

Anthropometric and Hematologic Assessment

This module applies to the following security roles:

RN/RD

Breastfeeding Peer Counselor

(And Clerk if the individual is assigned related duties)



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This module requires use of the computer and internet, but not the KWIC Training Environment.

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What is Anthropometric Assessment?

Objectives

Upon completion of this section, the employee will be able to:

1. Identify the correct methods for measuring height/length and weight for infants, children and women.
2. Locate where to find WIC policies regarding when anthropometric measurements should be taken.
3. Identify the auto-calculated nutrition risk factors linked to anthropometric measurements.

Introduction

This module directs you to another website to complete most of the training.

Collecting accurate stature (length/height) and weight measurements are essential to assessing the nutritional risk of WIC applicants. Identification of conditions such as low birth weight, short stature, underweight, overweight and obesity are critical to providing accurate nutrition counseling and follow-up to WIC clients. Taking these measurements accurately can assure that the correct risk factors are assigned and appropriate counseling is provided. The policy on determining nutrition risk based upon anthropometric measurements can be found at:

http://www.kansaswic.org/manual/CRT_07_01_00_Anthropometric_Risk.pdf

What is Included in Anthropometric Measurements for WIC?

At each certification and mid-certification visit, a clinic staff member is to collect the following anthropometric data:

- Stature, without shoes
 - Current recumbent length for infants/children under 24 months of age
 - Current standing height for women and children over 24 months of age
- Weight
 - Current weight for infants and children under 24 months of age either nude or in a dry diaper
 - Current weight for children over 24 months and women, measured in light clothing without shoes.

WIC policy allows measurements taken in advance, provided that:

- Height/length and weight is measured not more than 60 days prior to certification, and
- The applicant's WIC categorical status on the certification date agrees with the categorical status on the date of the medical data.

At certain visits, staff will also record self declared anthropometric measurements such as:

- Self-declared birth length for all infants and children
- Self-declared birth weight for all infants and children
- Self-declared pre-pregnancy weight for all women
- Self-declared prenatal weight gain for all breastfeeding and postpartum women

All measurements should be recorded in the KWIC system as described in the [Certification Guides](#) training module. The measurements will be reflected in the growth charts for infants and children and the prenatal weight gain grids for pregnant women.

Assignment #1

For information on gathering accurate measurements, reading length and weight measurement devices, and recording accurate measurements in the computer, **complete Module 1, Anthropometric Measurement module from the Western USDA WIC Region found at:**

<http://dohmedia.doh.wa.gov/wictraining/anthropometrics/page93.html>

Complete each of the review activities included in the module. As you complete the module, review the sections that reflect your clinic's equipment (balance beam or digital equipment).

Notes specific for the Kansas WIC Program:

- Weigh infants and children under 24 months of age either nude or in a dry diaper.
- The use of repeat measurements mentioned in the module is not required by the Kansas WIC Program but may be needed when staff question the accuracy of a measurement.
- Enter weight into KWIC to the nearest ounce.

How Are The Measurements Used to Assess Nutritional Risk?

After the measurements are taken and entered into the KWIC system, clinic staff should review the appropriate graphs in KWIC. Some nutritional risk factors will be autocalculated by the KWIC system based upon the information entered by staff.

For infants and children:

If recumbent length was measured:

- Review the length/age graph. KWIC will autocalculate the risk factors, *Short Stature* if length/age is ≤ 2.3 or *At Risk of Short Stature* if length/age is greater than 2.3% and less than or equal to 5%. Premature infants who have not reached the equivalent age of 40 weeks gestation will not be assigned these risk factors.
- Review weight/length graph. KWIC will autocalculate the risk factors *Underweight, weight/length* if weight/length is $\leq 2.3\%$; *At Risk of Underweight, weight/length* if greater than 2.3% and less than or equal to 5% or *High Weight for Length* if weight/length is $\geq 97.7\%$.

If standing height was measured:

- Review height for age graph. KWIC will autocalculate the risk factors *Short Stature, standing height* if height/age is $\leq 5\%$, or *At Risk of Short Stature, standing height* if the height/age is between 6% and 10%.
- Review **Body Mass Index (BMI)** graph. KWIC will autocalculate the risk factors *Underweight, BMI/Age* if the BMI for Age is $\leq 5\%$; *At Risk of Underweight, BMI/Age* if the BMI for Age is between 6% and 10%, *Obese, BMI/Age* if the BMI for Age is $\geq 95\%$ or *Overweight, BMI/Age* if the BMI for Age is between the 85th and less than the 95th percentile.

