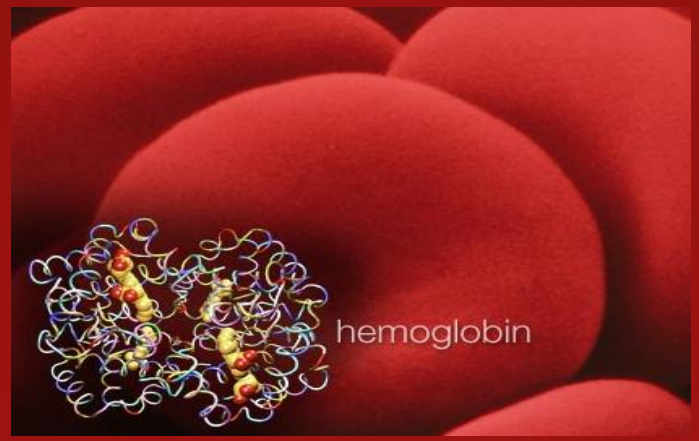


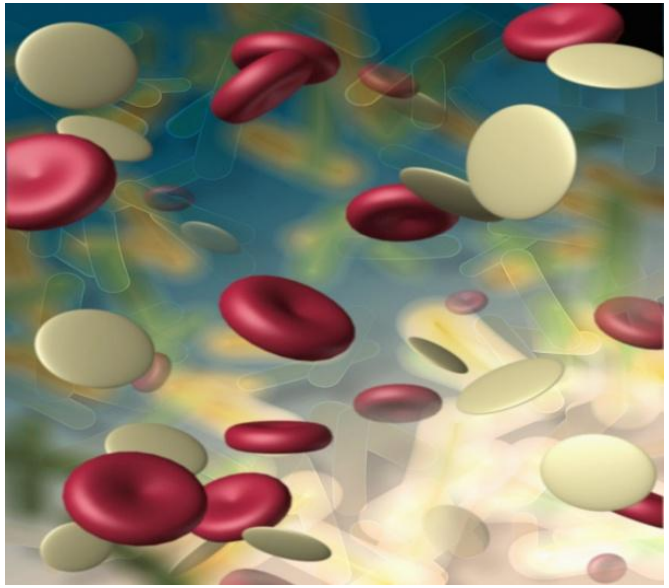
Hematological Assessment

Laboratory Training

Amanda Gallaher & Nancy Erickson

Iron Deficiency Anemia

- Iron needed to make hemoglobin (Hgb).
- Iron gives blood its red color.
- Reason WIC was thought of back in the 1960s and began in 1974.
- Most common cause of anemia.



Problems with Anemia

- Impaired energy metabolism.
- Difficulty regulating body temperature.
- Reduced immune function.
- Challenges with work performance.

Problems with Anemia Continued

- **In pregnancy:** Risk of premature birth, low birth weight (LBW), poor maternal weight gain, infant mortality.

- **In infants and children:** Delay in brain and motor development (even with mild anemia).

Other Issues

- Pica: Craving to eat unusual substances such as ice or dirt.
- Chronic anemia:
  - Delayed growth and development.
  - Permanent brain damage.
- Increases the risks of lead absorption.

When to Do Bloodwork: Infants

- **Infants**:
  - Test between 9 and 12 months of age.
  - If added before 9 months of age, test at the **one year** recertification visit.
  - If added after 9 months, test at the **initial** certification visit.



Guidance on Infant Testing

- A hematological test prior to the 9–12-month age is permitted if there are indications that infant is at risk for anemia:
  - Preterm infant.
  - Has not been fed iron-fortified formula or breastmilk.
  - Breastfed infant who has not had iron-containing complementary foods for age.

When to Do Bloodwork: C1

- **Children under Two Years**
  - Once between 13 and 24 months (prefer 6 months after the first test).
  - For most one-year-old (C1) clients, this will be at the 18-month mid-cert evaluation.
- **Two before Two**
  - 9-12 months.
  - 13-24 months.



When to Do Bloodwork: C2-C4

- Children 2-5 Years (C2-C4)
  - Once every 12 months if the previous result is above the cutoff level.
  - Once every 6 months if the previous result is below the cutoff level.



