

2.12 Anthropometric Measurements

POLICY:

Height or length and weight measurements will be obtained for all participants, including those determined at nutritional risk based solely on the established nutritional risk status of another person (i.e. infants born to WIC mothers or women who were eligible to participate in WIC).

Pregnant, breastfeeding, and non-breastfeeding postpartum women must be offered the option to be weighed facing away from the scale.

Height or length and weight measurements obtained from a healthcare provider must have been measured no more than sixty (60) days prior to certification for program participation.

PROCEDURE

A. Weight

1. Appropriate scales will be used. Infants and children less than 24 months of age will be weighed on accurately calibrated infant digital scales. Children more than 24 months of age, pregnant women and postpartum women will be weighed on accurately calibrated adult digital scales.
2. Dress allowed during weighing will be appropriate to the age and category of the participant, as below. Shoes should be removed prior to obtaining weight. *Note: Do not subtract the weight of any clothing worn, including dry diapers.*
 - a. The parent or guardian will have the most contact with the infant/child when obtaining measurements.
 - b. If a WIC employee must undress the infant/child, the employee must have the parent or guardian's permission.
3. Weighing infants and children under 24 months of age:
 - a. Infants and children less than 24 months old will be weighed in no more than a dry diaper.
 - b. Cover the scale with scale liner or table paper. Change the liner for each participant.
 - c. Ask the parent/guardian or caretaker to place the infant or child on his/her back in the center of the covered scale bed. The infant should be placed lying down in a comfortable position unless he/she can sit up alone. The child should not touch any surface but the scale.
 - d. Read the measurement in pounds and ounces and enter the measurement data in the **Crossroads Anthro/Lab Screen**.
4. Weighing children older than 24 months:

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- a. Children will be weighed in no more than light undergarments which can include t-shirt, shorts, and socks.
 - b. Have the participant step onto the center of the scale platform.
 - c. Read the measurement in pounds and ounces and enter the measurement data in the **Crossroads Anthro/Lab Screen**.
5. Weighing pregnant, breastfeeding, and non-breastfeeding postpartum women:
- a. Women must remove shoes and heavy outer clothing (including purse, cellphone, and keys).
 - b. Offer each participant the option to be weighed facing away from the scale.
 - c. Read the measurement in pounds and ounces and enter the measurement data in the **Crossroads Anthro/Lab Screen**.
 - i. The participant can opt out of hearing their weight measurements.
 - ii. Only the Nutritionist/Nutrition Associate (CPA) will discuss measurements with the participant. The participant may opt out of education/counseling regarding measurements which should be documented in the Nutrition Care Plan.

B. Height or Length

1. Equipment appropriate for age and category will be used.
 - a. Infants and children less than 24 months of age will be measured lying down using a recumbent measurement board.
 - b. Children older than 24 months of age who cannot stand up, or are too short to be measured standing up, or those whose measurements cannot be plotted on the **Crossroad's** 2- to 5-year-old growth chart will be measured using the recumbent measurement board.
 - i. The correct measurement type must be chosen in the **Crossroad's Anthro/Lab Screen**.
 - c. Children older than 24 months of age will be measured in a standing position using a stadiometer (adult digital scale) (*see Policy 2.12 D. for equipment requirements*).
2. Dress allowed during height and length measurements will be appropriate to the age and category of the participant, as below. Shoes should be removed prior to obtaining weight.

