



### HemoCue Hb 201+: Quick Reference Guide

**Hemocue Hb 201+ Quality Control (QC) is performed daily with patient use. Monthly when not in use.**


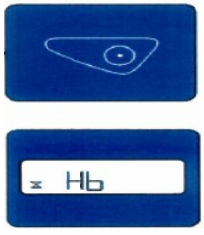

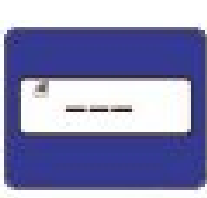
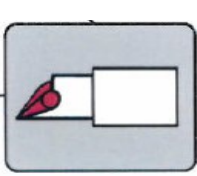
 <p><b>Hemocue Hb Microcuvettes</b></p>	 <p><b>EuroTrol HemoTrol QC Levels 1,2,3</b></p>	<p><b>QC is completed within previous 24 hours then:</b></p> <ul style="list-style-type: none"> <li>• Proceed to Patient Testing Steps 1-12 &amp; 15-19</li> </ul> <p><b>QC is not complete then:</b></p> <ul style="list-style-type: none"> <li>• Proceed to QC Testing Steps 1-5 &amp; 13-19.</li> <li>• QC solutions Level 1(Red); Level 2 (White); and Level 3 (Blue).</li> <li>• QC (3 levels) are within range before proceeding to patient testing.</li> <li>• Document QC results on the Hemocue Hb 201+ Record</li> </ul> <p><i>Note: Hemocue Hb Microcuvettes in singles is preferred at C&amp;W.</i></p>
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#### Hemocue Hb 201+ Patient Test






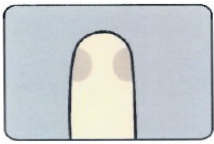
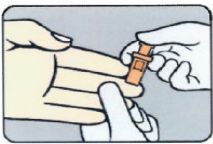

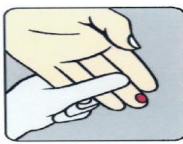
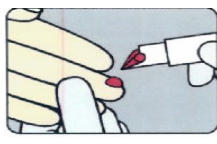
- Obtain Hemocue Hb 201+ Analyzer, Microcuvettes & Record Form.
- Check that Hemocue Hb 201+ Microcuvettes are the Lot # in use & within expiry date.

#### Patient & QC Testing - Ready Hemocue Hb 201+ # 1-5

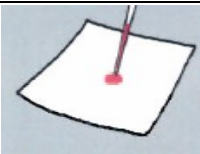
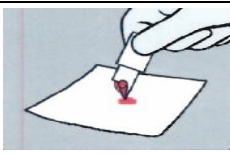
**Note: For Patient Testing, prepare analyzer before proceeding with Steps 1-5.**


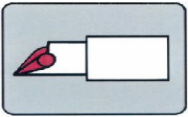



<p><b>1</b></p> 	<p><b>2</b></p> 	<p><b>3</b></p> 	<p><b>4</b></p> 	<p><b>5</b></p>  <p>Use within 5 minutes</p>
<p>Use AC Adaptor or Batteries – 4 X type AA</p>	<p>Turn ON. Previous Result is briefly displayed before “Hb” symbol.</p>	<p>Prepare analyzer to load Pull out microcuvette tray</p>	<p>In 10 seconds display shows 3 flashing dashes. Self Test is passed.</p>	<p>Obtain Microcuvette from vial or individual package. Close vial lid immediately.</p>

