### HemoCue Hb 201+: Patient Test Procedure

#### PURPOSE:
This procedure provides instructions for patient testing of Hemoglobin using the HemoCue Hb 201+ analyzer.

#### REQUIRED MATERIALS:
1. HemoCue Hb 201+ Analyzer, AC adapter, 4 type AA batteries
2. HemoCue Hb 201 Microcuvettes (Vial or Individually packaged)
3. Lint free tissue
4. Microcollection lancing device
5. Disinfectant swab (70% isopropyl alcohol in 2% Chlorhexidine)
6. Sterile gauze (2 X 2)
7. Gloves

#### PROCEDURE:

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Related Documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Assemble Materials on workspace</td>
<td>HemoCue Hb 201+: Appendix A - Quality Control Solution</td>
</tr>
<tr>
<td>2.</td>
<td>Place gloves on.</td>
<td>HemoCue Hb 201+: Appendix A - Quality Control Solution</td>
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<tr>
<td>3.</td>
<td>Obtain HemoCue Hb 201+: Form A - Result Record Form. Confirm:</td>
<td>HemoCue Hb 201+: Appendix A - Quality Control Solution HemoCue Hb 201+: Form A - Result Record Form</td>
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<tr>
<td></td>
<td>- HemoCue Hb 201 Microcuvettes Lot # and expiry is current.</td>
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<td></td>
<td>- Quality Control Levels Low, Normal, and High are performed on day of patient testing. Results are within range.</td>
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<tr>
<td>4.</td>
<td>Identify patient. Use a minimum of two identifiers.</td>
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<td>- name, date of birth, patient identifier number if available.</td>
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<td></td>
<td>- Document on record form.</td>
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<td>5.</td>
<td>Turn HemoCue HB 201+ ON</td>
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<tr>
<td></td>
<td>- Press and hold the left button to activate the display (ON/OFF)</td>
<td>ON/OFF BUTTON</td>
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<td></td>
<td>- Display shows the version number of the program</td>
<td></td>
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<tr>
<td></td>
<td>- All symbols appear on the display.</td>
<td>Previous RESULT</td>
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<td></td>
<td>- The analyzer verifies the optic and electronic performance.</td>
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<td></td>
<td>- HemoCue displays previous result.</td>
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</table>
6. **Prepare HemoCue for loading a microcuvette**

- Pull the microcuvette holder out
- After 10 seconds the display will show three flashing dashes and the Hemoglobin symbol
- Indicates that self test is passed.
- If the Self Test fails note error code. Do not proceed with patient testing.

7. **Obtain HemoCue Microcuvette. Open packaging just before use.**

- Obtain microcuvette from room temperature storage (15-30°C)
- Confirm Lot # and Expiry date with Record Form.
- Handle microcuvette opposite to fill end.
- Place on clean working surface.

8. **Obtain capillary skin puncture device. Use appropriate device as per age of patient.**

9. **Perform capillary skin puncture**

- Patient’s hand is warm and relaxed.
- Use only the middle three fingers.
- Clean the finger with disinfectant.
- Allow to air dry.
- Place skin puncture device on the side of the fingertip, not in the center.
- Apply slight pressure to tip of finger and make the puncture.
- Wipe away the first 2 to 3 drops of blood.
- Re-apply light pressure towards the fingertip until another drop of blood is formed.

10. **Filling the microcuvette with patient sample**

- When blood drop is large enough, fill the microcuvette in one continuous process.
- DO NOT REFILL.
- Wipe off excess blood from outside of the microcuvette.
- Use lint free tissue.
11. **Hemoglobin measurement.**

- Place the filled microcuvette in the cuvette holder.
- Within 10 minutes of filling the microcuvette if there is a delay.
- Gently slide the cuvette holder to the measuring position.
- During the measurement the hourglass symbol will display.

**Hemoglobin Result**

- Hemoglobin value is displayed after 15-60 seconds.
- The result will remain on the display as long as the cuvette holder is in the measuring position.
- Do Not open the cuvette holder until the result is documented.
- If using batteries, the analyzer will automatically turn off after 5 minutes.

*Note: If the analyzer turns off automatically — turn the analyzer ON — the result displayed would be the current patient result.*

12. **Hemoglobin Result Recording**

- On the Patient/QC Record Sheet include:
  - Hemoglobin value (g/L)
  - date/time performed.
  - Operator Identifier

13. **Hemoglobin Result Review**

**Hemocue Hb 201+ expected values (as per manufacturer guidelines):**

- Adult males: 130-170 g/L
- Adult females: 120-150 g/L
- Infants, after neonatal period 110-140 g/L
- Children 2-18 years: gradual increase to adult ranges. See Reference Hospital Ranges Appendix G
- Critical values: <90 g/L or > 170 g/L

Repeat any unexpected values or critical values.
- Confirm with reference laboratory. Notify physician.
15. **Discard Microcuvette**

Discard microcuvette

- Appropriate waste container for infection control.
- Clean cuvette holder if contamination is visible with disinfectant wipe.
- Cuvette holder is cleaned after each day of use.

REFERENCES

info@hemocue.se  www.hemocue.com


HemoCue Hb 201 Microcuvettes, Package Insert. HemoCue AB, Box 1204 SE-262 23 Angelholm, Sweden. info@hemocue.se  www.hemocue.com

Eurotrol HemoTrol, Assayed Controls for In Vitro Diagnostic Use, Package Insert. Eurotrol B.V. Postbus 722 6710 BS Ede, The Netherlands  office@eurotrol.com  www.eurotrol.com

REVISION & APPROVAL LOG

<table>
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<th>Version</th>
<th>Revision Type</th>
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<tr>
<td>1.0</td>
<td></td>
<td>New document</td>
<td>Jun 2012</td>
<td>Elvira Kozak</td>
<td>Dr. Cathy Halstead</td>
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<tr>
<td>1.1</td>
<td>Minor</td>
<td>Document title and number change. Upload to QMS document control</td>
<td>28 Dec 2016</td>
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<td>Dr. Benjamin Jung</td>
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