Standardisation exercise

The suggested practical exercise described below is not a true standardisation test, however it will help you standardise the way the Hb measurements are taken and select the best Hb measurers. If you have time to conduct a standardisation test, refer to the following publication: Burger S and Pierre-Louis J. A procedure to estimate the accuracy and reliability of HemoCue™ measurements of survey workers. ILSI. 2003

Typically, a training on haemoglobin measurement will contain between 5 to 12 members. For the standardisation exercise, each trainee should take two measurements (i.e. filing out two microcuvettes from two different blood drops-blood drop #3 and #4) from two different finger sticks from a minimum of 3 fellow trainees. Use the table below to write down the results and assess the quality of the Hb measurements.

**Form for standardiSation exercise**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Volunteer name** | **Assessing** **how good the trainee is at filling up the microcuvette** | | | | | | | | **Assessing how good the trainee is at finger sticking** | |
| **Finger 1** | | | | **Finger 2** | | | |
| C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 |
| **Blood drop #3** | **Blood drop #4** | **C1- C2** | **Potential reasons for difference ≥ (+/-) 0.5 g/dL** | **Blood drop #3** | **Blood drop #4** | **C5-C6** | **Potential reasons for difference ≥ (+/-) 0.5 g/dL** | **C1-C5** | **Potential reasons for difference ≥ (+/-) 0.5 g/dL** |
| **1** |  |  |  |  |  |  |  |  |  |  |
| **2** |  |  |  |  |  |  |  |  |  |  |
| **3** |  |  |  |  |  |  |  |  |  |  |

**Example of a filled out form**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Volunteer name** | **Assessing** **how good the trainee is at filling up the microcuvette** | | | | | | | | **Assessing how good the trainee is at finger sticking** | |
| **Finger 1** | | | | **Finger 2** | | | |
| C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 |
| **Blood drop #3** | **Blood drop #4** | **C1- C2** | **Potential reasons for difference ≥ (+/-) 0.5 g/dL** | **Blood drop #3** | **Blood drop #4** | **C5-C6** | **Potential reasons for difference ≥ (+/-) 0.5 g/dL** | **C1-C5** | **Potential reasons for difference ≥ (+/-) 0.5 g/dL** |
| **1** | 9.4 | 9.7 | -0.3 | - | 9.7 | 9.3 | 0.4 | - | -0.3 | - |
| **2** | 11.0 | 11.6 | **-0.6** | 2nd microcuvette not completely filled | 11.3 | 11.0 | 0.3 | - | -0.3 | - |
| **3** | 10.9 | 12.2 | **-1.3** | 2nd microcuvette not completely filled | 11.6 | 11.9 | -0.3 | - | **0.7** | Squeezed finger 1 while filling microcuvette |
| **4** | 12.6 | 12.5 | 0.1 | - | 11.8 | 12.4 | **-0.6** | Air bubbles in 1st microcuvette | **0.8** | Air bubbles in finger 2 microcuvette |
| **5** | 10.0 | 12.8 | **-2.8** | Alcohol not dry before filling 1st microcuvette | 13.3 | 13.0 | 0.3 | - | **-3.3** | Alcohol not dry before filling microcuvette on finger 1 |