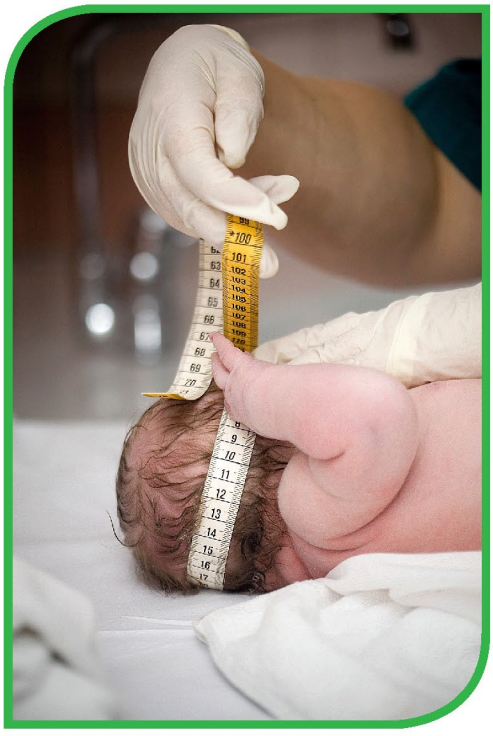
Trainee Edition

Arizona WIC Training

Anthropometrics Guidebook



WIC ARIZONA

ARIZONA DEPARTMENT OF HEALTH SERVICES

Contents

What Will You Learn?

Measuring length (or height) and weight is a simple and effective way to identify healthy growth patterns or to detect potential concerns for WIC participants. Accurate measures of length, height, and weight provide key information needed for a full nutrition assessment. Assessing growth and weight is an important step for helping WIC counselors determine if a participant has potential health risks.

After completing the Anthropometrics LMS Course and this associated guidebook, you will be able to:

- Demonstrate proper techniques for taking accurate and precise measurements (Module 1)
- Avoid common errors when taking measurements (Module 1)
- Interpret and explain anthropometric charts to participants (Module 2)

Items Needed for This Course

- Pen or pencil
- Local Agency Referral List
- Access to Anthropometrics LMS Course
- Access to the Arizona WIC Anthropometrics Manual (https://azdhs.gov/documents/prevention/azwic/manuals/wic-anthropometrics-module.pdf)
- Access to the Arizona WIC Anthropometrics Tool (https://azdhs.gov/documents/prevention/azwic/program-integrity/anthro-tool.pdf)
- Access to the Arizona WIC Nutrition Risk Manual (https://azdhs.gov/documents/prevention/azwic/manuals/nutrition-risk-manual.pdf)

Recommended Time

- Approximate time it takes to complete the Anthropometrics LMS Course: One to two hours
- Approximate time it takes to complete the activities in this Anthropometrics Guidebook and discuss with your trainer: One to two hours

Things to Remember

- The guidebook is yours to keep.
- You are encouraged to take notes, highlight, and write in the guidebook.
- As your trainer chooses, you may work in a group or as an individual.
- You are encouraged to ask your trainer for help, ask questions about the information in the course, or ask any questions about additional topics related to anthropometrics.

Anthropometrics Course Instructions

- ☐ Log onto https://az.train.org/DesktopShell.aspx
- ☐ Open the Anthropometrics LMS Course and complete the Anthropometrics Activities in this guidebook as they correspond to each module of the Anthropometrics LMS course.
- ☐ At your trainer's direction, complete the Anthropometrics LMS Course and guidebook, either individually, with other trainees, or with your trainer. Note that some activities require the presence of your trainer. Please meet with your trainer prior to beginning those activities.
- ☐ Complete the Anthropometrics LMS Course Post-Test
- ☐ Meet with your trainer at their direction to discuss each module of the Anthropometric LMS Course and the associated activities in this guidebook, either after each module or after all modules have been completed.

