

Measuring

BODY MASS INDEX

Why should I measure body mass index?

There have been numerous studies that have determined body mass index (BMI) to be a good screening tool to identify children who have an increased percentage of body fat and who are at risk for medical conditions, such as heart disease and diabetes.

How do I measure BMI?

Measuring Weight

Children should be weighed using a platform scale. This may be a beam balance scale or a digital (electronic load cell or strain gauge) scale. Check your equipment regularly to make sure you are getting accurate measurements. Scales should be calibrated on a routine basis. Calibration involves putting known weight on the scale to check accuracy. Be sure the scale is placed on a flat, uncarpeted floor.

Procedure:

1. Ask the child to remove shoes and bulky clothing.
2. Place the scale in the “zero” position before the child steps on the scale.
3. Ask the child to stand still with both feet in the center of the platform.
4. Record the measurement to the nearest decimal fraction.
5. Have the child step off the scale.



Measuring Height

A standing height board or stadiometer is required. This device has a vertical ruler with a sliding horizontal rod that adjusts to rest on the head. It also has a permanent surface to stand on, or the entire device is mounted on the wall of a room with a level floor.

Procedure:

1. Before you begin, ask the child to remove shoes, hats, and bulky clothing, such as coats and sweaters. Ask the child to remove or undo hair styles and hair accessories that interfere with taking a measurement. In rare cases, a child may be unwilling to undo an intricate or costly hairstyle. In these situations, care should be taken to locate the actual crown of the head.

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2. Direct the child to stand erect with shoulder level, hands at sides, thighs together, and weight evenly distributed on both feet. The child's feet should be flat on the floor or foot piece, with heels comfortably together and touching the base of the vertical board. There are four contact points between the body and the stadiometer: head, upper back, buttocks, and heels.
3. Ask the child to adjust the angle of his/her head by moving the chin up or down in order to align their head into the Frankfort Plane. The Frankfort Plane is an imaginary line from the lower margin of the eye socket to the notch above the tragus of the ear (the fleshy cartilage partly extending over the opening of the ear). This is best viewed and aligned when the viewer is directly to the side of and at the eye level of the child. When aligned correctly, the Frankfort Plane is parallel to the horizontal headpiece and perpendicular to the vertical back piece of the stadiometer.

NOTE: When the chin is correctly positioned, the back of the head may not make contact with the board. In fact, in a very few individuals, only two points will make contact with the vertical back piece.
4. Ask the child to breathe in and maintain his/her position. Lower the headpiece until it firmly touches the crown of the head and is at a right angle with the measurement surface. Check contact points to ensure that the lower body stays in the proper position and the heels remain flat. Some children may stand up on their toes, but verbal reminders are usually sufficient to get them in proper position.
5. Record height to the nearest 0.1 cm.