WASHINGTON STATE WIC

POLICY AND PROCEDURE MANUAL

VOLUME 1, CHAPTER 9

Anthropometrics

DOH 960-105 October 2012

In accordance with Federal law and Department of Agriculture USDA policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, or disability.

To file a complaint of discrimination, write USDA, Director, Office of Adjudication, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410 or call toll free (866) 632-9992 (Voice). Individuals who are hearing impaired or have speech disabilities may contact USDA through the Federal Relay Service at (800) 877-8339; or (800) 845-6136 (Spanish). USDA is an equal opportunity provider and employer.

Washington State WIC Nutrition Program does not discriminate.

For persons with disabilities, this document is available on request in other formats.
To submit a request, please call 1-800-841-1410 (TDD/TTY 711).

PUBLIC HEALTH
ALWAYS WORKING FOR A SAFER AND HEALTHIER WASHINGTON

Washington State Department of Health

DOH 960-105 October 2012

TABLE OF CONTENTS

POLICY: Height and Weight Measurements for Certification

The CPA takes height and weight measurements at the certification. Staff may use measurements taken 60 days before the certification date. Staff must measure the client again to determine current nutrition status if the previous measurements were taken more than 60 days before the certification.

When a pregnant woman is presumed eligible, staff must obtain measurements within 60 days of the date eligibility begins. See Volume 1, Chapter 18 - Certification Issues for more information about presumptive eligibility.

Staff should reweigh or re-measure a client when there is a concern about the accuracy of measurements from another source. Staff must use current measurements to ensure the best assessment of the client's nutrition status.

PROCEDURE:

Clinic staff:

A. Measure the client using procedures in this chapter or get the measurements from another source.

1. Document the date the measurement was taken in the client's file.

2. Document the source and date of measurement, if the measurement is from another source.

Note: Document how the measurement was taken by the other source when different from WIC standards, for example if shoes were on or height was taken using the attachment on an adult scale.

POLICY: Assess Pre-Pregnancy Weight and Prenatal Weight Gain

The Competent Professional Authority (CPA) must assess the pre-pregnancy weight and prenatal weight gain for all pregnant clients.

Staff must weigh and assess each pregnant woman's weight gain at the certification and at least once each trimester.

Staff other than the CPA are allowed to weigh the pregnant woman and enter the weight in Client Services at the trimester weight checks.

PROCEDURE:

The CPA:

A. Assesses the woman's pre-pregnancy weight.

1. Ask the woman for her pre-pregnancy weight and enter it in her file.

a. If the woman can't remember her pre-pregnancy weight, ask questions to get the best estimate. For example:

- What is your usual weight?
- How much did you weigh when you found out you were pregnant?
- How do your clothes fit compared to when you aren't pregnant, or when you're at your usual weight?

2. Measure the woman's current weight and height and enter in the file.

a. Staff can use measurements from another source. See the "Height and Weight Measurements for Certification" policy for more information.

3. Client Services will calculate the woman's pre-pregnant BMI.

B. Assesses weight gain during pregnancy.

1. Client Services will plot the woman's prenatal weight gain on the appropriate grid based on her pre-pregnancy BMI category and if she is having one baby (singleton) or more than one baby (multiples). The weight gain grids in Client Services include:

a. Underweight – BMI < 18.5 (singleton*)

b. Normal weight – BMI 18.5 – 24.9 (singleton and multiples)

c. Overweight – BMI 25.0 – 29.9 (singleton and multiples)

d. Obese – BMI ≥ 30.0 (singleton and multiples)

***** Client Services plots underweight women pregnant with multiples on the underweight singleton grid. There wasn't enough research data available for the Institute of Medicine (IOM) to make weight gain recommendations for these women.

Note: Teenage clients (18 years and younger) are plotted on the prenatal grid based on their pre-pregnant BMI using the adult cut-offs (not pediatric BMI-for-age charts).