Module 1: Anthropometrics

MODULE 1 COMPETENCIES:

1. Trainees will be able to describe appropriate techniques for accurate measurement of length and weight for infants.
2. Trainees will be able to offer guidance that helps participants prepare infants to be ready for measurement.
3. Trainees will be able to guide the participant in steps to maintain the infant's comfort and position until accurate measurements are obtained.
4. Trainees will be able to describe all of the steps necessary to accurately obtain length and weight measurements for infants.
5. Trainees will be able to identify solutions for typical challenges when measuring infants (e.g., no spare diaper, tantrums, distractions, etc.).
6. Trainees will be able to describe all of the steps and techniques necessary to accurately obtain standing height and weight measurements for children and adults.
7. Trainees will be able to demonstrate accurate height and weight measurement of children and adults.
8. Trainees will be able to identify common measurement errors for infants, children, and adults.

Module 1: Activity 1

Instructions: For each question below, a descriptive term for collecting anthropometric data (as listed in the Anthropometrics Tool (https://azdhs.gov/documents/prevention/azwic/program-integrity/anthro-tool.pdf)) is given. Answer the questions below by explaining the meaning for each term and how it affects measurement accuracy.

1. Anthropometrics Tool: Without shoes
   a. What is meant by this phrase?

   b. How do shoes affect infant length and weight measurements?

2. Anthropometrics Tool: Both legs are grasped and straightened for measurement (length)
   a. What is meant by this phrase?

   b. How does using one leg or not straightening legs affect length measurement?

3. Anthropometrics Tool: Ankles, hips, and shoulder blades aligned
   a. What is meant by this phrase?

   b. What is the impact on length measurement when ankles, hips, and shoulder blades are NOT aligned?

4. Anthropometrics Tool: Without top hair adornment
   a. What is meant by this phrase?

   b. How is length measurement affected when infants wear large hair accessories?

5. Anthropometrics Tool: Dry diaper
   a. What is meant by this phrase?

b. How do soiled diapers affect weight measurement?

6. Anthropometrics Tool: Light clothing
   a. What is meant by this phrase?

   b. How do heavy or bulky garments affect weight measurements?

7. What type of infant scale will you use in your clinic?
   a. Infant balance beam scale
   b. Infant electronic scale

8. Describe the difference between accuracy and precision in measuring.

9. When is a third weight measurement required?

10. When is a third length measurement required?

11. Describe when recumbent length is still used with children up to 36 months old.

Module 1: Activity 2

Instructions: For each scenario below, offer an example of what you might say to help a participant understand what happens next.

1. You just finished collecting income information from a participant, but before you can explain that you will escort her to the lab to collect height and weight measurements, she asks, “Are we done?”

2. While in the lab, a participant is holding her baby and waiting for your instructions to weigh her infant.

3. While in the lab, a participant is holding her baby and waiting for your instructions to measure her infant's length.

Module 1: Activity 3

Instructions: For each question below, write out the best solution for the situation.

1. A participant tells you they do not have a clean diaper to replace the infant's wet diaper at the certification appointment.

2. An infant is very upset and will not relax enough to allow for a proper length measurement during the certification.

3. Infant is flailing wildly so that weight cannot be measured.

Module 1: Activity 4

Instructions: For each question below, write out the best solution for the situation.

1. Which of the following child participants should be measured with standing weight and height instead of recumbent weight and length?
   a. A 23-month-old child who can stand with support
   b. A 22-month-old child who stands unassisted
   c. A 28-month-old child in a wheelchair who can stand with support
   d. None of the above

2. Which of the following guidelines for measuring infants DOES NOT apply to children 24 months and older?
   a. Dry diaper
   b. Ankles, hips, and shoulder blades aligned
   c. Without top hair adornment
   d. Without shoes
   e. Both legs are grasped and straightened for measurement (length)

3. At what age do you begin measuring children's standing height vertically?

4. What type of scale will you use to weigh children/adults in your clinic?
   a. Electronic scale
   b. Balance beam scale

5. For weight, what is the unit of measurement that appears on the child/adult scale in your clinic?

6. For the child/adult scale, what is the unit of measurement you will enter into HANDS for weight? (Module 1, Slide 12)

7. Using your clinic's reference sheet for converting tenths of a pound to ounces, what value would you enter into HANDS if you measured a child's weight to be 26.7 lbs?

