

WASHINGTON STATE WIC POLICY AND PROCEDURE MANUAL



VOLUME 1, CHAPTER 10

Hematology

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CHAPTER 10 HEMATOLOGYSection 1 Licenses

POLICY: The WIC Clinic as a Medical Test Site

Each WIC clinic that does a hemoglobin or hematocrit test by taking a small blood sample must be licensed as a medical test site as required by state law.

Note: In this chapter we will often use the term hemoglobin to mean a hemoglobin or hematocrit test. Staff enter the hemoglobin or hematocrit value in the correct field on the Measures tab in Client Services.

PROCEDURE:

Agency staff:

- A. Ask for a Medical Test Site application form for WIC sites that aren't already licensed as medical test sites from:
 1. This form is located at:
<http://www.doh.wa.gov/portals/1/Documents/Pubs/505038.pdf>
 2. For more information contact:

Laboratory Quality Assurance
Washington State Department of Health
20425 72nd Avenue South, Suite 310
Kent, Washington 98032
(253) 395-6746
www.doh.wa.gov/hsqa/fsl/lqa_home.htm
- B. Complete the "Certificate of Waiver Medical Test Site License Application" if the WIC clinic only performs hemoglobins or hematocrits.
- C. Return the form to the Office of Laboratory Quality Assurance, Washington State Department of Health.
 1. The Office of Laboratory Quality Assurance determines the agency's "status" and fees (if any) to become a licensed medical test site.
- D. Let the Office of Laboratory Quality Assurance know within thirty days, in writing of:
 1. The date the medical test site is opening or closing,
 2. Any changes in:
 - a. Name
 - b. Location, or

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Section 1 Licenses

- c. Personnel in charge of the medical test site.
- E. Keep a current copy of the agency's medical test site license(s) in the agency's file.
- F. Contact the Office of Laboratory Quality Assurance when there are questions or concerns about medical test sites.

Information:

1. The Washington State legislature implemented the Medical Test Site (MTS) law (Chapter 70.42 RCW) to improve health care through uniform test site licensure and regulation. The law meets federal requirements for licensing and medical testing. The following terms were defined in state law:
 - a. "Test" means any examination or procedure conducted on a sample taken from the human body.
 - b. "Test site" means any facility or site, public or private, which analyzes material derived from the human body for the purposes of health care, treatment, or screening.
2. The office of Laboratory Quality Assurance determines the category of license that is required based upon the application form. A test site may receive a certificate of waiver if the test site performs **only** examinations that are determined to have insignificant risk of an erroneous result (RCW 70.42.030 Waiver of License - Conditions), and are approved for waiver under the federal Clinical Laboratory Improvement Amendments (CLIA).

According to Medical Test Site Rules (Chapter 246-338 WAC), the state Department of Health shall grant a certificate of waiver to a medical test site performing **only** tests approved for waiver under CLIA. A spun microhematocrit and a hemoglobin by single analyte instruments with self-contained or component features to perform specimen/reagent interaction, providing direct measurement and readout are specifically identified. In other words, the hematocrit or hemoglobin tests that WIC staff perform are waived under CLIA.

If granted a waiver, a WIC site that **only** performs hemoglobin or hematocrit tests would be licensed as a "Medical Test Site with a Certificate of Waiver."

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Section 1 Licenses

POLICY: Medical Assistants

Staff who perform hemoglobin or hematocrit tests by taking a small blood sample in a WIC clinic must be licensed as a Medical Assistant through the Washington State Department of Health.

- The Competent Professional Authority (CPA) assesses the hemoglobin value for WIC eligibility and screens for low iron status. In many cases the CPA is the licensed Medical Assistant, but in some clinics other staff who are licensed perform the blood test and give the value to the CPA.
- Any staff can get the blood test value from the health care provider and record it in the client's file.

Staff who aren't required to have a Medical Assistant license include:

- All health professionals who currently have and maintain a professional license that authorizes them to perform blood tests (for example RNs, LPNs, etc.).

PROCEDURE:

Staff performing the invasive hemoglobin test:

- A. Get training on hemoglobin procedures by agency or clinic qualified personnel.
- B. Complete a total of 7 hours of AIDS Education and Training as required by the Washington State Department of Health.
- C. Complete the Application for Medical Assistant and Verification of AIDS Education forms.
- D. Have a health care practitioner sign as the delegator. Examples of health care practitioners (according to [RCW 18.360.010](#)) include but are not limited to:
 - Physicians
 - Advanced registered nurse practitioners
 - Registered nurses
 - Physician assistants
- E. Send application or supporting documents with credentialing fees to:

Washington State Department of Health
Medical Assistant Program
PO Box 1099
Olympia, WA 98507-1099
(360) 236-4700

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F. Send applications or supporting credentialing documents without credentialing fees to:

Washington State Department of Health
Medical Assistant Program
PO Box 47877
Olympia, WA 98504-7877
(360) 236-4700

G. Make sure the Medical Assistant license is current.

Information:

Staff can get additional information and application forms from the Medical Assistant Program at:

<http://www.doh.wa.gov/LicensesPermitsandCertificates/ProfessionsNewReneworUpdate/MedicalAssistant.aspx>

CHAPTER 10 HEMATOLOGY**Section 2 When to Assess Clients' Iron Status**

POLICY: Assess Iron Status of Infants Certified from Birth through Five Months of Age

When an infant is certified from birth through 5 months of age:

- The Competent Professional Authority (CPA) isn't required to perform a blood test or obtain the value at the certification.

Note: Since a blood test isn't required at the certification for these infants, monthly checks aren't required during the first 12 months of age.

- The CPA must assess the infant's iron status when the infant is between 6 and 12 months of age.