2. The printed prenatal weight gain grid will list this information:

a. Name

b. Pre-pregnant weight

c. Height in inches and eighth inches

d. Due date

e. Weight measurements

f. Clinic site where the client participates

g. Date the grid was printed

C. Evaluates if the woman has weight related nutrition risks. See Volume 1, Chapter 14 – Nutrition Risk Criteria.

a. Client Services automatically identifies weight related risk(s).

b. The CPA determines other risk factors by asking the Assessment Questions and getting hemoglobin values.

Note: Client Services calculates and selects weight related risks when staff press the Identify New Risks button.

D. Talks about weight gain as compared to recommended weight gain range with the woman.

1. Based on research from the IOM, staff don't need to modify the prenatal weight gain recommendations for special populations such as pregnant teens, shorter women, and women of different races and ethnicities.

E. Assesses the woman's weight gain once per trimester and offers guidance if needed.

1. Weighs each woman and enters the weight in Client Services at least once per trimester.

2. All staff are allowed to weigh the pregnant woman, enter the weight in her file and share the prenatal weight gain grid with her.

Information:

1. Prenatal Weight Gain Grids

- The Washington State WIC Nutrition Program developed the prenatal weight gain grids were from information published in the Institute of Medicine, 2009, *Weight Gain During Pregnancy: Reexamining the Guideline report.*

- The pregnant BMI weight categories are the same categories used by the World Health Organization.

2. Staff can print the client's prenatal weight gain grid from Client Services.

3. Staff can print blank paper copies of the prenatal weight gain grids from the Department of Health website at: http://www.doh.wa.gov/PublicHealthandHealthcareProviders/PublicHealthSystemResourcesandServices/LocalHealthResourcesandTools/WIC/ProgramFormsMaterials.aspx.

POLICY: Assess the Weight Status of Breastfeeding and Postpartum Women

The CPA must assess the weight status of breastfeeding and postpartum clients at each certification and at the mid-certification health assessment for breastfeeding women.

PROCEDURE:

The CPA:

A. Assesses the woman's pre-pregnant BMI, total weight gain this pregnancy and current weight status.

1. Enters the woman's pre-pregnant weight, height and current weight in her file.

2. Asks the woman how much total weight she gained during this pregnancy and enter the amount in her file.

Note: Client Services calculates BMI values based on the height and weight measurements entered.

B. Reviews the weight related nutrition risk(s) assigned by Client Services. See Volume 1, Chapter 14 – Nutrition Risk Criteria.

Note: Client Services calculates and selects weight related risks when staff press the Identify New Risks button.

C. Talks with the woman about weight risks in relationship to nutrition practices and overall health.

POLICY: Assess Growth for Infants and Children

The CPA must assess the growth (weight and length or height) of infants and children. At a minimum, the CPA must weigh and measure infants and assess their growth at:

1. New certification (NC)
2. Completion of the certification (CC) (usually six weeks of age)
3. Mid-certification health assessment (HA) (done between 4 and 8 months of age).

At a minimum the CPA must weigh and measure children and assess their growth at:

1. New certification (NC)
2. Mid-certification health assessment (F/U)
3. Recertifications (RC).

PROCEDURE:

The CPA:

A. Weighs and measures the infant or child and documents in the client's file.

B. Assesses the infant's or child's growth.

1. Client Services selects the appropriate CDC growth grid based on the infant's or child's age, gender and if the child was measured standing or lying down.

    a. Measure all infants and children up to 24 months of age lying down (using a recumbent length board) and plot on the CDC Birth - 24 months growth charts. These growth charts are based on the World Health Organization (WHO) 2006 growth data.

    b. Measure children 24 months of age and older standing (using a stadiometer) and plot on the BMI for Age 2 - 20 years growth grid. The child must be at least 32 inches tall to plot on the Height for Age 2 - 5 years grid which accompanies the BMI for Age growth grid.

    c. Staff have the option to measure a child between the ages of 2 and 3 years lying down when the child is too short for the stadiometer or isn't able to stand for the measurement.