8. For the child/adult stadiometer, what is the unit of measurement you will enter into HANDS for height?

Module 1: Activity 5

Instructions: For each activity below, enlist the help of your trainer or a coworker (if possible) to help you practice taking anthropometric measurements.

1. Take a precise and accurate weight measurement of a fellow staff member (or yourself if a coworker is not available). Document this number.

   Next, repeat the same measurement while wearing shoes and removable outer clothing (additional layers, if applicable). Document this number.

   What is the numerical difference between the first and second weight measurements?

2. Take a precise and accurate weight measurement of a fellow staff member (or yourself if a coworker is not available). Document this number.

   Next, repeat the same measurement while positioning the person's body towards the edge of the scale rather than in the center of the scale. Document this number.

   What is the numerical difference between the first and second weight measurements?

3. Name as many common errors as possible in measuring recumbent length.

4. Name as many common errors as possible in measuring height for children and adults.

5. How can a height measurement of a child or woman be affected if their head moves downward so their chin is near their chest?

6. How can the difference between an accurate and an inaccurate measurement potentially affect WIC data in HANDS?

Module 2: Practicing BMI and Interpreting Growth Charts

TRAINER NOTE: It is recommended for you to review the competencies below with trainees.

MODULE 2 COMPETENICES:

1. Trainees will be able to appropriately explain children's growth patterns to caregivers.
2. Trainees will be able to explain when Medical screen information is required to be updated in HANDS.
3. Trainees will be able to interpret and explain prenatal weight gain charts.

Module 2: Activity 1

Instructions: Review the growth measurements for the three children described below. For each child, determine if the growth pattern indicates ***normal weight, BMI at or below the 5th percentile (WIC Code 103.1), BMI between the 5th and 10th percentile (WIC Code 103.2), BMI at or above the 85th percentile but below the 95th percentile (WIC Code 114), or BMI at or above the 95th percentile (WIC Code 113)*** using the Nutrition Risk Manual as a reference (https://azdhs.gov/documents/prevention/azwic/manuals/nutrition-risk-manual.pdf).

1. A 3 y.o. male with a BMI at the 97th percentile.

2. A 2 y.o. female with a BMI at the 9th percentile.

3. A 4 y.o. female with a BMI at the 90th percentile.

4. Explain the circumstances when the Medical screen in HANDS needs to be updated.

Module 2: Activity 2

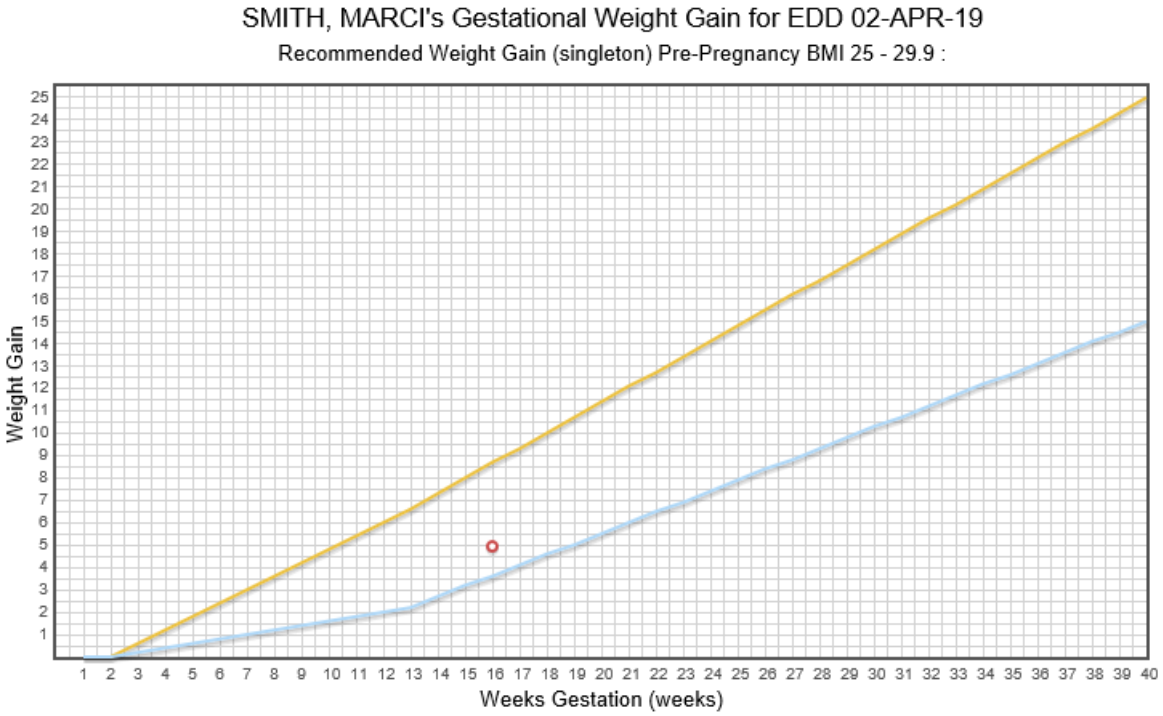
Instructions: Review the scenarios for pregnant and child participants described below. Then answer the following questions.