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- a. The parent or guardian will have the most contact with the infant/child when obtaining measurements.
 - b. If a WIC employee must undress the infant/child, the employee must have the parent or guardian's permission.
3. Measuring infants and children under 24 months of age:
- a. Infants and children less than 24 months of age will be measured without shoes or hair ornaments that could prevent an accurate measurement from the crown of the head. Only light underclothing or a diaper should be worn.
 - b. Cover the recumbent measuring board with scale liner or table paper. Change the liner for each participant
 - c. The parent/guardian will place the infant or child on his/her back on the recumbent measuring board and parallel to the measuring tape, so that the crown of the head is in contact with the immobile headboard; make certain head, trunk and legs are in a straight line.
 - i. Have the parent/caretaker hold the infant's head so that the infant's eyes are looking straight up.
 - ii. With one hand, hold the child's legs together just above the knees and gently push both legs down against the recumbent measuring board, fully extending child. Both legs are required to be used to ensure an accurate measurement.
 - iii. With the other hand, pull the moveable footboard forward until it is in contact with the child's heel, toes pointing straight up and heel in contact with the base of the measuring board.
 - iv. Sighting directly over the measurement indicator, read the measurement in inches and 1/8th inches, rounding up or down to the nearest 1/8th inch and enter the measurement data in the **Crossroads Anthro/Lab Screen**.
4. Measuring children older than 24 months of age:
- a. Children older than 24 months of age will be measured without shoes or hair ornaments that could prevent an accurate measurement from the crown of the head.
 - b. Have the participant stand with his/her back against the stadiometer. Heels should be in a vertical line with the backboard of the stadiometer. Feet should be positioned comfortably without altering the natural stance of the body. Knees should not be bent. Buttocks and shoulders should touch the surface of the measuring board. The head should be held erect, eyes level, looking straight ahead

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- c. Lower the stadiometer head piece until it snugly contacts the crown of the head, with sufficient pressure to compress the hair.
 - d. Read the measurement at eye level, in inches and 1/8th inches. Round up or down to the nearest 1/8 inch and enter the measurement data on the **Crossroads Anthro/Lab Screen**.
5. Measuring pregnant, breastfeeding, and non-breastfeeding postpartum women:
 - a. Women will be measured without shoes or hair ornaments that could prevent an accurate measurement from the crown of the head.
 - b. Have the participant stand with her back against the stadiometer. Heels should be in a vertical line with the backboard of the stadiometer. Feet should be positioned comfortably without altering the natural stance of the body. Knees should not be bent. Buttocks and shoulders should touch the surface of the measuring board. The head should be held erect, eye level, looking straight ahead
 - c. Lower the stadiometer head piece until it snugly contacts the crown of the head, with sufficient pressure to compress the hair. If the individual is taller than the measurer, the measurer should use a stool to read the measurement at eye level.
 - d. Read the measurement at eye level, in inches and 1/8th inches. Round up or down to the nearest 1/8 inch and enter the measurement data on the **Crossroads Anthro/Lab Screen**.

C. Special Considerations

1. If a participant has a cast(s), brace(s), or missing limb(s), a congenital or metabolic disorder, or other conditions that could result in highly unusual measurements, weigh and measure as usual, and note the nature of the condition in the participant Nutrition Care Plan.
2. Premature infants are weighed and measured using the same equipment and procedures as full-term infants.
3. The Local Agency may reschedule a participant who is not cooperative during an appointment in which anthropometric measurements are required.
 - a. If a parent/guardian refuses to allow the WIC Clinic to obtain accurate anthropometric measurements for their certification appointment, WIC benefits will be denied.
 - i. WIC benefits must not be denied for high-risk follow-up appointments.

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4. Anthropometric measurements obtained from a healthcare provider must be measured no more than sixty (60) days prior to certification for program participation.
 - a. Documentation of measurements obtained from a healthcare provider must be provided to the WIC Clinic; hard copy or electronic copy is acceptable. The healthcare provider's verbal verification by phone is also acceptable.
 - b. Measurements will be entered in the **Crossroad's Anthro/Lab Screen** with the correct "**Collected By**" and "**Source of Measures**" selected.
 - c. Do not scan anthropometric documentation into the **Crossroads Computer System**.