PROCEDURE:

The CPA:

- A. Completes one of the following to meet the blood test requirement once the infant is 6 months of age:
 1. Perform the blood test at an appointment when the infant is six months or older.
 - Examples include the infant mid-certification health assessment, a high risk visit, follow-up, or a second nutrition education contact.
 2. Perform the blood test at the infant to child recertification done in the 12th month.
 - Consider doing blood tests between 9 and 11 months if you have clients who frequently "no show" for their child recertification appointment in the 12th month. Doing the blood test in the 13th month doesn't meet the infant blood test requirement.
 3. Obtain the blood test value in writing from the health care provider.
 - Assure the infant was between 6 and 12 months of age when the blood test was performed.
 - Assure the value isn't more than 90 days old.
 - Any staff can record the blood test value from the health care provider in the client's file.
- B. Records the blood test value and the date it was performed in the infant's file.
- C. Assesses the blood test value compared to Washington WIC nutrition risk criteria. See Volume 1, Chapter 14 – Nutrition Risk Criteria.

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1. Client Services automatically calculates and assigns risk based on blood test values taken within the past 60 days. Client Services won't automatically assign risk based on blood test values more than 60 days old.
2. Manually select the hemoglobin risk on the Assessment Tab when the blood test value is low and the value is between 60 and 90 days old.

Information:

See the Table of Bloodwork Requirements in this section.

The American Academy of Pediatrics and the Center for Disease Control recommend checking infants for low iron between 9 and 12 months of age.

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Examples of meeting blood test requirements
for infants certified from birth through 5 months of age

Recommended times to do blood testing:

- Meets Washington WIC and USDA/FNS policy requirements
- Meets CDC recommendations for assessing iron status

Age	Appointment Type	Notes
0 – 5 months of age	--	Not required or recommended before 6 months of age.
9 – 12 months of age	Second contact Follow-up High Risk visit Infant to Child recertification	Most common to do in the 12 th month at the infant to child recertification. Consider doing blood tests at an appointment from 9 – 11 months if you have clients who frequently “no show” for their child recertification in the 12 th month. Doing the blood test in the 13 th month doesn't meet the infant blood test requirement.
15 - 18 months of age	Child mid-certification health assessment	In addition to the blood test at the infant to child recertification, staff may perform or receive a blood test value at the first child mid-certification to meet CDC recommendations for assessing iron status between 15 and 18 months.
24, 36, 48 months of age	Child recertification	Perform blood test or obtain the value every 12 months at each child recertification. If the value is low, follow-up in 6 months.

Acceptable times to do blood testing:

- Meets Washington WIC and USDA/FNS policy requirements

Age	Appointment Type	Notes
0 – 5 months of age	--	Not required or recommended before 6 months of age.
6 – 12 months of age	Infant health assessment Second contact Follow-up High Risk visit Infant to Child recertification	Most common to do in the 12 th month at the infant to child recertification. Consider doing blood tests at an appointment from 9 – 11 months if you have clients who frequently “no show” for their child recertification in the 12 th month. Doing the blood test in the 13 th month doesn't meet the infant blood test requirement.
24, 36, 48 months of age	Child recertification	Perform blood test or obtain the value every 12 months at each child recertification. If the value is low, follow-up in 6 months.

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POLICY: Assess Iron Status of Infants Certified at Six through Twelve Months of Age

The CPA must:

1. Assess the iron status of all infants from 6 through 12 months of age.
2. Perform the blood test or obtain the blood test value at the certification when the infant is certified at 6 through 12 months of age.
 - Only use a value from a blood test performed after the infant was 6 months of age.
3. Issue monthly checks until staff perform the blood test or obtains the value.

PROCEDURE:

The CPA:

- A. Completes one of the following to meet the infant blood test requirement when the infant is certified at 6 months of age or older:
 1. Perform the blood test at the certification appointment.
 2. Obtain the blood test value in writing from the health care provider.
 - Assure the infant was 6 through 12 months of age when the blood test was performed.
 - Assures the value isn't more than 90 days old.
 - Any staff can record the blood test value from the health care provider in the client's file.
- B. Issues monthly checks until staff performs the blood test or obtains the value.
- C. Records the blood test value and the date it was performed in the infant's file.
- D. Assesses the blood test value compared to Washington WIC nutrition risk criteria. See Volume 1, Chapter 14 – Nutrition Risk Criteria.
 1. Client Services automatically calculates and assigns risk based on blood test values taken within the past 60 days. Client Services won't automatically assign risk based on blood test values more than 60 days old.
 2. Manually select the hemoglobin risk on the Assessment Tab when the blood test value is low and the value is between 60 and 90 days old.

CHAPTER 10 HEMATOLOGY**Section 2 When to Assess Clients' Iron Status**

Information:

See the Table of Bloodwork Requirements this section.

The American Academy of Pediatrics and Center for Disease Control recommends checking infants for low iron from 9 through 12 months of age.

CHAPTER 10 HEMATOLOGY**Section 2 When to Assess Clients' Iron Status**

POLICY: Assess Iron Status of Children 12 to 24 Months of Age

The CPA must:

1. Assess the iron status of children from 12 through 24 months of age.
2. Perform the blood test or obtain the blood test value in writing from the health care provider at each certification and recertification.
 - When the infant to child recertification is done in the 12th month of age, the CPA can use a blood test done between 9 and 12 months of age to meet the certification requirement.
 - However, this doesn't fulfill **both** the infant 6 – 12 month and the child 12 – 24 month blood test requirements. Staff must perform a blood test or obtain a value between 12 and 24 months of age to meet the child blood test requirement.
3. If staff didn't obtain a value as listed in # 2 above, issue monthly checks until staff performs the blood test or obtains the value.