Scenario 1: Marci is 16 weeks gestation with a singleton pregnancy. Her pre-pregnancy height is 5'2" and pre-pregnancy weight was 150 pounds, which is a pre-pregnancy BMI of 27.4. Her weight at 12 weeks gestation was 153 pounds. Her current weight is 155 pounds.

1. What is Marci's pre-pregnancy weight status based on her BMI?

2. How much total weight is recommended for Marci to gain throughout her pregnancy based upon her pre-pregnancy BMI?

Review the pregnancy weight gain graph below for Marci. Then answer the following questions.



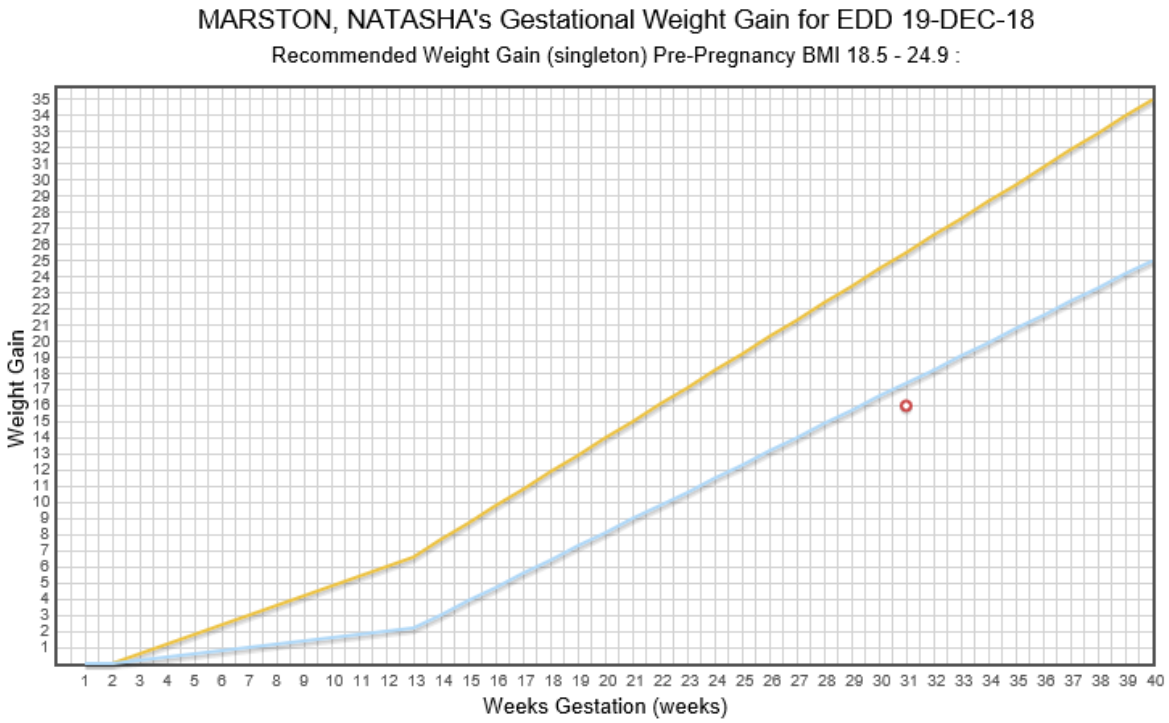
3. How would you explain Marci's pregnancy weight gain chart to her?