D. Equipment

1. Weight should be obtained with digital scales. Infants and children under 24 months of age will be weighed on an infant digital scale, and children over 24 months and adults will be weighed on an adult digital scale. The scales must have following characteristics:
 - a. Infant scales must have at least a forty-pound capacity and weigh in ½ ounce increments, with a tray large enough to support the infant. The scale should be placed on a sturdy table.
 - b. Scales for adults and children over 24 months of age must weigh in at least quarter pound increments and be placed on a flat stable surface. If there is high pile carpet or if the floor tiles cause the floor to be uneven, then a solid board should be used under the scale.
 - c. Digital scales must have a motion detector/stabilizer, it must lock weight in, it must be easily tared to zero and be easily calibrated. It should maintain accuracy even when affected by electronic fields or wide temperature variations.
 - d. No spring-type scales are suitable.
2. Length will be obtained using a recumbent measuring board (infant-o-meter) will be for an infant or child under 24 months of age. A pediatric exam table or other dual use equipment is not acceptable for measuring length. Infant-o-meters consist of:
 - a. A rigid flat horizontal surface with an attached rigid measuring tape calibrated in 1/8-inch increments.
 - b. The tape shall be "zeroed" exactly at the point where the infants crown meets the headboard.
 - c. A stationary headboard at a right angle to the tape.

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- d. A movable footboard perpendicular to the tape.
 - e. The measurement should be readable while the infant is on the board.
3. Standing height (stature) will be obtained using a stadiometer for women and children over 24 months of age. A stadiometer has the following characteristics:
- a. A rigid vertical board with an attached rigid measuring tape calibrated in 1/8-inch increments.
 - b. An easily moveable, horizontal headboard that can be brought into contact with the crown of the head.
 - c. A wide and stable platform or firm uncarpeted floor as the base.
 - d. The platform or floor must allow vertical alignment of the heels with the vertical surface of the stadiometer. Buttocks should be vertically aligned with the vertical surface as well.
 - e. Preferably the stadiometer is permanently mounted on a stable wall. Portable stadiometers are acceptable if the stadiometer base is large enough to provide stability. Use of a stadiometer attached to digital scales is acceptable.
 - f. The measuring tape shall be “zeroed” exactly at the point where the platform or floor meets the heels.

E. Equipment Maintenance

- 1. Equipment will be maintained in an accurate condition:
 - a. All scales will be checked for zero balance before each clinic day.
 - b. Calibration for the digital scales will be performed per the manufacturer’s instructions.
 - c. Stadiometers and recumbent measuring boards (infant-o-meters) will be checked for accuracy on at least a quarterly basis and each time the equipment is moved.
 - d. Follow manufacturer’s instructions for operation and care of the equipment.

F. Documentation and Charting of Anthropometric Measurements in Crossroads

- 1. The **Crossroads Computer System** will plot documented anthropometric data.
- 2. Premature infants and children will have age-adjusted plots for their prematurity, until 24 months of age.

3. If an infant or child is too small or too large to plot on their age-appropriate growth chart, it must be documented in the **Nutrition Care Plan**.
4. Unusual circumstances, such as the presence of casts, or missing limbs must be documented in the **Nutrition Care Plan**.

REFERENCES:

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3. Use and Interpretation of the CDC Growth Charts, An Instructional Guide, CDC, National Center for Chronic Disease Prevention and Health Promotion, Nutrition and Physical Activity, http://www.cdc.gov/nccdphp/dnpa/growthcharts/guide_intro.htm
4. CDC Growth Charts Interactive Training modules, <http://www.cdc.gov/growthcharts/>
5. Anthropometric Standardization Reference Manual (Lohman, T., Roche A., Martorel, R., eds., 1988, Human Kinetic Books)
6. National Health and Nutrition Examination Survey (NHANES) III, Anthropometry Manual, 1988, Westat, Inc.
7. Kuczmariski RJ, Ogden C, Grummer-Strawn LM, et al. CDC Growth Charts: United States. Hyattsville, MD: U.S. Department of Health and Human Services, 2000. NCHS Advance Data Report No. 314.
8. Institute of Medicine: Weight gain during pregnancy: reexamining the guidelines. National Academy Press, Washington D.C.; 2009
9. WHO Growth Chart