#### Patient Test – # 6-12, # 15-19

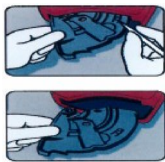
<p><b>Safe-T-Lance – Purple</b></p> 	<p><b>Safe-T-Lance – Blue</b></p> 	<p><b>Safe-T-Lance – PINK</b></p> 	<p><b>6</b></p> 	<p><b>7</b></p> 
<p><b>Infant Heel</b> 1.6 mm depth x 1.5 mm width</p>	<p><b>Pediatric Finger</b> &gt; 6 months &amp; &gt; 5 kg 1.4 mm depth X 25 gauge</p>	<p><b>Finger &gt; 8 yr – adult.</b> 1.2 mm depth x 1.5 mm width</p>	<p>Patient hand is warm. Use middle three fingers. Clean with disinfectant</p>	<p>Allow to air dry. Apply slight pressure on fingertip.</p>
<p><b>8</b></p> 	<p><b>9</b></p> 	<p><b>10</b></p> 	<p><b>11</b></p> 	<p><b>12</b></p> 
<p>Choose puncture site. Puncture on side of fingertip and avoid nail bed.</p>	<p>Obtain puncture device as per age of patient. Make the puncture. Discard in sharps biohazard waste.</p>	<p>Wipe away the first two to three drops of blood with 2X2 gauze.</p>	<p>Re-apply light pressure to the fingertip until another drop of blood is formed.</p>	<p>Touch open end of the microcuvette to drop of blood. Fill in one continuous process. 10 uL</p>

#### Quality Control (QC) Test (Levels 1, 2 & 3 are within QC range before patient testing.)

<p><b>Prepare QC solution:</b></p> <ul style="list-style-type: none"> <li>• Obtain 3 Levels QC solution.</li> <li>• Obtain separate parafilm square for each QC.</li> <li>• QC is at room temperature before use.</li> <li>• Check Lot # &amp; Expiry Date; is current &amp; in use.</li> <li>• Mix well just before use.</li> </ul>	<p>Dispense first drop onto a tissue. Dispense second drop onto parafilm square.</p> <p>Touch open end of a microcuvette to QC drop. Fill in one continuous process.</p>	<p><b>13</b></p> 	<p><b>14</b></p>  <p><b>DO NOT REFILL microcuvette</b></p>
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<b>Hemoglobin Measurement: Hb g/L @ 15-60 sec. Critical Values &lt;90g/L or &gt;170g/L</b>				
<b>15</b> 	<b>16</b> 	<b>17</b> 	<b>18</b> 	<b>19</b> 
Wipe off excess blood from outside of the microcuvette. Use lint free tissue. Avoid touching the open end with tissue.	Cuvette area is free of smudges, debris, or blood. Look for air bubbles. Discard if present. Small bubbles at the edge are ok	Microcuvette is ready to place into the Hemocue. Place into cuvette holder within 10 minutes of filling with whole blood or QC.	Three dashes are present on the screen. Push cuvette holder in to measure Hb. Document results before opening.	Hb g/L @ 15-60 sec. Repeat unexpected or Critical Values Confirm with Lab & notify Physician.

<b>Troubleshooting Guide</b>		
<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
Analyzer shows an error code	May be temporary.	Turn analyzer off. Turn on after 30 seconds. Take a new microcuvette, repeat the measurement. If the problem continues, see the specific error code below.
Quality Control(QC) is out of range too HIGH or too LOW	Microcuvettes > expiry date, damaged or improperly stored. Optical eye of the microcuvette is contaminated. QC not mixed properly/ not at room temperature. Air bubbles in the cuvette Optronic unit is dirty. Calibration of analyzer changed. QC > expiry date, damaged or improperly stored.	Check microcuvette expiry date and storage conditions Check QC expiry date and storage conditions Repeat with new microcuvette QC is mixed well and at room temperature before repeat. Check microcuvette for bubbles Clean optronic unit. Analyzer requires service
HHH	Measured value > 256 g/L	Repeat with new microcuvette Confirm with laboratory method.
Patient measurements either higher or lower than anticipated.	Improper sampling technique Microcuvettes > expiry date, damaged or improperly stored Optical eye of the microcuvette is contaminated Air bubbles in the cuvette Optronic unit is dirty. Calibration of analyzer changed.	Review collection procedure. Puncture site not dry from disinfectant, wipe away 2 to 3 drops before collecting sample. Check microcuvette expiry date and storage conditions Repeat with new microcuvette Clean optronic unit. Analyzer requires service
E00	No stable endpoint found in the time range. <ul style="list-style-type: none"> <li>• Cuvette faulty</li> <li>• Circuit board is faulty</li> </ul>	Check microcuvette expiry date Repeat with new microcuvette Analyzer requires service.
E01-E05 E09-E30	Dirty Optronic unit or faulty electronic or optronic unit	Turn OFF analyzer. Clean Optronics. Analyzer requires service.
E06	Unstable blank value. Analyzer may be cold	Turn OFF analyzer. Allow to reach operating temperature (15-30°C).
E07	Battery power is too low.	Turn OFF analyzer. Replace batteries – 4 type AA Use power adaptor if necessary.
E08	Absorbance is too high. Item is blocking the light in the cuvette holder.	Check that analyzer and microcuvettes are being used according to instruction. Analyzer requires service.
No characters on the display Display shows	Analyzer not receiving power. Display is out of order.	Check power adaptor connection. Check for cable damage. Turn OFF analyzer. Replace batteries – 4 type AA Analyzer requires service.
Display gives erroneous characters	Display is out of order. Microprocessor is out of order.	Analyzer requires service
Display does not switch to three flashing dashes and ready for measuring	Magnet in cuvette holder may be missing. Magnetic sensor is out of order.	Analyzer requires service.