    Note: Children measured lying down between the ages of 2 and 3 years will be plotted on the CDC Birth – 36 months growth charts. The CPA can use this

information for education purposes. These measurements aren't used for risk assessment.

d. Measuring and assessing head circumference is optional. If taken and entered into the client's file in Client Services:

- The infant's or child's head circumference will plot on the CDC Birth – 24 months growth chart, Head Circumference for Age.
- Client Services will calculate and assign head circumference risk for infants and children up to 24 months of age.

C. Evaluates if the client has growth related nutrition risk(s). See Chapter 14 – Nutrition Risk Criteria.

1. Client Services will identify risk factors based on measurements entered.

2. The CPA determines other risk factors by asking the Assessment Questions and assessing hemoglobin values.

D. Talk with the caregiver about how the infant or child is growing compared to the growth grid.

Note: Consider other factors that affect growth when assessing the growth of infants and children. Genetics and health conditions may also impact growth.

Information:

1. Staff can print the infant's or child's growth charts from Client Services.

2. Staff can print blank paper copies of the CDC Birth to 24 Months growth charts from the Department of Health website at: http://www.doh.wa.gov/PublicHealthandHealthcareProviders/PublicHealthSystemResourcesandServices/LocalHealthResourcesandTools/WIC/ProgramFormsMaterials.aspx.

3. Staff can order blank paper copies of the CDC BMI for Age 2 - 20 years growth chart and the Height for Age and Weight for Age growth charts from the Washington State Department of Printing Fulfillment Center at: myFULFILLMENTStorefront-myPRINT.

POLICY: Adjusted Growth Grids for Premature Infants and Children up to 24 Months

The CPA assesses both the actual age and the adjusted age plotted on growth grids for infants and children under 24 months of age who were born at 37 weeks gestation or less. Client Services uses the adjusted age to determine growth related risks for WIC.

Note: "Premature ≤ 37 Weeks Gestation (< 24 months)" risk is assigned for infants and children under 24 months of age who were born at less than or equal to 37 weeks gestation.

"Low Birth Weight ≤ 5lb, 8oz (< 24 months)" risk is assigned for infants and children under 24 months of age who weigh less than or equal to 5 pounds 8 ounces at birth. See Volume 1, Chapter 14 – Nutrition Risk Criteria for more information.

PROCEDURE:

The CPA:

A. Enters the infant's or child's weeks gestation in Client Services.

B. Weighs and measures the infant or child and enters the information in Client Services.

C. Client Services plots both actual and adjusted age on the CDC growth grid for infants and children under 24 months of age who were born at 37 weeks or less gestation.

1. Client Services will only plot actual age when the infant's current adjusted age is less than 40 weeks gestation. Once the adjusted age is 40 weeks or greater, the adjusted age will plot.

2. Client Services will plot adjusted age until the child is 24 months old.

D. Client Services uses the adjusted age plot to determine growth related risks.

E. The CPA uses the actual and adjusted age information while assessing growth and talking to the caregiver.

Information:

For information about growth and nutrition for premature infants, especially those with very low birth weight (<1500 g) visit the Gaining and Growing website at: http://depts.washington.edu/growing/

POLICY: Special Growth Charts

The CPA documents measurements and uses CDC growth grids in Client Services to assess growth risks for all infants and children, even children with special health conditions or syndromes.

Staff may use special growth grids designed for a specific population (like Down Syndrome) for counseling. Staff must use the CDC growth grids for identifying growth related risks for WIC.

Note: Client Services only plots and assigns risks based on the CDC growth grids.

PROCEDURE:

The CPA:

A. Uses the CDC growth grids to determine nutrition risks and assess growth for WIC.

1. Client Services plots and assigns growth related risks based on the CDC growth grids.

B. Has the option to use special growth charts for counseling caregivers.

1. If a special chart is used, the CPA records and plots all measurements on both the special growth chart and in Client Services.