PROCEDURE:

The CPA:

- A. Completes one of the following to meet the child 12 – 24 month blood test requirement:
 1. Perform the blood test at the certification or recertification appointment.
 2. Perform another blood test or receive the value between 12 and 24 months of age when the infant blood test done between 9 and 12 months of age was used to meet the certification requirement.
 - This includes performing the test or receiving the value at the child mid-certification appointment, a high risk visit, follow-up, second nutrition education contact or the child recertification at 24 months.
 3. Obtain the blood test value in writing from the health care provider.
 - Assures the value isn't more than 90 days old.
 - Any staff can record the blood test value from the health care provider in the client's file.
- B. Issues monthly checks until staff performs the blood test or obtains the value.

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- C. Records the blood test value and date taken in the client's file.
- D. Assesses the blood test value compared to Washington WIC nutrition risk criteria. See Volume 1, Chapter 14 – Nutrition Risk Criteria.
 - 1. Client Services automatically calculates and assigns risk based on blood test values taken within the past 60 days. Client Services won't automatically assign risk based on blood test values more than 60 days old.
 - 2. Manually select the hemoglobin risk on the Assessment Tab when the blood test value is low and the value is between 60 and 90 days old.

Information:

- The Center for Disease Control (CDC) recommends that children have a blood test 6 months after the infant test, for example around 15 to 18 months of age. Staff may perform or obtain a blood test value at the first child mid-certification health assessment to meet CDC's recommendation.
- Staff can only use a blood test value taken from 9 - 12 months of age for the 1 year recertification.
- See the Table of Bloodwork Requirements this section.

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POLICY: Assess Iron Status of Children Over 2 Years of Age

The CPA must:

1. Assess iron status at each certification and recertification for children from 2 to 5 years of age by performing the blood test or obtaining the value in writing from the health care provider.
2. Issue monthly checks until staff performs the blood test or obtains the value for the certification or recertification.
3. Assess iron status every 6 months for children with low or very low hemoglobin until the results are in the normal range.

Note: Monthly checks aren't required for the 6 month follow-up blood test since it isn't done for a certification or recertification.

PROCEDURE:

The CPA:

- A. Completes one of the following:
 1. Performs the blood test or receive the value every 12 months at the certification or recertification when the previous blood test value was within the normal range.
 2. Accept the blood test value in writing from the health care provider.
 - Assure the value isn't more than 90 days old.
 - Any staff can record the blood test value from the health care provider in the client's file.
- B. Performs a follow-up blood test or receives a value every 6 months for children with low or very low hemoglobin.
 1. Continue this practice every 6 months until the value is within the normal range.
 2. When the value is in the normal range, assess the value at the next recertification.
- C. Issues monthly checks until staff performs the blood test or obtains the value.
 - Monthly checks aren't required for the 6 month follow-up blood test since it isn't done for a certification or recertification.
- D. Records the blood test value and date taken in the client's file.

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- E. Assesses the blood test value compared to Washington WIC nutrition risk criteria. See Volume 1, Chapter 14 – Nutrition Risk Criteria.
1. Client Services automatically calculates and assigns risk based on blood test values taken within the past 60 days. Client Services won't automatically assign risk based on blood test values more than 60 days old.
 2. Manually select the hemoglobin risk on the Assessment Tab when the blood test value is low and the value is between 60 and 90 days old.

Information:

See the Table of Bloodwork Requirements in this section.

CHAPTER 10 HEMATOLOGY**Section 2 When to Assess Clients' Iron Status**

POLICY: Assess Iron Status of Women

The CPA must:

1. Assess iron status at each certification or recertification for women by performing the blood test or obtaining the value in writing from the health care provider.
 - Only accept a value done while the woman is in her current category. For example, use a value taken during pregnancy for a pregnant woman, or a value taken after delivery for a breastfeeding or postpartum woman.
2. Issues monthly checks when the blood test isn't performed or the blood test value isn't obtained at the certification or recertification.

PROCEDURE:

The CPA:

- A. Completes one of the following:
 1. Perform the blood test at the certification or recertification appointment.
 2. Obtain the blood test value in writing from the client's health care provider.
 - Assure the woman was in the current category when the blood test was performed.
 - Assures the value isn't more than 90 days old.
 - Any staff can record the blood test value from the health care provider in the client's file.
- B. Issues monthly checks until staff performs the blood test or obtains the value.
- C. Records the blood test value and date taken in the woman's file.
- D. Assesses the blood test value compared to Washington WIC nutrition risk criteria. See Volume 1, Chapter 14 – Nutrition Risk Criteria.
 1. Client Services automatically calculates and assigns risk based on blood test values taken within the past 60 days. Client Services won't automatically assign risk based on blood test values more than 60 days old.
 2. Manually select the hemoglobin risk on the Assessment Tab when the blood test value is low and the value is between 60 and 90 days old.

CHAPTER 10 HEMATOLOGY**Section 2 When to Assess Clients' Iron Status**

Information:

See the Table of Bloodwork Requirements in this section.

The Center for Disease Control recommends anemia screening as early as possible during pregnancy and at 4 to 6 weeks after delivery for breastfeeding and postpartum women.

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Section 2 When to Assess Clients' Iron Status

Summary of Washington WIC and USDA/FNS requirements and CDC recommendations for blood testing

	Infants 0 – 5 months	Infants 6 – 12 months	Children 12 – 24 months	Children 2 – 5 years	Pregnant women	Breastfeeding and Postpartum women
Blood work requirement	Not required from birth through 5 months of age.	One test from 6 through 12 months of age.	One test from 12 through 24 months of age.	One test each year from 2 to 5 years of age.	One test during current pregnancy.	One test after the end of the pregnancy.
When to perform the test or receive the value	At an appointment when the infant is 6 months or older.	At the certification* for infants certified at 6 – 12 months.	Staff can use a blood test from 9 through 12 months for the infant to child recertification. Staff can't use the same blood test to meet the child 12 – 24 month blood test requirement.	At each certification or recertification*	At the certification or recertification*	At the certification or recertification*
Notes:			Staff must do a follow-up blood test every six months when the previous value was low until the value returns to the normal range.	Staff must do a follow-up blood test every six months when the previous value was low until the value returns to the normal range.		Breastfeeding women only need one blood test during the breastfeeding eligibility period.
CDC recommendation		CDC recommends the infant test from 9 through 12 months of age.	CDC recommends the child's blood test 6 months after the infant test, from 15 through 18 months of age.		CDC recommends a blood test as early as possible during pregnancy.	CDC recommends a blood test 4 to 6 weeks after delivery.

