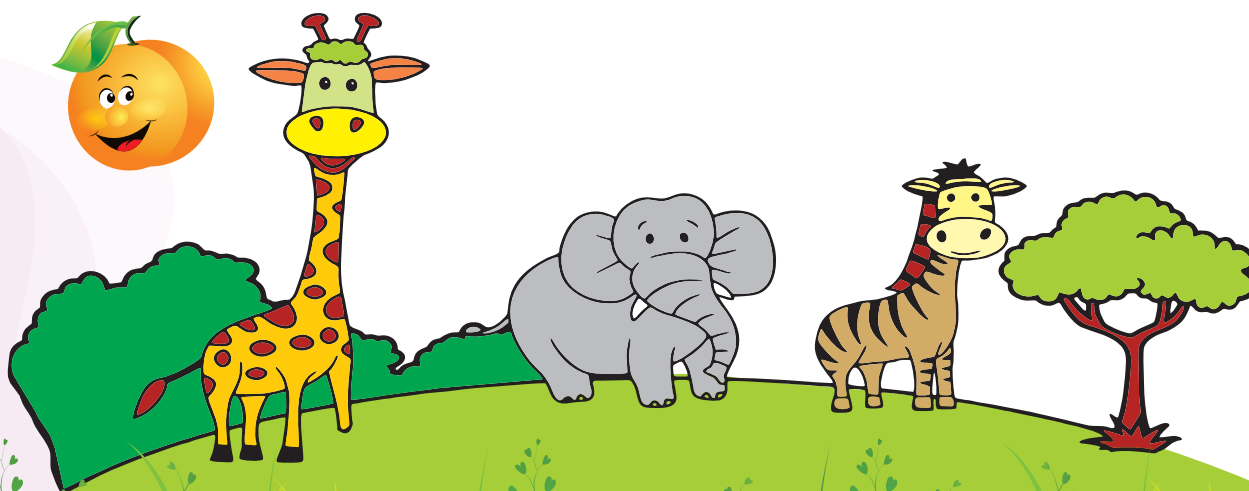
Step 2: Measure the Weight of the Kid

Measuring Weight Accurately At Home

- 1 Use a digital scale. Avoid using bathroom scales that are spring-loaded. Place the scale on firm flooring (such as tile or wood) rather than carpet.
- 2 Have the child remove shoes and heavy clothing, such as sweaters.
- 3 Have the child stand with both feet on the centre of the scale.
- 4 Record the weight in kilograms.

Step 3: Calculate the BMI

Use the above formula to calculate the BMI. Record the BMI in a piece of paper which you may like to discuss with your paediatrician.



Step 4: Plot the BMI on the Chart

Refer BMI for age percentile for Boys and Girls separately, which is given in this article. Use the appropriate chart for your kids.

1 Calculate the exact age of the child as on the current date from the date of birth of your kid.

2 Mark the age of your kid on the bottom horizontal line of the chart (pick up the boy's chart if your kid is a boy and pick up the girl's chart if your kid is a girl). For example, if your kid is 3 years and 6 months, mark it exactly the mid point between 3 and 4. If the age is 3 years and 9 months, then mark the age at the one point before 4.

3 Mark the calculated BMI (in step 3) on the left or right hand side vertical line displaying Kg/M². For example if it is 16, then mark exactly on 16. If it is 16.2, then mark on first horizontal line after 16. If it is 16.8, then mark on the 4th horizontal line after 16.

4 Plot the intersection point of the "AGE" and the "Calculated BMI". Then identify which percentile the plot is belonging. Take a note of the "Percentile Range".

The percentile range as per the chart is as follows;

- Less than 5th Percentile
- 5th to 10th Percentile
- 10th to 25th Percentile
- 25th to 50th Percentile
- 50th to 75th Percentile
- 75th to 85th Percentile
- 85th to 90th Percentile
- 90th to 95th Percentile
- More than 95th Percentile

Step 5: Categorise the BMI

Categorise the BMI of your kid for the status of obesity.

The BMI-for-age percentile growth charts are the most commonly used indicator to measure the size and growth patterns of children. BMI-for-age weight status categories and the corresponding percentiles were based on expert committee recommendations and are shown in the following table.

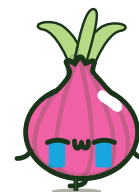
Weight Status Category	Percentile Range
Underweight	Less than the 5 th percentile
Normal or Healthy Weight	5 th percentile to less than the 85 th percentile
Overweight	85 th to less than the 95 th percentile
Obese	Equal to or greater than the 95 th percentile

If your kid is falling between 5th percentiles to 85th percentile, it is fantastic news for you and your kid, as s/he is having a healthy weight. If it is less than 5th percentile (under weight) or more than 85th percentile (either over weight or obese), you may consult a doctor for further management.

Prevention

Apart from consulting a paediatrician, you initiate few precautions by yourself. The prevention from your effort would ensure that your kid maintains a very healthy weight. This would take care of the overall development of your kid. You may do the following,

- Limit your child's consumption of sugar-sweetened beverages or avoid them
- Provide plenty of fruits and vegetables
- Eat meals as a family as often as possible
- Limit eating out, especially at fast-food restaurants, and when you do eat out, teach your child how to make healthier choices
- Adjust portion sizes appropriately for age
- Limit TV and other "screen time" to less than 2 hours a day for children older than 2, and don't allow television for children younger than 2
- Be sure your child gets enough sleep



Mayo clinic (<https://www.mayoclinic.org/diseases-conditions/childhood-obesity/symptoms-causes/syc-20354827>)

