

## **Measuring Hemoglobin with Pronto**

### **A. PURPOSE OF PROCEDURE:**

The following is a standardized process to measure hemoglobin using Pronto for the most accurate results. A successful test is dependent upon several factors including:

- Place the sensor on a site (finger for adult, thumb for child) that has sufficient perfusion with proper alignment of the sensor lights;
- Place the sensor on a site that has unrestricted blood flow; and
- Do not secure the sensor with tape.

### **B. SCOPE OF THE PROCEDURE:**

The following provides the steps for measuring accurate levels of total hemoglobin in blood using Pronto. Causes of inaccurate measurements include:

- Intravascular dyes such as indocyanine green or methylene blue,
- Externally applied coloring (i.e. nail polish),
- Elevated levels of Bilirubin,
- Low arterial perfusion,
- Motion artifact,
- Low arterial oxygen saturation levels,
- Hemoglobin synthesis disorder,
- Hemoglobinopathy,
- Peripheral vascular disease, or
- EMI radiation interference.

### **C. GENERAL PROCEDURE:**

The specific steps below should be followed during every hemoglobin screening using Pronto.

**Step**    **ACTION** \_\_\_\_\_

1	<p>Ensure that the participant is seated comfortably in a chair with their arm resting on a table.</p> <p>If testing a child, have the parent/guardian hold the child on their lap and gently hold the child’s hand and sensor to keep it still. (The hemoglobin measurement accuracy may not be reliable if there is excessive motion by the participant. The excessive motion changes the physiological parameters such as blood volume and arterial-venous coupling that occurs during motion.)</p> <p>It is important that the participant sits quietly during the reading. The participant (especially children) should also be instructed to hold their finger or thumb as still as possible during the reading.</p>
2	<p>Select a pediatric or adult sensor for the participant. To use the pediatric sensor the participant must weigh at least 22 pounds.</p>
3	<p>Connect the reusable sensor to the sensor port. Turn on the instrument. When the screen displays it is ready for testing to begin.</p>
4	<p>Place the sensor on the participant finger. The participant’s finger that is used must be large enough to cover all lights within the sensor to accurately work. For a child place the sensor on their thumb.</p> <p>(Excessive ambient light such as sunlight may cause inaccurate readings. Do not have the sensor placed in an area receiving direct sunlight during testing.)</p>
5	<p>Begin the test and wait for the timer to countdown until complete. When the test is successful there will be an audible tone and the screen will display results.</p>
6	<p>If results displayed are inconsistent with participant observed clinical status, repeat the test or test with HemoCue.</p>
7	<p>Record results in the data system and explain the results.</p>
8	<p>Wipe down the sensor site with a 70% isopropyl alcohol pad.</p>