Scenario 2: Natasha is 31 weeks gestation with a singleton pregnancy. Her pre-pregnancy height is 5'8" and pre-pregnancy weight was 157 pounds, which is a pre-pregnancy BMI of 23.9. Her weight at 20 weeks gestation was 164 pounds. Her weight at 25 weeks gestation was 169 pounds. Her current weight is 173 pounds.

1. What is Natasha's pre-pregnancy weight status based on her BMI?

2. How much total weight is recommended for Natasha to gain throughout her pregnancy?

Review the pregnancy weight gain graph below for Natasha. Then answer the following questions.

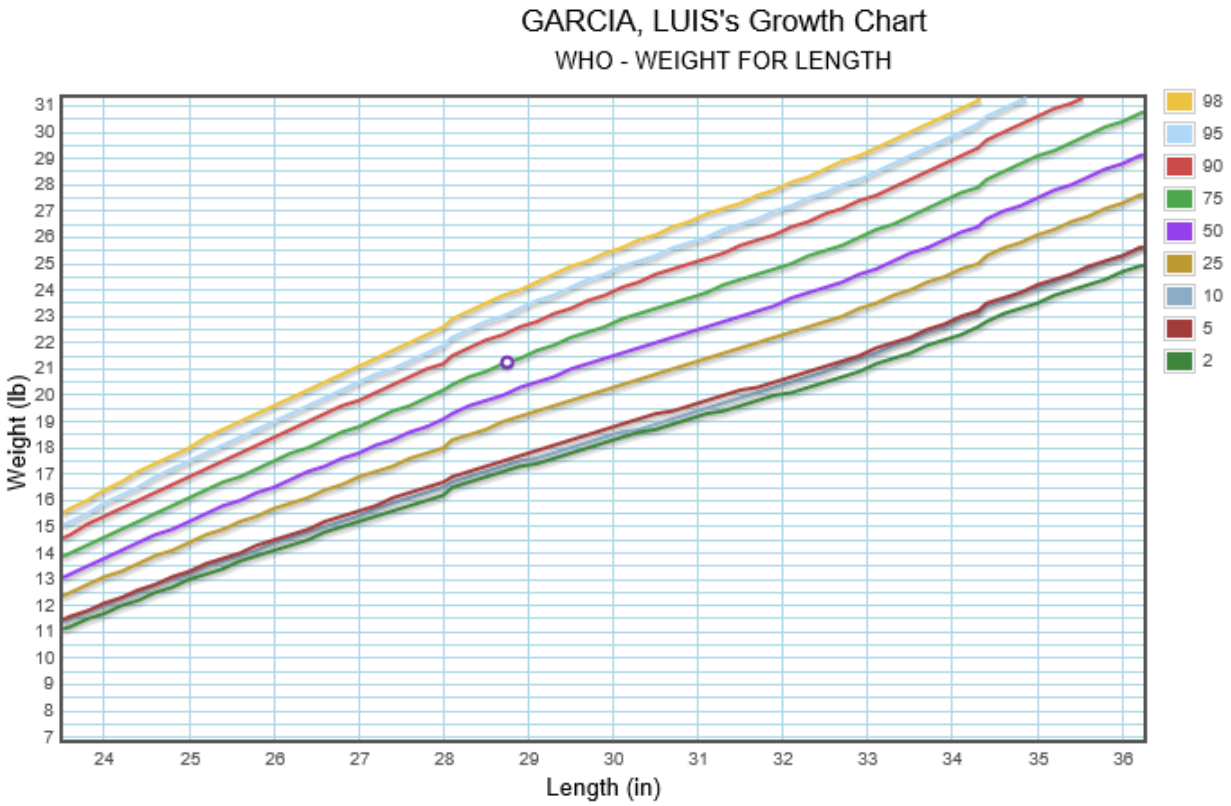


3. How would you explain the chart of Natasha's weight gain during pregnancy to her?

Scenario 3: Luis is a 13-month-old child with a recumbent length of 28 6/8 inches and recumbent weight of 21 lbs, 4 oz. His length-for-age plots at the 45th percentile. His weight-for-length plots at the 76th percentile.