Biological / Reference Ranges	Maintenance -
<p><b>Hemocue Hb 201+ expected values:</b></p> <ul style="list-style-type: none"> <li>Adult males: 130-170 g/L</li> <li>Adult females: 120-150 g/L</li> <li>Infants, after neonatal period 110-140 g/L</li> <li>Children 2-18 years: gradual increase to adult ranges.</li> <li>Critical values: &lt;90 g/L or &gt; 170 g/L</li> </ul> <p>Repeat any unexpected values or critical values.                      Confirm with reference laboratory. Notify physician.</p>	<p><b>Clean Exterior surface daily or as required.</b></p> <ul style="list-style-type: none"> <li>2% Chlorhexidine in 70% isopropyl alcohol</li> <li>Caviwipes</li> </ul> <p style="color: red;"><b>Caution: Do not use any other brand of disinfectant wipes.</b></p>
	<div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p><b>Clean Cuvette Holder –</b></p> <ul style="list-style-type: none"> <li>Clean daily or as required.</li> <li>Hemocue Hb 201+ is OFF</li> <li>Pull cuvette holder out.</li> <li>Wipe clean with disinfectant wipe</li> <li>Wipe with tissue moistened in water</li> <li>Wipe dry with tissue.</li> </ul> </div> </div>
<p><i>For a replacement Hemocue Hb 201+, or additional supplies contact @ Children's &amp; Women's Hospital</i></p> <ul style="list-style-type: none"> <li>M – F: Point of Care Technologist Room 2J8. 604-875-2345 ext: 7521 Pager: 41-02190.</li> <li>Off hours: Chemistry Lab Technologist Room 2F17 604-875-2345 ext: 7820</li> </ul>	

**REFERENCES**

HemoCue Hb 201+ Operating Manual. HemoCue AB, Box 1204 SE-262 23 Angelholm, Sweden.  
[info@hemocue.se](mailto:info@hemocue.se) [www.hemocue.com](http://www.hemocue.com)

HemoCue Hb 201 Microcuvettes, Package Insert. HemoCue AB, Box 1204 SE-262 23 Angelholm, Sweden.  
[info@hemocue.se](mailto:info@hemocue.se) [www.hemocue.com](http://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](mailto:office@eurotrol.com) [www.eurotrol.com](http://www.eurotrol.com)

**REVISION & APPROVAL LOG**

Version	Revision Type	Description of Change	Revision Date	Technical Approval	Medical Approval
1.0		New document	Jun 2012	Elvira Kozak	Dr. Cathy Halstead
1.1	Minor	Document title and number change. Upload to QMS document control	28 Dec 2016		Dr. Benjamin Jung

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