2. File special growth chart based on clinic filing practices.

3. Identify which growth chart was used for counseling in the high risk care plan or progress notes.

Information:

Staff can find condition-specific growth charts in the appendices of Nutrition Interventions for Children with Special Health Care Needs.

You can get this resource from:

- The Department of Printing Center at: myFULFILLMENTStorefront-myPRINT
- The H.E.R.E. website at: http://here.doh.wa.gov/.
- It is available for download at: http://here.doh.wa.gov/materials/nutrition-interventions.

Note: Many condition-specific growth charts have limitations. They were compiled using old data, small population numbers, or are incomplete (some are just height, not weight), and do not include BMI. Staff should use the charts with the CDC grids for growth assessment.

POLICY: Procedures for Weighing and Measuring Clients

Clinic staff must use the following procedures for weighing and measuring clients.

PROCEDURE:

A. Follow these procedures to weigh infants and children on a digital or balance beam pediatric scale:

1. Have the caregiver undress infants and children age 0 to 24 months except for dry diaper or underclothes.

   Note: Staff have the option to weigh infants and children age 0 – 24 months with or without a dry diaper or underclothes. For example it may be appropriate to weigh a medically fragile infant or child without a diaper or underclothing to get the most accurate weight.

2. Prepare the scale.

   a. Cover the scale with paper or clean after each use to make sure the client has a clean, sanitary surface.

      Note: Check the information from the scale manufacturer for the type of cleaning solution to use.

   b. Zero balance the scale.

3. Weigh the child.

   a. Place the child on his/her back in the center of the scale bed, unless the child can sit up alone. Have the caregiver protect the child from falling, without touching the child when the weight is taken.

4. Follow these procedures for balance beam scales:

   a. Move the pound weight to the right until the balance arm begins to tip down, then move it back one pound.

   b. Move the ounce weight until the balance arm is centered.

   c. Read the weight to the nearest ounce.

   d. Enter the weight in the client's file.

5. Follow these procedures for digital scales:

    a. Read the measurement of the scale. Check if the scale displays ounces or tenths of pounds. Use the table in the Appendix to convert from tenths of pounds to ounces.

    b. Enter the weight in the client's file.

B. When weighing a woman or child on the adult digital or balance beam scale, clinic staff:

1. Have client remove shoes and heavy outer clothing. Undress child age 2 – 5 years except for dry diaper, under clothes or light clothing.

2. Prepare the scale.

    a. Provide a clean surface for the client.

        - Use a paper on the scale if the client is barefoot, or
        - Clean the scale surface in between clients.

    b. Zero balance the scale.

3. Weigh the client.

    a. Have the client step onto the center of the scale platform. Make sure he or she isn't touching other parts of the scale when the weight is taken.

4. Follow these procedures for balance beam scales:

    a. Move the pound weight to the right until the arm is centered. For heavier children and adults, move the 50 pound weight until it fits into the proper groove, then move the pound weight.

    b. Read the measurement to the nearest 1/4 pound. Convert from quarter pounds to ounces. Use the table in the Appendix to convert from quarter pounds to ounces.

    c. Enter the weight in the client's file.

5. Follow these procedures for digital scales:

a. Read the measurement of the scale. Check if the scale displays ounces or tenths of pounds. Use the table in the Appendix to convert from tenths of pounds to ounces.

b. Enter the weight in the client's file.

6. Follow these procedures when the client is over the limit of the scale:

a. Use additional counter weights. Some manufacturers sell these additional weights. Follow the manufacturer's instructions for using the additional weights.

b. Get the client's weight from the medical provider if available.

C. Use the recumbent length board to measure infants and children younger than 24 months or children between two and three years of age who are too short or unable to be measured standing up. Clinic staff:

1. Have the caregiver:

a. Undress infant and child ages 0 – 24 months except for dry diaper or underclothes. Staff have the option to measure the infant and child with or without a dry diaper or underclothes.

b. Undress child aged 2 – 3 years except for dry diaper, underclothes, or light clothing.

c. Remove all hats, hair barrettes or pony tails that interfere with the measurement.