Summary: When to Test Infants and Children

- Around 12 months.
- Six months later.
- Then once a year if good.
- Every 6 months if the previous one is low.



When to Do Bloodwork: Women

- Pregnant clients:
  - Once during pregnancy.
- Postpartum clients:
  - Once after delivery.



Testing

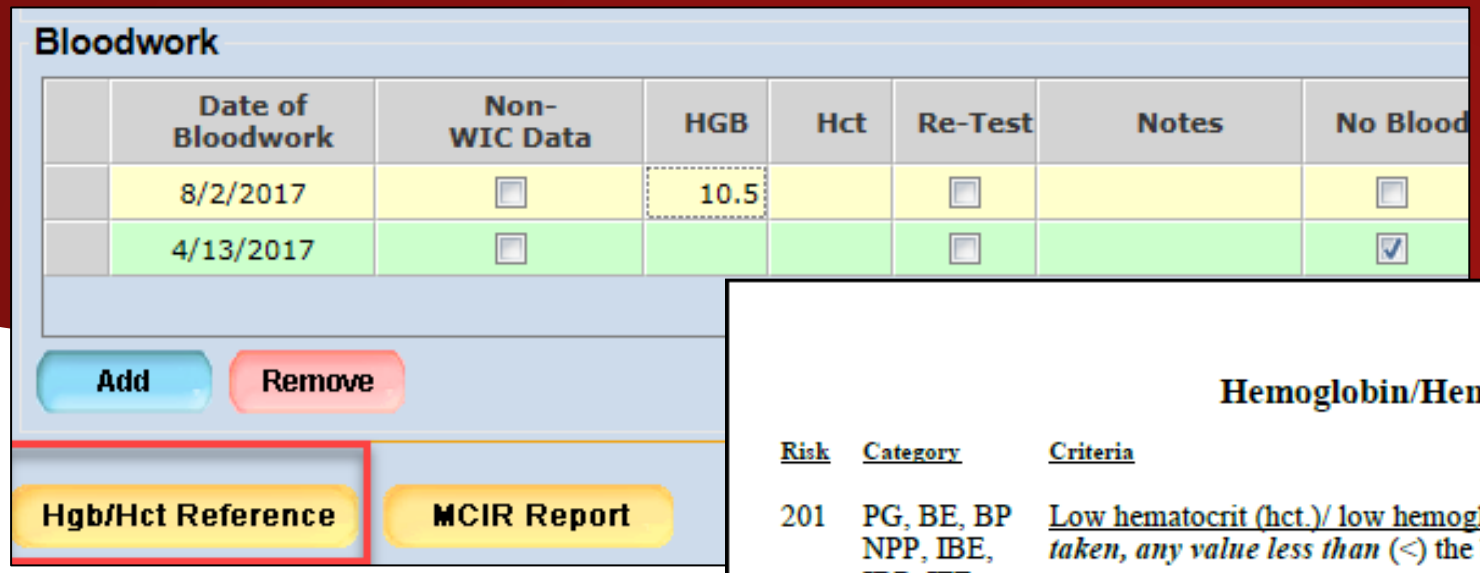
- WIC tests for low hemoglobin (Hgb), not iron deficiency anemia.
- Refer to health care provider when low (risk triggered).
  - Diagnosis by complete blood count (CBC).
  - Find underlying cause and treat it.



Hemoglobin (Hgb)

- Influenced by **age, sex, altitude, and smoking.**

Group	Normal Hgb Ranges
Newborn babies	17-22 g/dL
Children	11-13 g/dL
Adult women	12-16 g/dL



Cut-off values are available for reference from this button in MI-WIC.

Hemoglobin/Hematocrit Reference Values

Risk **Category** **Criteria**

201 PG, BE, BP NPP, IBE, IBP, IFF, C1 – C4

Low hematocrit (hct.)/ low hemoglobin (hgb.) cutoff value: ***At the time the blood test was taken, any value less than*** (<) the blood values listed in the following chart.

Note: For any woman who smokes the blood value criterion must be based on the number of cigarettes smoked and the trimester of pregnancy (if appropriate).