* **Monthly check requirement:** Issue monthly checks until staff performs the blood test or obtains the value.

CHAPTER 10 HEMATOLOGY**Section 2 When to Assess Clients' Iron Status**

RECOMMENDATION: Assess Iron Status for Transfer Clients

When a transfer client doesn't have a blood test value, it's best practice to perform the blood test or obtain the value in writing from the health care provider.

Monthly checks aren't required for transfer clients with missing blood test values.

GUIDELINES:

Staff:

- A. Review and document the client's transfer information.
 - 1. See Volume 1, Chapter 21 – Transfers for required documentation.
 - 2. See Volume 1, Chapter 14 – Nutrition Risk Criteria.
 - 3. See the Staff Tool: Select Washington Risks for Out of State Transfer Clients when marking Washington state risks from another state's transfer information.
<http://www.doh.wa.gov/Portals/1/Documents/Pubs/962-951-SelectWARisksforOutOfStateTransferClients.pdf>
- B. Schedule a follow-up the next month to assess the client's iron status and other nutrition education and referral needs.
 - 1. In-state transfer client's measurements and blood test values are sent to the receiving clinic the day after the client transfers in.
 - 2. If there is no blood test value, staff can perform the blood test or obtain the value from the health care provider.
- C. Issue checks as appropriate. Monthly checks aren't required for transfer clients with missing blood test values.
- D. Assess the client's iron status at the next recertification according to policies and procedures in this chapter.

CHAPTER 10 HEMATOLOGY

Section 2 When to Assess Clients' Iron Status

POLICY: Exceptions to Performing the Blood Test at a WIC Certification

All WIC clinics must have the capacity to perform a blood test on all clients as required by policies in this chapter.

The CPA isn't required to perform the blood test at the certification or recertification in the following situations:

1. The client has a medical condition, like hemophilia, or a serious skin disease in which the procedure would cause harm to the client. The client can self-report the condition.
2. The client's religious beliefs don't allow him or her to have blood drawn.
3. The client or caregiver refuses to have the blood test performed. Staff must document the refusal in the client's file.

The CPA must document why the blood test wasn't done in the client's file.

The client isn't required to receive monthly check issuance in the 3 situations listed above.

PROCEDURE:

The CPA:

- A. Assesses if one of the 3 situations listed in policy applies.
- B. Documents the reason the blood test wasn't done on the Notes tab in the client's file.

Note: Don't enter a note in the blood test value note field on the Measures tab if you aren't documenting a blood test value. Having a note with no value associated to it creates data errors.

- C. Uses a risk other than low hemoglobin or hematocrit to certify the client.
- D. Issues checks as appropriate.

Information:

The Food and Nutrition Service (FNS) states:

1. WIC clinics should be prepared to draw blood from all clients using their usual health and safety protocols.

CHAPTER 10 HEMATOLOGY**Section 2 When to Assess Clients' Iron Status**

2. Clinics should assess these special situations on a case-by-case basis.

CHAPTER 10 HEMATOLOGY**Section 3 Perform the Hemoglobin Test**

POLICY: Perform the Hemoglobin Test using the HemoCue Analyzer

The Medical Assistant (MA) must follow the procedures listed below when performing the hemoglobin test by taking a small blood sample, as recommended by HemoCue.

Note: Not every Competent Professional Authority (CPA) is licensed as a Medical Assistant. See the Medical Assistant policy in this chapter.

PROCEDURE:

The Medical Assistant:

- A. Talks to the client or caregiver about the hemoglobin test. This includes a brief overview why WIC does the test and how.

Example: “The hemoglobin test tells us if your or your child’s blood has enough iron. Iron is important for your child’s growth (your baby’s growth if you are pregnant, your health if you are breastfeeding or post-partum). To do the hemoglobin test, I will prick your or your child’s finger and get a small amount of blood. The analyzer will automatically tell us if you have enough iron. If your iron tests low, we may ask you to see your health care provider for follow-up.”

- B. Cleans hands using soap and water, disinfectant wipe, antimicrobial gel or foam, etc.

- C. Collects and arranges all supplies before beginning the test.

1. Supplies needed include:
 - a. Disposable gloves
 - b. Sterile lancet
 - c. Alcohol prep pads
 - d. Lint-free gauze
 - e. Sterile bandage strips
 - f. Sharps container
 - g. HemoCue Microcuvette

Note: Follow the manufacturer’s instruction for storing the microcuvettes. They are to be stored at 59 – 86 degrees in a dry place. The microcuvettes should be stored in their original vials. Use the microcuvettes prior to their expiration date. Once the vial is opened the microcuvettes are stable for three months. Make sure the vial closes tightly after you remove a microcuvette. Write the date on the vial when it is first opened.

