Level 2 Hematology

The Basics

Level 2	All CPA's must complete
Type	Online – Workday Learning Oregon
Completion time	2 hours
Complete	Within 6 months of hire
Certifiers Guide	4-6: Hematology
Posttest	Online – Workday Learning Oregon
Completion	Form

Course Objectives

The ***Hematology*** online course focuses on the process WIC uses to collect and measure hemoglobin values. The following objectives are organized by the modules in which they are covered within this course. Upon completion of this course, learners will be able to:

Hematology Introduction

- Define hematology.
- Identify the standards WIC uses for collecting and measuring hemoglobin values.
- Define hemoglobin, hematocrit, and iron deficiency.
- State the two main purposes for measuring hemoglobin values.
- State when to collect hemoglobin values for WIC participants.
- Compare the results of hemoglobin tests to the standards listed on Risk 201.
- Identify the possible causes and consequences of iron deficiency anemia.

Hemoglobin Blood Test

- Practice universal precautions to prevent infection with contaminated blood.
- Identify when to wash your hands to help prevent blood-borne infection.
- State when to wear gloves to help prevent blood-borne infection.
- State the reason for following safety procedures when performing blood test and handling blood contaminated products.

- Identify the correct way to dispose of blood-contaminated products.
- Describe how to clean equipment and work surfaces.
- Identify the proper procedure for cleaning up blood spills.
- State actions to take immediately if you prick yourself with a used needle or lancet or if some participant's blood touches a cut or break in your skin.
- Identify correct techniques for obtaining a capillary blood sample.
- Explain how to increase test accuracy through adequate blood flow.
- Name the equipment your clinic uses to do a hemoglobin test.
- List ways to prevent cuvettes from being damaged by light, moisture, or extreme temperatures.
- Identify the correct techniques for performing a hemoglobin test.
- List possible sources of error in performing the hemoglobin test.
- Identify the quality control and assurance procedures used in your clinic.
- Make appropriate referrals for participants with abnormal hemoglobin results.
- Test the hemoglobin of a woman, infant, and child, using correct and safe techniques.

Learning activities

Module 1: Hematology Introduction

- Low hemoglobin values are associated with nutrition risks. Review Risk Info Sheet 201 with the learner and discuss when it is appropriate to refer the participant to the WIC nutritionist or their health care provider.
- Discuss with the learner your agency's follow up procedure for participants with low hemoglobin values.
- Review with the learner the Standing Orders: Hemoglobin Screening in WIC from Policy 626.

Module 2: Hemoglobin Blood Test

- Review Policy 626 with the learner, highlighting specifically:
    - The process for the maintenance and cleaning of hematologic equipment.
    - Proper use of microcuvettes, including monitoring room temperature where stored.
    - The appropriate puncture sites.
    - The blood collecting exceptions.
    - The disposal of blood collecting supplies.
- Demonstrate for the learner how to perform this test on women, infants and children.

- Wash hands and put on gloves.
- Gather supplies.
- Turn on HemoCue and move to loading position.
- Make sure participant's hand is warm and relaxed (Can warm by having participant warm hand in their armpit or hold hand under warm water).
- Use only the ring or middle fingers (or heel on infants not walking).
- Clean the testing site on finger or heel using an antiseptic pad and allow to dry.
- Take microcuvette out of container and reclose container completely.
- Hold the finger at the top knuckle and lightly press toward the tip.
- Prepare the lancet and puncture the finger on the side of the pad.
- Wipe away the first 2-3 drops of blood. (This assures interstitial fluid isn't diluting the sample.)
- Lightly press to get a drop of blood about the size of a split pea.
- Fill the cuvette in one continuous motion.
- Wipe off excess blood from the side of the cuvette.
- Check that the blood completely fills the cuvette. If not, start over.
- Place the cuvette in the HemoCue 301 within 40 seconds and close the door.
- Read and record the result before opening the door.
- Bandage the finger if needed.

- Have the learner practice performing the test and explain hematology results to you.
- Observe the learner performing the test and explaining hematology results to:
  - Women
  - Infants
  - children
- Review with the learner your agency's protocol for handling accidental exposure to blood or sharps.

Posttest Questions and Answers

Posttest automatically scored online. There are 20 questions.

1. True or False: Hematology is best defined as the study and assessment of sickle cell anemia.
   b. False

2. True or False: If a participant refuses the hemoglobin test based on religious beliefs, they can still be certified.
   a. True

3. The substance in the red blood cell that is responsible for the red blood cell's color and its ability to pick up oxygen from the lungs is:
   c. Hemoglobin

4. What is the most common form of anemia among WIC participants?
   d. Iron Deficiency

5. True or False: Tiredness, weakness, and pale skin are all symptoms of anemia.
   a. True

6. What is the most common cause of iron-deficiency anemia?
   b. Low intake of iron-rich foods

7. Foods that contain _____ enhance iron absorption when eaten in the same meal.
   c. Vitamin C

8. High hemoglobin levels could be caused by:
   b. Living at high altitude
   c. Smoking

9. True or False: A low hemoglobin value means that your WIC participant is diagnosed with anemia.
   b. False

10. True or False: Work surfaces need to be cleaned at the end of the day, and may be cleaned in between participants also.
    a. True

11. How long can the container of cuvettes for the Hemocue 301 be used if they are stored at the correct temperature?
    c. 24 months after opening or until the manufacturer's expiration date, whichever is first

12. True or False: When wiping the excess blood off the outside of the cuvette, it's important NOT to touch the open-ended area, as this could pull some of the blood sample out.
    a. True

13. Which of the following indicates that the HemoCue machine is functioning normally when it's turned on?
    d. Three flashing bars

14. After placing your thumb and index finger at the last knuckle of the participant's finger, what is the next step to prime the finger?
    a. Lightly press toward the finger tip.

15. True or False: The site used for the hemoglobin test should be roughly halfway between the finger pad and the nail bed, on the side of the finger pad.
    a. True

16. True or False: Use only the middle or ring finger (when there are no rings on the fingers) for a finger stick.
    a. True

17. True or False: If the cuvette is not filled all the way, add more blood from a second drop of blood.
    b. False

18. How many drops of blood need to be wiped off prior to taking the sample of blood?
    a. 2-3

19. What are the TWO things you should do immediately after being stuck with a used lancet?
    c. Clean with soap and water
    d. Report the accident to your supervisor

20. True or False: It is okay to use the same gloves for all participants in the same family.
    b. False