- One pack of cigarettes equals 20 cigarettes.

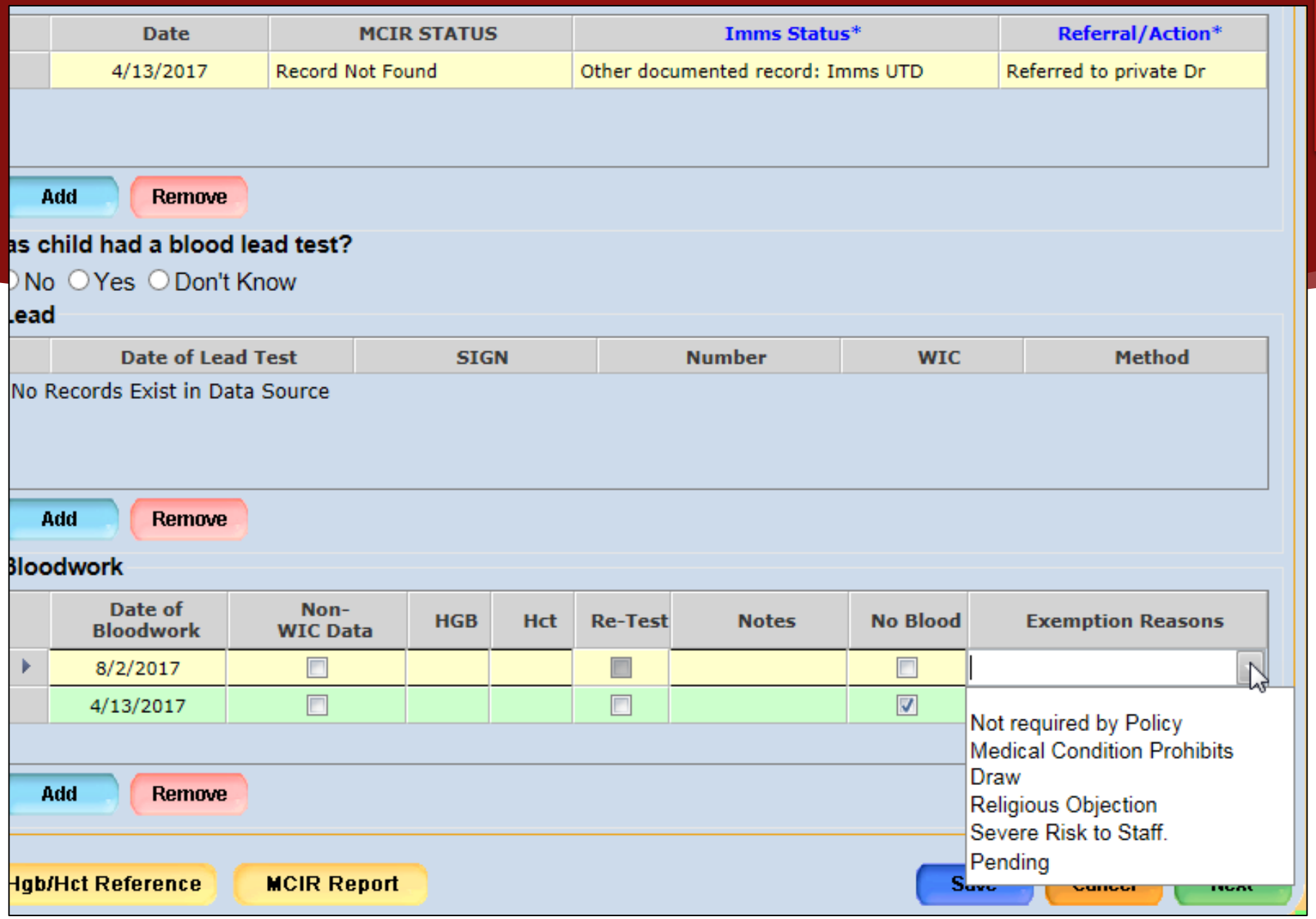
Status	Non-smoking		Any smoking up to 19 cigarettes/day		Smoking 20 to 39 cigarettes/day		Smoking 40 or more cigarettes/day	
	Hct.%	Hgb. gm.	Hct. %	Hgb. gm.	Hct. %	Hgb. gm.	Hct. %	Hgb. gm.
BE, BP, NPP - at/over age 15	<36.0	<12.0	<37.0	<12.3	<38.0	<12.5	<38.0	<12.7
BE, BP, NPP - under age 15	<36.0	<11.8	<37.0	<12.1	<38.0	<12.3	<38.0	<12.5
PG First trimester (0 thru 13 weeks)	<33.0	<11.0	<34.0	<11.3	<35.0	<11.5	<35.0	<11.7
PG Second trimester (14 thru 26 weeks)	<32.0	<10.5	<33.0	<10.8	<34.0	<11.0	<34.0	<11.2
PG Third trimester (27 weeks or more)	<33.0	<11.0	<34.0	<11.3	<35.0	<11.5	<35.0	<11.7