- h. HemoCue analyzer

CHAPTER 10 HEMATOLOGY**Section 3 Perform the Hemoglobin Test**

- D. Turns on the HemoCue analyzer and makes sure it's working properly before starting the test. See the Appendix for more information.
- E. Puts gloves on both hands.
 - 1. Clean hands and change gloves between every blood test, even between family members.
 - 2. See the Universal Precautions policy in this chapter.
- F. Selects a site to prick.
 - 1. The middle finger has the best circulation and is the preferred finger to use.
 - 2. Here are other locations you can use.
 - a. The third or fourth finger for an adult or older child. Avoid fingers with rings due to the chance of decreased circulation.
 - b. The toe or heel for young children 6 months – 2 years of age. You can use these sites with children up to four years of age.
 - c. Avoid callused areas for best results.
- G. Warms the site as needed.
 - 1. Have the person put his or her hands under the arms to warm the fingers. This is the preferred method.
 - 2. The person can put his or her hands in warm water.
 - 3. Don't have the person shake his or her hands to warm them.
- H. Cleans and prepares the site.
 - 1. Wipe clean the selected site with an alcohol prep pad or cotton ball dampened with alcohol.
 - 2. Wipe the site with a clean, dry lint-free gauze to remove the alcohol. Alcohol left on the skin can break the red blood cells and affect the test.
 - 3. Prime the person's finger by placing your thumb and index finger at the person's last knuckle. Rock back and forth using gentle pressure to get blood towards the fingertip.

CHAPTER 10 HEMATOLOGY**Section 3 Perform the Hemoglobin Test**

Note: Don't squeeze the finger too hard, called "milking", as this may add tissue fluids to the blood and cause the reading to be inaccurate.

I. Pricks the finger or other site.

1. For a finger prick, hold the finger and microcuvette at a "downward" angle. Don't try competing with gravity.

Note: For a toe or heel prick, have the caregiver hold the infant or child in an upright position, facing him or her with foot out loosely and low.

2. Use the top of the finger, between the finger pad and the nail bed.
3. Press the lancet firmly against the finger prior to activating the lancet to aid in getting a good sample.

Note: Be prepared for a sudden, instinctive withdrawal movement by the client.

4. While keeping gentle pressure, perform the prick off-center on the fingertip.

Note: When applying gentle pressure, do not squeeze or "milk" the finger because this will affect the reading by adding tissue fluids to the blood.

5. Rock your finger back and forth to produce 2 – 3 drops the size of half a pea. Use a dry gauze or other lint-free tissue to wipe away these first two or three drops of blood.

J. Fills the cuvette.

1. Rock the finger and apply light pressure as needed until another drop of blood appears. Make sure the drop of blood is big enough to fill the microcuvette completely.
2. Hold the cuvette opposite the filling end and place the cuvette tip into the middle of the drop of blood.
 - a. Fill the cuvette in one continuous process. Don't fill a partially filled cuvette by dipping it back into the drop of blood.

Note: The yellow substance inside the cuvette reacts with the blood for the reading.

3. If the cuvette doesn't fill completely or if you see air bubbles, throw the cuvette away. See Procedure N for more information.

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- a. Wipe the site and allow another drop of blood to form and collect it with a new cuvette.
 - b. If you can't get another drop of blood to form, start a new test using another finger.
- K. Has the client hold a cotton or gauze wipe on her or his finger until ready to apply a sterile bandage strip.
- L. Measures the hemoglobin level.
1. Wipe off any excess blood from the outside of the cuvette using a clean, lint-free tissue, taking care not to touch the open end of the cuvette.
 2. Place the filled cuvette in the HemoCue machine within 10 minutes.
 3. Put the cuvette into the cuvette holder on the analyzer and gently slide the holder into the measuring position.
 4. Read the value on the HemoCue analyzer.
 5. Open the cuvette holder and throw the cuvette away in an appropriate puncture-proof biohazard container. See Procedure N for more information.
- M. Bandages the finger or site.
1. Place gauze or lint-free tissue over the puncture site and apply gentle pressure as needed. Don't use the alcohol prep pad.
 2. Apply the bandage. Don't remove the sterile tabs of the bandage before putting it on the person.
 3. Don't bandage a child less than 2 years of age due to the risk of choking.
- N. Throws away supplies appropriately.
1. Place the lancet in the Sharps container.
 2. Place other supplies in the trash unless they are saturated with blood. This includes:
 - Cuvettes
 - Gloves
 - Lint-free gauze or tissues
 - Alcohol prep pads
 - Paper wrappers and other supplies

CHAPTER 10 HEMATOLOGY**Section 3 Perform the Hemoglobin Test**

3. Place non-sharp items with a large amount of blood on them in a color-coded plastic bag or one that is marked with the biohazard emblem.
- O. Records the hemoglobin result in the client's Client Services file.
- P. Cleans the work area.
1. Clean up any blood spills immediately. Use a 10% bleach solution or a disinfectant spray.
 2. Clean the counter daily.
 3. Clean the HemoCue analyzer on a regular basis, preferably weekly. See the Appendix for more information about cleaning the analyzer.

Information:

Here are some additional tips which may be helpful:

1. Explain to the child what the test is and show him or her the noise that the finger poking device makes.
2. Offer the child a sticker.

POLICY: Determine Nutrition Risk and High Risk Status Using the Hemoglobin or Hematocrit Value

The CPA must assess blood test values for nutrition risk and high risk status using the Washington State WIC Hemoglobin and Hematocrit Standards.

See Volume 1, Chapter 14 - Nutrition Risk Criteria.

PROCEDURE:

The CPA:

- A. Performs, or has a Medical Assistant perform, a blood test following correct procedures or gets the value in writing from the health care provider.
- B. Records the client's blood test value and date performed in Client Services.
 - Any staff can record the blood test value from the health care provider in the client's file.
- C. Assesses if the value shows the client is at risk.
 1. Client Services automatically calculates and assigns risk based on blood test values taken within the past 60 days. Client Services won't automatically assign risk based on blood test values more than 60 days old.
 2. Manually select the hemoglobin risk on the Assessment Tab when the blood test value is low and the value is between 60 and 90 days old.
- D. Assesses the woman's hemoglobin or hematocrit value based on the category or trimester within which it was taken or the child's age when taken if the value is from a health care provider.
- E. Talks with the client or caregiver about the results of the test and tailors nutrition education messages appropriately.
- F. Refers all high risk clients to the nutritionist for an RD visit.