For pregnant women:

- Assess pre-pregnancy BMI. KWIC will autocalculate the risk factors *Underweight* if pre-pregnancy BMI is < 18.5 or *Overweight* if pre-pregnancy BMI is ≥ 25 .
- Review prenatal weight gain. KWIC will autocalculate the risk factors *Maternal Weight Loss During Pregnancy, 1st Trimester* if any weight loss below prepregnancy weight during the 1st trimester; *Maternal Weight Loss During Pregnancy, 2nd or 3rd Trimester* if any weight loss of 2 pounds during these trimesters; *Low Maternal Weight Gain* if the weight gain plots below the appropriate weight gain range or *High Maternal Weight Gain* if there is a weight of ≥ 7 pounds per month weight gain.

For breastfeeding and postpartum women:

- Assess pre-pregnancy BMI. KWIC will autocalculate the risk factor *Overweight, less than 6 months postpartum* if these women have a pre-pregnancy BMI ≥ 25 .

- Assess current BMI. KWIC will autocalculate the risk factors *Underweight* if the current BMI is <18.5 , or *Overweight, great than or equal to six months postpartum* if the current BMI is ≥ 25 . KWIC will also autocalculate the risk factor *High Maternal Weight Gain* if the total gestational weight gain exceeds the upper limit of the recommended range for their weight category.

For more information on the risk factors listed above, review the Nutritional Risk Factor Manual at: http://www.kansaswic.org/local_agencies/risk_factors.html.

Assignment #2

If you are a clerk and just doing measures, but no counseling, you can skip Assignment 2 unless your supervisor asks that you complete it.

For information on interpreting growth charts and prenatal weight gain grids, **complete Module 2, BMI & Interpreting Growth Charts found at:** <http://dohmedia.doh.wa.gov/wictraining/anthropometrics/page93.html>

Skill Builder #1

For Question 1-3, mark the statements T for True or F for False. Refer to Appendix A to check your answers.

1. ____ Infants and children under 24 months should be measured on a recumbent length board.
2. ____ It is okay to let children leave on light clothing and their shoes when they are weighed.
3. ____ KWIC will not autocalculate some risk factors related to prematurity if the infant has not yet reached the equivalent of 40 weeks gestation.
4. Demonstrate your ability to take accurate measurements of length/height and weight to your supervisor. Be sure to ask any questions you may have about your local clinic's equipment or policies.

What is Hematologic Assessment?

If you are a clerk and will not be doing blood tests, you can stop here.

Objectives

Upon completion of this activity, the employee will be able to:

1. Identify the correct methods for collecting a hematologic test for anemia (hemoglobin or hematocrit) for infants, children and women.
2. Locate where to find WIC policies regarding when hematologic measurements should be taken.
3. Identify the auto-calculated nutrition risk factors linked to hematologic tests.
4. Identify situations where the hematologic test may be waived.

What is Included in Hematologic Assessment?

Completing accurate hematologic tests for anemia (hemoglobin or hematocrit) is essential to assessing the nutritional risk of WIC applicants. Identification of low iron levels is critical to providing accurate nutrition counseling and follow-up to WIC clients. It is important that the hemoglobin or hematocrit be measured not more than 60 days prior to the certification visit. The Competent Professional Authority (CPA) or specially trained WIC staff usually complete this test. Measurements may be used from physicians if taken within the 60 day guidelines.

Unlike anthropometric measurements which are taken at every certification or mid-certification visit, the frequency of hematologic tests vary with the age and category of the WIC applicant. A brief summary follows below:

- Infants under 6 months of age for their initial certification or mid-certification—no test required.
- Infants 6-12 months of age at certification—test required
- Children 12-22 months of age—test required
- Children 23-5 years of age at certification—test required annually. If the test results are abnormal, the test should be repeated in 6 months.
- Pregnant women at certification—test required
- Breastfeeding women at certification—test required
- Breastfeeding women at mid-certification—test required only if last one was abnormal
- Postpartum women at certification-test required

The entire hematologic test schedule for infants, children and women are included in the WIC Policy found at: http://www.kansaswic.org/manual/CRT_07_02_01_Anemia.pdf. The notices screen in KWIC will provide you with a prompt of when a hematologic test may be needed. However, the policy and guidelines listed above should always be used as your guide.