When to Test

Client Category	Non-smoking		Any smoking unknown quantity or up to 19 cigarettes/day		Smoking 20 to 39 cigarettes/day		Smoking 40 or more cigarettes/day	
	Hct	Hgb	Hct	Hgb	Hct	Hgb	Hct	Hgb
BE, BP, NPP - at/over age 15	<36.0	<12.0	<37.0	<12.3	<38.0	<12.5	<38.0	<12.7
BE, BP, NPP - under age 15	<36.0	<11.8	<37.0	<12.1	<38.0	<12.3	<38.0	<12.5
PG First trimester (0 through 13 weeks)	<33.0	<11.0	<34.0	<11.3	<35.0	<11.5	<35.0	<11.7
PG Second trimester (14 through 26 weeks)	<32.0	<10.5	<33.0	<10.8	<34.0	<11.0	<34.0	<11.2
PG Third trimester (27 weeks or more)	<33.0	<11.0	<34.0	<11.3	<35.0	<11.5	<35.0	<11.7
I 6 through 11 months	<33.0	<11.0						
C 12 through 23 months	<33.0	<11.0						
C 24 through 59 months	<33.0	<11.1						

Exemptions to Hematological Testing

- **Not Required by Policy:** At Cert and Eval when not required by policy.
- **Medical Condition Prohibits Draw:** E.g., osteogenesis imperfecta (brittle bone disease), hemophilia (excessive bleeding), serious skin conditions.
- **Religious Objections:** Relatively uncommon, most religions not opposed.
- **Severe Risk to Staff:** E.g., a child is kicking or would need to be held down.
- **Pending:** When making a lab appt. (such as remote appt. or child didn't come with parent). Schedule within 90 days or obtain referral data.



Adding a row is **not** required for infants less than 7 months of age.

Case Study

Bloodwork BD 8/29/22

	Date of Bloodwork	Non-WIC Data	HGB	Hct	Re-Test	Notes	No Blood	Exemption Reasons
	05/29/2026	☐			☐	3y 9m	☑	Not required by ...
	10/14/2025	☐	10.4		☐	3y 2m	☐	
	04/09/2025	☐			☐	2y 7m	☑	Not required by ...

	Hemoglobin/hematocrit

	Date	Detailed Description	
	10/14/2025	Low Hemoglobin/Hematocrit (201.01)	☐

Case Study Continued

Bloodwork BD 8/29/22

	Date of Bloodwork	Non-WIC Data	HGB	Hct	Re-Test	Notes	No Blood	Exemption Reasons
	06/03/2026	☐	12.8		☐	3y 9m	☐	
	05/29/2026	☐			☐	3y 9m	☑	Not required by ...
	10/14/2025	☐	10.4		☐	3y 2m	☐	