Information:

While only a health care provider can diagnose anemia, a low hemoglobin or hematocrit value usually reflects poor iron status and a strong possibility of iron deficiency anemia. Therefore, it is useful for staff to have a conversation about iron deficiency anemia with WIC clients who have a low or very low hemoglobin or hematocrit value.

CHAPTER 10 HEMATOLOGY**Section 4 Determine Nutrition Risk**

Helpful information for clients with a low hemoglobin or hematocrit includes:

- Using iron supplements appropriately.
- Foods high in iron.
- Ideas for increasing iron absorption.

If the hemoglobin value shows no improvement after adequate intervention, refer the client to a health care provider for further assessment and medical intervention.

Assessing the iron status is an important part of the WIC certification because it provides information about the person's nutritional status. Red blood cells carry oxygen through the bloodstream. Therefore, the percentage of red blood cells affects the oxygen-carrying capacity of the blood. Oxygen is essential to produce energy for all body processes.

HEMOGLOBIN AND HEMATOCRIT STANDARDS

	LOW HEMOGLOBIN OR HEMATOCRIT		VERY LOW HEMOGLOBIN OR HEMATOCRIT	
	Hemoglobin (g/dl)	HCT (%)	Hemoglobin (g/dl)	HCT (%)
Infants and Children (age)				
2-12 weeks	≤ 13.6	≤ 41	≤ 13	≤ 39
3-5 months	≤ 10.7	≤ 32	≤ 9.3	≤ 28
6-12 months	< 11.0	< 33	≤ 10.3	≤ 31
1-5 years	< 11.0	< 33	≤ 10.3	≤ 31
Pregnant women:				
1st trimester Week 0-12	< 11.0	< 33	≤ 10.3	≤ 31
2nd trimester Week 13-26	< 10.5	< 32	≤ 10.0	≤ 30
3rd trimester Week 27-40	< 11.0	< 33	≤ 10.0	≤ 30
Postpartum women				
6 weeks	< 12.0	< 36	≤ 10.3	≤ 31
Breastfeeding women	< 12.0	< 36	≤ 10.3	≤ 31

POLICY: High Hemoglobin or Hematocrit Assessment and Intervention

The CPA must assess the client's hemoglobin or hematocrit reading to determine if the reading is at a "high" level and follow the interventions below.

PROCEDURE:

The CPA:

- A. Determines if the client's hemoglobin or hematocrit is high. A value at or above 14.6 g/dl, or 44% respectively, for pregnant women, breastfeeding women, infants and children is high.
- B. Asks the client if there is a history of high hemoglobin or hematocrit results.

Note: A high hemoglobin or hematocrit may be normal in some instances. Two examples of normal high hemoglobins or hematocrits include when the body compensates for smoking or living at a high altitude. The Washington WIC Nutrition Program does not adjust for these situations; use the Hemoglobin and Hematocrit Standards in this chapter.

- C. Does the following, based on the information from the client.
 - 1. Documents in the notes that the value is normal for the client, as reported by the client.
 - 2. Refers the client to a physician if there is no history of a high value and the hemoglobin is at or above 14.6 g/dl or the hematocrit is at or above 44%.
 - 3. Refers the client to a physician if there is a history of a high hemoglobin or hematocrit and the value is above the client's "normal" level, or is well above 14.6 g/dl or 44% respectively.
- D. Documents all information discussed with the client in Client Services.
- E. Plans follow-up as appropriate.

Information:

A high hemoglobin or hematocrit can indicate a medical problem and the CPA should address the issue.

CHAPTER 10 HEMATOLOGY**Section 5 Maintain and Calibrate Hematological Equipment**

POLICY: Maintain and Calibrate Hematological Equipment

Staff must:

- Clean and maintain hematological equipment as necessary and document on a maintenance and calibration log.
- Check for accuracy at least twice a year for equipment that doesn't perform an automatic self-check and document on a maintenance and calibration log
- Repair or replace the equipment if it isn't operating according to the manufacturer's recommendations.

PROCEDURE:

Clinic staff:

- A. Maintain the hematological equipment.
 1. Wipe spills immediately.
 - a. If the clinic has a HemoCue analyzer, clean it with mild soap and water. See the Appendix for more information.
 - b. Clean blood spills on the counter or work surface with a 10% bleach solution or a disinfectant spray.
 2. Wear personal protective equipment, like gloves, when cleaning contaminated surfaces.
 3. Follow the manufacturer's instructions for cleaning and maintenance.
- B. Check accuracy at least twice a year and document on a maintenance and calibration log for equipment that doesn't perform an automatic self-check.
 1. A sample log is located in the Appendix.
- C. Repair or replace the equipment when it isn't operating correctly.

Information:

The HemoCue analyzer requires regular cleaning as outlined in the manufacturer's instructions.

An automatic self-test is performed by the HemoCue analyzer each time it is turned on and every 2 hours while the analyzer remains on.

CHAPTER 10 HEMATOLOGY**Section 5 Maintain and Calibrate Hematological Equipment**

- Liquid Controls from HemoCue are available for those agencies that choose to use them. The use of Liquid Controls is not a required procedure for HemoCue Analyzers.
- Please contact state WIC staff to order or to report problems.

It's important to keep the analyzer in good working order to assure it's accurate and safe for staff using the equipment. Use a maintenance log to document the care of the analyzer.

