

2.12 Anthropometric Measurements

POLICY:

Each participant shall be weighed and measured as part of their nutrition assessment during each certification according to the procedures below.

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. It is not necessary to subtract the weight of any clothing worn, including dry diapers.
3. The parent shall have the most contact with the infant/child when obtaining measurements. When a WIC employee must undress the infant/child, the employee must have the parent or guardian's permission.
4. 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. 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, rounding up or down to the nearest ounce.
 - e. Enter the measurement data in the Crossroads system.
5. Children older than 24 months and Pregnant and Postpartum women
 - a. Children will be weighed in no more than light undergarments which can

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include t-shirt, shorts and socks. Pregnant and postpartum women will remove only shoes and heavy outdoor clothing such as coats or bulky sweaters prior to weighing.

- b. Have the participant step onto the center of the scale platform.
- c. Read the measurement in pounds and ounces, rounding up or down to the nearest ounce.
- d. Enter the measurement data in the Crossroads system.

B. LENGTH or HEIGHT

1. Equipment appropriate for age and category will be used. Infants and children less than 24 months will be measured lying down using an infant-o-meter. Older children who cannot stand up, or are too short to be measured standing up, or those whose measurements cannot be plotted on the 2 to 5 year old chart will be measured using the infant-o-meter. Children more than 24 months of age and pregnant and postpartum women will be measured in a standing position using a stadiometer. (See policy 2.12, D. for policy related to equipment requirements).
2. Dress allowed during length and height measurements will be appropriate to the age and category of the participant, as below.
3. 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 accurate measurement from the crown of the head. Only light underclothing or a diaper should be worn.
 - b. Cover the infant-o-meter with scale liner or table paper. Change the liner for each participant.
 - c. Place the infant or child on his/her back on the infant-o-meter and parallel to the measuring tape, so that the crown of the head is in contact with the immobile head board. Check to make certain head, trunk and legs are in a straight line.
 1. Have the parent/caretaker hold the infant's head so that the infant's eyes are looking straight up.
 2. With one hand, hold the child's legs together just above the knees and gently push both legs down against the infant-o-meter, fully extending

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- child. Both legs are required to be used to ensure an accurate measurement.
3. 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 infant-o-meter.
 4. 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.
 5. Enter the measurement data in the Crossroads system.
4. Children older than 24 months and Pregnant and Postpartum women
- a. Children older than 24 months of age and pregnant and postpartum women will be measured without shoes or hair ornaments that could prevent 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.
 - c. Lower the stadiometer head piece until it snugly contacts the crown of the head, with sufficient pressure to compress the hair.
 1. Read the measurement at eye level, in inches and 1/8th inches. Round up or down to the nearest 1/8 inch. If the individual is taller than the measurer, the measurer should use a stool to read the measurement at eye level.
 2. Enter the measurement data in the Crossroads system.

C. SPECIAL CONSIDERATIONS

1. When participants have casts, braces or missing limbs, congenital or metabolic disorders, or other conditions that could result in highly unusual measurements, weigh and measure as usual, but the nature of the condition should be noted in the participant's chart.

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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.
4. When a parent or guardian refuses to allow the WIC Clinic to obtain accurate anthropometric measurements for certification, services will be denied.
5. Anthropometric measurements taken by another medical provider may be used in lieu of WIC Clinic measurements if the measurements are less than 60 days old, provided that data for women certified as pregnant is collected during pregnancy, and data for women certified as postpartum or breastfeeding is collected after the termination of pregnancy. If the information is obtained by telephone, document the provider's name, and date of measurements in the medical record. Verbal anthropometric measurements for an infant, child, postpartum or breastfeeding participant may only be taken from a medical provider.
 - a. Anthropometric measurements used must reflect the most current nutritional status of the participant. For example, measurements taken of an infant at 1 week of age would not be reflective of an infant at 6 weeks of age.
 - b. Measurements from another medical provider must be signed and dated by the medical provider and contain the appropriate measurements. A copy of the measurements used must be scanned into the participant's chart.

D. EQUIPMENT

1. WEIGHT

- a. 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:
 1. 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.
 2. 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.

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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.

3. 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.
4. No spring-type scales are suitable.

2. LENGTH

- a. An infant-o-meter will be used to obtain an accurate length measurement of an infant or young child less than 24 months of age. A pediatric exam table or other dual use equipment is not acceptable for measuring length.

Infant-o-meters consist of:

1. A rigid flat horizontal surface with an attached rigid measuring tape calibrated in 1/8 inch increments.
2. The tape shall be “zeroed” exactly at the point where the infants crown meets the headboard.
3. A stationary headboard at a right angle to the tape.
4. A movable footboard perpendicular to the tape.
5. The measurement should be readable while the infant is on the board.

3. STATURE

- a. A stadiometer will be used to obtain standing height for women and children 24 months of age and older.

A stadiometer has the following characteristics:

1. A rigid vertical board with an attached rigid measuring tape calibrated in 1/8 inch increments.

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2. An easily moveable, horizontal headboard that can be brought into contact with the crown of the head.
3. A wide and stable platform or firm uncarpeted floor as the base.
4. 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.
5. 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.
6. The measuring tape shall be “zeroed” exactly at the point where the platform or floor meets the heels.

4. EQUIPMENT MAINTENANCE

- a. Equipment will be maintained in an accurate condition.
 1. All scales will be checked for zero balance before each clinic day.
 2. For digital scales, calibration will be performed on an annual basis by following manufacturer’s instructions.
 3. Stadiometers and infant-o-meters will be checked for accuracy on at least a quarterly basis, and each time the equipment is moved.
 4. A log of the above maintenance activity must be kept on the Calibration Log. (See Attachments # 1, 2, 3, and 4).
 5. Follow manufacturer’s instructions for operation and care of the equipment.

E. CHARTING OF ANTHROPOMETRIC MEASUREMENTS

1. The Crossroads system will capture and plot all anthropometric data.
2. Premature infants and children will have age-adjusted plots for their prematurity, until 24 months of age.

F. SPECIAL DOCUMENTATION FOR INFANT/CHILD GROWTH CHARTS, and PRENATAL WEIGHT GAIN CHARTS

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1. When an infant or child is too small or too large to plot on their age-appropriate growth chart, a note will be made in the Crossroads system indicating that the infant or child was too small or too large to plot on the chart.
2. Unusual circumstances, such as the presence of casts, or missing limbs must be noted in the Crossroads system.
3. There are no documentation requirements for postpartum or breastfeeding participants.

REFERENCES:

1. WIC Regulations 246.7(d)(1), Determination of nutritional risk
2. Kuczmarski RJ, Ogen CL, Guo SS, et al. 2000 CDC Growth Charts for the United States: Methods and Development. NCHS, Vital Health Statistics 11 (246). 2002
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. Kuczmarski 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 Charts

ATTACHMENTS:

1. Calibration Log, Health O Meter
2. Calibration Log, Seca 374
3. Adult Stadiometer Accuracy Check Log
4. Infantometer Accuracy Check Log