Client Agreement

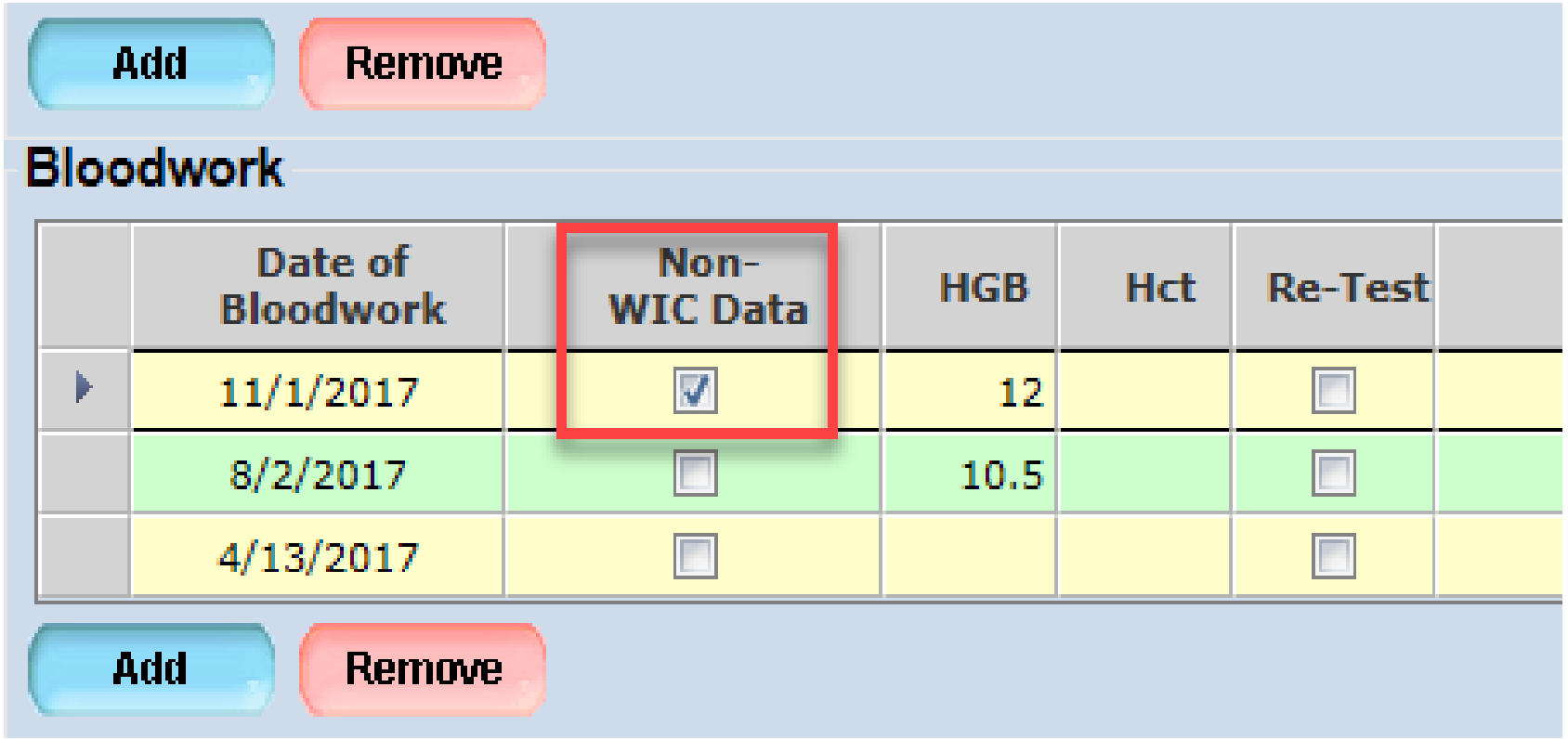
Consent to WIC health screening:

I will allow a WIC health screening for all WIC applicants in my family. WIC health screening includes answering health and diet questions, measuring height, weight and head size, and **testing blood for iron level**.

Referral Data

- Must be within specified time period for the client's category.
  - **Infants:** Test date between 9-12 months.
  - **1–2-year-olds:** Test between 13-24 months.
  - **Child >2 years:** Test within 6 months if below cutoff or test within last year if above cutoff.
  - **Pregnant:** Test during pregnancy.
  - **Postpartum:** Test after end of pregnancy.
- Must be received and documented within 90 days.
- The date of the test must be recorded in MI-WIC.