Assignment #3

Accurate testing for anemia is important to assign the correct risk factors and provide appropriate counseling. To improve your skills in taking hematologic tests and reading the results, **complete the Western Region training modules found at: <http://dohmedia.doh.wa.gov/wictraining/hematology/index.html>**. Complete each of the review activities included in the module. As you complete the module, review any questions you may have with your supervisor.

How Are Hematologic Tests Used to Assess Nutritional Risk?

Once the hematologic test has been taken, the results should be entered into the KWIC system. The KWIC system will autocalculate some risk factors based upon this information. They include:

- For Infants, the risk factor *Low Hemoglobin/Hematocrit*, if the hemoglobin is <11.0g/dl or the hematocrit is <33%.
- For Children 24 months or greater in age, the risk factor *Low Hemoglobin/Hematocrit*, if the hemoglobin is <11.1 g/dl or the hematocrit is <33%.
- For Children less than 24 months of age, the risk factor *Low Hemoglobin/Hematocrit*, if the hemoglobin is <11.0 g/dl or the hematocrit is <33%.
- For Pregnant Women in the 1st trimester, the risk factor *Low Hemoglobin/Hematocrit, 1st Trimester*, if the hemoglobin is <11.0 g/dl or the hematocrit is <33%.
- For Pregnant Women in the 2nd trimester, the risk factor *Low Hemoglobin/Hematocrit, 2nd Trimester*, if the hemoglobin is <10.5 g/dl or the hematocrit is <32%.

- For Pregnant Women in the 3rd trimester, the risk factor *Low Hemoglobin/Hematocrit, 3rdTrimester*, if the hemoglobin is <11.0 g/dl or the hematocrit is <33%.
- For Breastfeeding Women, the risk factor *Low Hemoglobin/Hematocrit* if the hemoglobin is <12.0 g/dl or the hematocrit is <36%.
- For Postpartum Women, the risk factor *Low Hemoglobin/Hematocrit* if the hemoglobin is <12.0 g/dl or the hematocrit is <36%.

Exceptions to the Blood Work Requirement

There are only a few times when blood work can be waived at the WIC visit. These include if the applicant has a medical condition such as hemophilia, osteogenesis imperfecta or a serious skin disease. If the applicant also refuses the hematologic test due to religious beliefs, the test may also be waived. In both cases, be sure to document the reason why the test was not done in the client's KWIC record. ([CRT 07.02.01 Determine Nutritional Risk – Hematological Test for Anemia.](#))

Skill Builder #2

For Question 1-5, mark the statement T for True or F for False. Refer to Appendix A to check your answers.

1. ____ When taking a hemoglobin test, WIC staff should always wipe off the first one to two drops of blood before taking one in the microcuvette.
2. ____ If an infant is certified for the first time on WIC at 8 months of age, a hemoglobin test should be completed.
3. ____ The policy for when to take a hematologic test is up to each local agency.
4. ____ A hemoglobin level of <11.0 g/dl will result in the risk factor of Low Hemoglobin being autocalculated for children.
5. ____ If a mother does not want to have her child get a hemoglobin test because it will hurt too much, WIC staff may waive the test.
6. Demonstrate your ability to take an accurate hemoglobin or hematocrit test to your supervisor. Be sure to ask any questions you may have about your local clinic's equipment or policies.

Appendix A – Answers for Skill Builders

Skill Builder #1

1. True.
2. False. Children should always be weighed without shoes.
3. True. The infant must be greater than 40 weeks gestation as an adjusted age before KWIC will autocalculate these measures.
4. Will depend upon your situation.

Skill Builder #2

1. True. Wiping off the first couple of drops of blood insures that the sample does not include interstitial fluid.
2. True. Refer to the WIC policy at:
http://www.kansaswic.org/manual/CRT_07_02_01_Anemia.pdf.
3. False. The policy for when to take a hematologic test is found at:
http://www.kansaswic.org/manual/CRT_07_02_01_Anemia.pdf
4. True.
5. False. The hemoglobin test can only be waived for religious reasons or with certain medical conditions.
6. Will depend upon your situation.

The End