CHAPTER 10 HEMATOLOGY**Section 6 Limit Exposure to Bloodborne Pathogens**

POLICY: Universal Precautions

The Medical Assistant (MA) must use "Universal Precautions" with all clients to prevent the spread of infectious diseases from bloodborne pathogens.

Note: Not every Competent Professional Authority (CPA) is licensed as a Medical Assistant. See the Medical Assistant policy in this chapter.

PROCEDURE:

The MA:

- A. Wears gloves when in contact with blood, broken skin of clients or when handling items or surfaces that have blood on them.
 - 1. Change gloves after contact with each client, even if members of the same family.
 - 2. Wear gloves that fit well.
- B. Washes hands and other skin surfaces immediately and thoroughly with soap and water if they have come in contact with blood or other bodily fluid.
- C. Never recaps, purposely bends or breaks needles or lancets unless the equipment manufacturer requires it.
- D. Throws away all contaminated sharp instruments in a puncture-resistant, closable, leak proof, labeled or color-coded container. The container is located as close as possible to where these items are used.
- E. Monitors containers closely and avoids exceeding the "full line" of containers.
- F. Keeps work areas clean by wiping spills immediately using personal protective devices, like gloves, and an appropriate disinfectant, such as a 1:10 diluted bleach solution.
- G. Disposes of sharps containers according to OSHA guidelines.

Resources:

- 1. Occupational Exposure to Bloodborne Pathogens, U.S. Department of Labor, Occupational Safety and Health Administration, OSHA 3127, 1992.
- 2. Department of Labor-Occupational Safety and Health Administration: Compliance Assistance Guideline for the February 27, 1990 OSHA Instruction CPL 2-2.44B Enforcement Procedures for Occupational Exposure to Hepatitis B Virus and Human Immunodeficiency Virus.

CHAPTER 10 HEMATOLOGY**Section 6 Limit Exposure to Bloodborne Pathogens**

3. Washington Department of Health, Publication 410-004, Recommendations for Prevention of HIV Transmission in Health Care Settings.
4. Center for Disease Control. Recommendations for Prevention of HIV Transmission in Health-Care Settings. MMWR 1987; 5S (suppl. no. 2S).

POLICY: Personal Protective Equipment

Local agencies have the authority to require personal protective equipment (PPE) in addition to gloves, such as laboratory coats, goggles, etc., to decrease exposure to bloodborne pathogens.

The local agency requiring the additional PPE must do so in accordance with policies from the Department of Labor and Industries, Occupational Safety and Health Administration (OSHA), and Washington Industrial Safety and Health Act (WISHA).

PROCEDURE:

Staff:

- A. Develop a written policy about the use of personal protective equipment and make it available to all staff who have potential exposure to blood.
- B. Follow OSHA and WISHA guidelines for use, washing and discarding of personal protective equipment.

Information:

Local agency staff should be aware of the many legal issues involved with performing hematological tests on clients. Local agency staff should write policies on the following issues:

- a. Hepatitis B vaccines for employees who perform hematological tests.
- b. Blood-borne Pathogen Exposure Control Plan.
- c. Engineering and work practice controls to prevent accidental exposure.
- d. Methods for reporting exposure accidents and follow-up protocol.
- e. Methods for communicating about hazards to employees.
- f. Operating in accordance with the Clinical Laboratory Improvement Amendment.
- g. Providing employees with training on potential occupational exposure.

For more information regarding WISHA guidelines, contact:

Department of Labor and Industries
Division of Industrial Safety and Health
P.O. Box 44620
Olympia, WA 98504-4620.
Phone: 1-800-423-7233
<http://www.lni.wa.gov/>

CHAPTER 10 HEMATOLOGY**Section 6 Limit Exposure to Bloodborne Pathogens**

For Clinical Laboratory Improvement Amendment (CLIA) information:

HCFA CLIA Program

P.O. Box 26687

Baltimore, Maryland 21207-9487

(410) 290-5850

<http://www.fda.gov/medicaldevices/deviceregulationandguidance/ivdregulatoryassistance/ucm124105.htm>

CHAPTER 10 HEMATOLOGY**Section 7 Order Hematology Supplies from WIC**

POLICY: Order Hematology Supplies from WIC

The State WIC Nutrition Program provides agencies with hematology supplies at no charge to the agency.

Staff must:

- Order hematology supplies from the state WIC office.
- Confirm that the packing slip, the shipped items, and the original order agree.
- Send a signed, dated copy of the packing slip to the state WIC office within three days of receiving the shipment.
- Contact state WIC staff for instructions when the HemoCue analyzer or Masimo Pronto device needs repair or replacement.

HemoCue analyzers, Masimo Pronto devices, and supplies purchased through the state WIC office may not meet the needs of every WIC agency, staff or client. In this case, agencies may choose to buy the supplies that work best for their WIC clinics with WIC or other funding.

Note: The State WIC Nutrition Program only provides the supplies listed on the order forms.

PROCEDURE:

Staff:

- A. Order hematology supplies from the state WIC office in the amount needed for one year. Follow the formula below to determine the amount of supplies to order:
1. Estimate the number of supplies needed for one year by multiplying the agency's participating caseload by 80%.
 2. HemoCue microcuvettes are available either in a vial or individually wrapped. Microcuvettes in vials have a shelf life of 2 years and microcuvettes which are individually wrapped have a shelf life of 1 year. Consult with state WIC staff to determine which product is more suitable for your clinic.
 3. Masimo sensors are available in pediatric and adult sizes. There are not expiration dates for the sensors. Consult with state WIC staff to determine how many pediatric and adult sensors are needed for your clinic.

Note: Ordering hematology supplies once a year is preferred, but staff can order more often when necessary.