Non-WIC Data



Enter the date the bloodwork was done.

Form for Referral Data

WIC ANTHROPOMETRIC AND LABORATORY INFORMATION REQUEST

Michigan Department of Health and Human Services

Medical Provider: Please complete the information below based on most recent visit.

Client 1 Full Name	Date of Birth	Parent/Guardian Name

Length/Height (in/cm)	Date Taken
Weight (lb/kg)	Date Taken
Head Circumference (in/cm) (<24 months)	Date Taken
Hemoglobin or Hematocrit	Date Taken
Lead Test/Method	Date Taken

☐ Infants Only (if checked, complete)

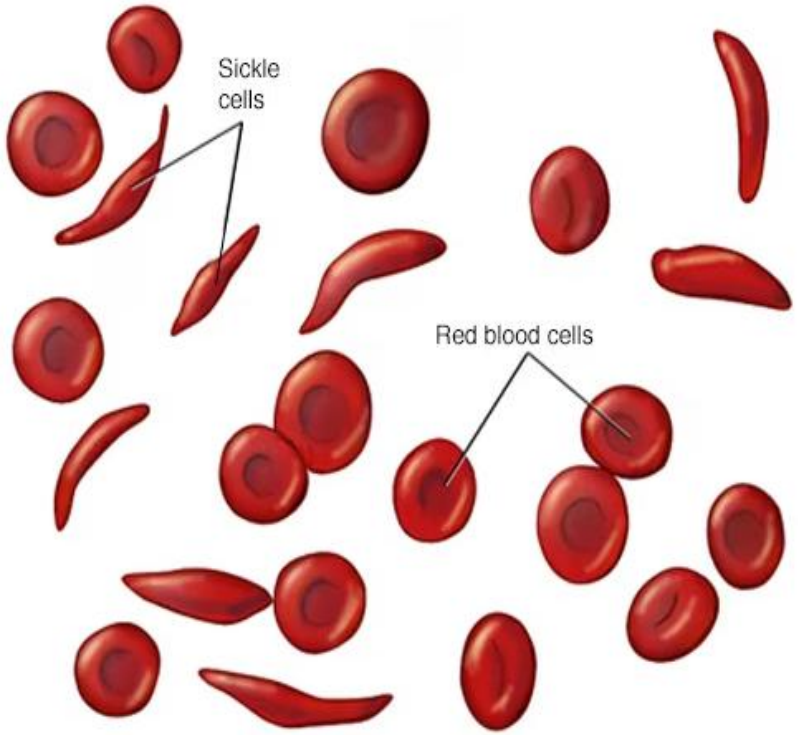
Birth Length	Birth Weight	Birth Head Circumference	Weeks' Gestation

Retesting

- State WIC Policy 2.16:
  - A critical hemoglobin result is <8 g/dL.
  - Use another finger, could use the other hand.
  - Document both tests in MI-WIC client record and HemoCue client log.

Sickle Cell Anemia

- Sickle shape that blocks small blood vessels and causes tissue damage and pain.
- Red blood cell lifespan is shortened from 120 days to 20 days.
- **Retest not required.**



Retesting: Explain Reason

Bloodwork

	Date of Bloodwork	Non-WIC Data	HGB	Hct	Re-Test	Notes	No Blood
2	02/05/2025	☐	8.9		☑	retest, first extremely low	☐
1	02/05/2025	☐	7.9		☐		☐
	08/13/2024	☐			☐		☑

Lab Appointment

- Use when unable to get bloodwork (or anthropometric data).
- Bring client in to do hemoglobin and/or anthropometrics.
- Obtain referral data.
- After data is entered, record must go to competent professional authority (CPA).
  - Assign risks and provide referrals.

Scenarios

Scenario 1	Scenario 2	Scenario 3	Scenario 4
New C1 client comes in at 8 months.	C2 client comes in with referral data from 4 months ago with hemoglobin of 10.0.	WIC staff test a pregnant client and her hemoglobin is 7.8.	Parent doesn't want their child to get a hemoglobin test because they're afraid the child will be upset.

What do you do next? How do you put it into MI-WIC?

Questions?