2. Prepare the board.

a. Cover the board or clean it to provide a clean and sanitary surface for the infant or child.

Note: Check the information from the recumbent board manufacturer for the type of cleaning solution to use.

3. Measure the child.

a. Have the caregiver help.

b. Place the child on his or her back on the board.

c. Have the caregiver hold the crown of the child's head firmly against the headboard.

d. Check to make sure the child is looking up and that the head, body, and toes are in a straight line.

e. Hold the child's legs together just above the knees and gently push both legs down against the recumbent board with one hand, fully extending the child. (Don't measure using only one leg, this will result in an inaccurate measurement).

f. Using the other hand, slide the footboard against the child's heels until the feet are flat against the board.

g. Read the measurement to the nearest 1/8 inch.

Note: If the measurement isn't accurate, repeat until two or more measurements agree within 1/4 inch then record the largest one.

4. Enter the measurement in the client's file.

D. When measuring the height of a woman or a child, clinic staff:

1. Prepare the client.

a. Have the woman or child remove heavy outer clothing and shoes.

b. Remove hat, hair barrettes and pony tails as appropriate.

2. Measure height.

a. Have the client stand on a flat floor with his/her back against the stadiometer.

b. Have the client stand with feet slightly apart with the back as straight as possible. The heels, buttocks, and shoulder blades should touch the wall or surface of the measuring board.

c. Have the client look straight ahead with head erect. The head doesn't have to touch the wall or measuring board.

d. Move the headpiece flat against the wall and at a right angle to the head. Lower it until it firmly touches the crown of the head.

e. Hold the right-angle headpiece steady and have the person move out from under it.

f. Read the measurement where the lower edge of the headpiece intersects the stadiometer or where the equipment says to read the measurement. Read it to the nearest 1/8 inch.

g. Enter the measurement in the client's file.

POLICY: Buy and Maintain Anthropometric Equipment

Clinic staff must use the following criteria to buy and maintain anthropometric equipment.

Clinic staff must:

1. Buy and use medical-grade equipment
2. Make sure the equipment is set up correctly
3. Balance scales daily
4. Maintain and calibrate equipment
5. Document maintenance and calibration of the equipment

PROCEDURE:

Clinic staff:

A. Buy medical-grade equipment (i.e. equipment that is suitable for use in a physician's office, hospital or other health-care setting) that is accurate and durable. Staff can use medical grade digital or balance beam scales.

Note: Contact a health-care equipment vendor to find out about the accuracy and durability of specific brands or models.

1. Use a pediatric balance beam or digital scale for infants and children under 24 months of age whose weight doesn't exceed the maximum weight capacity of the scale.

2. Use an adult balance beam or digital scale for adults and children 24 months and older who can stand without help.

    a. Place the scale on uncarpeted floor, or if carpeted, place on a piece of 3/4 inch plywood.

3. Use a recumbent length board for infants and children under 24 months of age.

    a. The recumbent length board consists of three parts: a flat calibrated board, a stationary headboard, and a moveable footboard.

    b. Place the recumbent length board on a flat surface.

4. Use a full length measuring board mounted to the wall, called a stadiometer for adults and children 24 months and older.

   Note: Children 24 months and older who aren't tall enough for the stadiometer or who can't stand for the height measurement can be measured lying down. See the "Assess Growth for Infants and Children" policy in this chapter for more information.

   a. Mount the stadiometer on a smooth, flat surface. It should extend all the way to the floor.

   b. Follow the manufacturer's instructions for mounting the equipment.

   c. Remove moldings and baseboards to make sure the surface is flat.

B. Balance scales daily.

1. Balance beam scale

   a. Move the ounce and pound weights to zero.

   b. Balance the beam until the arm is centered; when the arm moves up and down freely or rests in the center of the movement range.

   c. Adjust the scale if the beam doesn't come to rest in the center. Adjusting balance beam scales may vary by manufacturer. Check the manufacturer's instructions.