CHAPTER 10 HEMATOLOGY**Section 7 Order Hematology Supplies from WIC**

- B. Determine the amounts to order so that each item will run out at about the same time. This helps reduce the number of times you need to order supplies each year.
- C. Use the current order forms for ordering HemoCue and Masimo supplies. These forms are available from the state office and the WIC website at:
<http://www.doh.wa.gov/PublicHealthandHealthcareProviders/PublicHealthSystemResourcesandServices/LocalHealthResourcesandTools/WIC/ProgramFormsMaterials.aspx#Hematology>.
- D. Complete and fax the forms for HemoCue and Masimo supplies to the state WIC office.
 - 1. Send the supply order to the state WIC office at least one month before you need the supplies. Allow for shipping delays due to holidays and weekends.
 - 2. State staff sends all orders received during the month to the contracted suppliers by the last week of each month.
- E. When hematology supplies are needed immediately, clinic staff may borrow supplies from another local WIC agency.
- F. Confirm that the packing slip, the items shipped, and the original order agree.
 - 1. If the order is correct and complete:
 - a. Write “complete” and sign and date the packing slip.
 - b. Make a copy of the signed packing slip. Keep the copy and send the original to the state WIC office.
 - 2. If the order is incomplete or incorrect:
 - a. Write on the packing slip which items were incomplete or incorrect, and describe what was wrong.
 - b. Contact staff at the state WIC office for guidance about what to do with the incorrect items.
 - c. If you did not receive all of the items you ordered, but the items on the packing slip and what you received match, write on the packing slip “partial order complete”.
 - d. Sign and date the packing slip.
 - e. Make a copy of the signed packing slip. Keep the copy and send the original to the state WIC office.

CHAPTER 10 HEMATOLOGY**Section 7 Order Hematology Supplies from WIC**

3. If you receive a backordered shipment of supplies that completes a previous partial order:
 - a. Write “partial order now complete” on the new packing slip.
 - b. Sign and date the packing slip.
 - c. Make a copy of the signed packing slip. Keep the copy and send the original to the state WIC office.
- G. Send a signed, dated copy of the packing slip to the state WIC office within three days of receiving the shipment.

Note: State WIC staff have to receive all packing slips in order to pay the invoices and place additional orders.
- H. Contact state staff if you need to exchange or return supplies.
- I. Liquid Controls from HemoCue are available for those agencies that choose to use them. The use of Liquid Controls is not a required procedure for HemoCue Analyzers.
- J. Ask state staff for instructions when you need to repair or replace HemoCue Analyzers.

Information:

Estimating quantities of hematology supplies needed by an agency for a one-year period is a challenge. State staff will provide guidance about ordering when changes occur.

The state WIC office has a contract with HemoCue. Procedures for ordering may change over time as products are updated and contracts change. Please use the WIC website as a resource for the current version of the hematology supply order forms at <http://www.doh.wa.gov/PublicHealthandHealthcareProviders/PublicHealthSystemResourcesandServices/LocalHealthResourcesandTools/WIC/ProgramFormsMaterials.aspx#Hematology>

Training on how to use HemoCue Analyzers is available for local WIC agencies.

1. The Washington State WIC Nutrition Program has an online hematology course. Here is a link to the course on the web site:
<http://www.doh.wa.gov/PublicHealthAndHealthcareProviders/PublicHealthSystemResourcesandServices/LocalHealthResourcesandTools/WIC/Training/TrainingMaterials.aspx#OnlineCourses>.
2. HemoCue has a training video on their web site:
<http://www.hemocue.net/index.php?page=2002>

CHAPTER 10 HEMATOLOGY**Section 7 Order Hematology Supplies from WIC**

3. HemoCue staff may come to your clinic to provide on-site training. Contact state office staff for more information about how to arrange the training.

APPENDIX

HemoCue Analyzer Information

Turning on the HemoCue Machine:

Turn on the HemoCue machine and make sure it's working properly before performing the hemoglobin test.

- The HemoCue is powered by an electric adapter or by batteries.
- The batteries will run down if the unit is plugged in. It's best to remove the batteries if you have the HemoCue plugged in.
- To run a self-test, pull the tray out, and turn the unit on.
- Three flashing bars indicate the HemoCue is working properly.

Cleaning the HemoCue Machine:

Clean the analyzer on a regular basis, preferably weekly. The local agency can determine the specific timeframe for how often staff clean the analyzer.

- To clean the unit, turn the machine off.
- Don't clean any part of the machine with alcohol or alcohol wipes, even though the HemoCue manual suggests using alcohol. Use only mild soap and water on all parts of the machine.
- Take out the cuvette holder by pressing down the groove with a fingernail or a pen or pencil tip. The holder will slide out for cleaning.
- Clean the cuvette holder with soap and water to remove any dirt or blood.
- Don't insert it into the machine wet; allow it to air dry for 15 minutes.
- Clean the outside of the analyzer with mild soap and water and allow it to air dry for 15 minutes, as well.

Error Messages:

If the HemoCue displays error messages:

- Clean the machine if you receive an "E01" or "E02" code. See below for more information.
- Never use alcohol to clean, only mild soap and water.
- If the machine continues to show an error code, follow your agency's troubleshooting procedures.

If an error message appears such as 'E01' or 'E02,' you will need to clean the sensor inside the unit. To do this:

- Turn off the machine.
- Remove the cuvette tray

CHAPTER 10 HEMATOLOGYSection 8 Appendix

- Use a cotton swab moistened with water or a HemoCue cleaner. Squeeze out the excess water.
- Insert the swab into the machine; angle it up and down to get at the sensor.
- There may be dried blood that needs to be removed, which will make the swab reddish brown. Use additional cotton swabs to clean the unit until they come out clean.
- Let the unit air dry for 15 minutes. Insert the tray back into the machine, and turn it on. The three bars will display. If not, it may be time to refer to HemoCue's troubleshooting procedures.