1. What is Luis's weight status based on his weight-for-length?

Review the growth chart below for Luis. Then answer the following question.

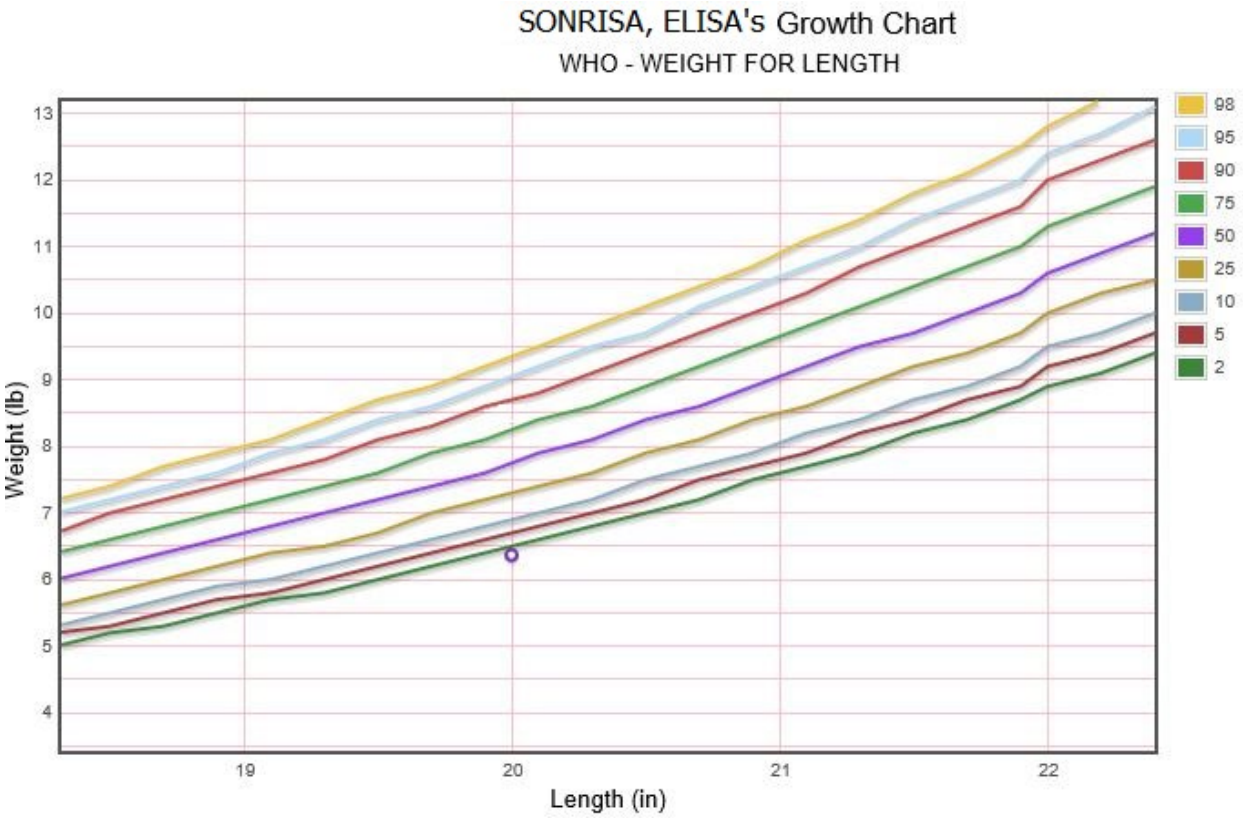


2. How would you explain the chart for Luis's growth to his caregiver?

Scenario 4: Elisa is a newborn infant with a recumbent length of 20 inches and a recumbent weight of 6 lbs, 6 oz. Her weight-for-length plots below the 2nd percentile.

1. What is Elisa's weight status based on her weight-for-length?

Review the growth chart below for Elisa. Then answer the following question.



2. How would you explain Elisa's growth chart to her caregiver?