2. Follow the manufacturer's instructions for pediatric and adult digital scales.

C. Maintain equipment.

1. Maintain all equipment:

   a. Keep the equipment clean. Follow the manufacturer's instructions for cleaning.

   b. Check for damaged and loose joints (especially footboard and headboard if they no longer hold a right angle), and readability of the measurement tapes.

   c. Repair or replace damaged or defective equipment.

D. Calibrate equipment and keep a calibration log.

1. Check the calibration of balance beam and digital scales twice a year with standard weights and document on a calibration log. (See the Appendix for a sample calibration log).

    a. Place the smallest weight on the platform (example: 1/2# for pediatric scales, 5# for adult scales); and balance the beam or read the digital scale.

    b. Place a higher amount of weight on the platform (example: 10# for pediatric scale, 50# for adult scale); balance the beam or read the digital scale.

    c. Reweigh the smaller amount of weight, then the larger, adjusting the balance. If you can't balance the scale to both high and low weights, the scale isn't accurate, and needs professional balancing.

2. If the scale isn't accurate and staff can't calibrate it, contract with a scale service company or a representative from state or local Weights and Measures Division to fix the scale.

APPENDIX

How to read Prenatal Weight Gain Grids

1. Weeks Gestation (horizontal axis)

    a. The numbers on the bottom of the grid represent 1 - 42 weeks gestation. Full term is 40 weeks gestation.

    b. Each vertical line represents one week.

    c. The three bold vertical lines mark the three trimesters of pregnancy:

        1) The first trimester includes 0 - 13 weeks.

        2) The second trimester 14 - 26 weeks.

        3) The third trimester 27 - 40 weeks.

2. Pre-pregnant Weight

    a. The bold horizontal line near the bottom of the grid represents a client's pre-pregnant weight.

    b. Weight Gained or Lost

        1) The numbers on the vertical axis show the number of pounds gained (above the horizontal line) or lost (below the horizontal line) since conception.

3. Recommended Weight Gain (vertical axis)

    a. The shaded area on each grid shows the recommended weight gain range for the pre-pregnant BMI weight category, i.e. normal weight, underweight, overweight, and obese.

    b. Weight that plots below the bottom line of the recommended range identifies low weight gain.

    c. Weight that plots above the top line of the recommended range identifies high weight gain.

4. Interpretation of Prenatal Weight Gain Grids

    a. Comparing current weight to pre-pregnant weight shows how much weight a woman has gained or lost since becoming pregnant.

b. The pattern of weight gain should follow the general shape of the curve.

c. Staff should assess any sudden change in weight status more closely. First check if the weight measurement was accurate. If the weight was accurate, you may want to refer the woman to the nutritionist or another health professional for further evaluation depending on how big the weight change is.

Convert from Decimal Pounds to Ounces

- Check electronic scales to see if the scale displays decimal pounds (tenths) or ounces.
- If the scale measures in decimal units, **convert the tenths of a pound to ounces.**
- **Enter ounces on the Measures Tab** in Client Services.

Convert Tenths of a Pounds to Ounces		
Decimal Pound	⇨	**Ounces**
.1	=	2
.2	=	3
.3	=	5
.4	=	6
.5	=	8
.6	=	10
.7	=	11
.8	=	13
.9	=	14

Convert from Quarter Pounds to Ounces

- Balance beam scales and some electronic scales display in quarter pounds.
- **Convert the quarter pound to ounces.**
- **Enter ounces on the Measures Tab** in Client Services.

Convert Quarter Pounds to Ounces		
Quarter Pound	⇨	**Ounces**
¼ pound	=	4
½ pound	=	8
¾ pound	=	12

Calibration Log
Sample

Scale	Staff Name	Date	Calibrated	Notes
Adult scale	Mary WIC	10/1/2012	Yes	
Infant scale	Mary WIC	10/1/2012	Yes	

Calibration Log

Scale	Staff Name	Date	Calibrated	Notes