By the end of this session you should be able to:

- Demonstrate how to run the QC reagents on the SDB Biosensor G6PD analyzer
- Determine whether G6PD analyzers are operating properly
Why undertake quality control?

- Ensure that results generated by the Qn-G6PD analyzers are consistent and as accurate as possible.
- Promotes confidence by health workers in results of the Qn-G6PD results.
When to undertake quality control?
Prepare all components needed for testing

- Control pellet (Level 1)
- Control pellet (Level 2)
- Extraction buffer
- Sample collector (STANDARD™ Ezi Tube+)
- Analyzer
- Test device
- Code chip
Test procedure

- Insert test device into analyzer

- Press left button until you see ‘C’. This starts the control mode

- Put level 1 control pellet into the buffer

- Mix with sample collector 8-10 times
Test procedure

- Collect control sample with a NEW sample collector. Draw sample up to black line.
- Apply the control sample to the hole in the test device
- Close analyser flap and wait for 2 minutes. Record results on the analyzer stock card
- Repeat these steps with Level 2 control
Control results interpretation

This table shows the control ranges for G6PD and haemoglobin.

- You need to check whether your results fall within the ranges of the numbers presented in the table.

<table>
<thead>
<tr>
<th>Control levels</th>
<th>G6PD</th>
<th>T-Hb</th>
</tr>
</thead>
<tbody>
<tr>
<td>G6PD Control Level 1</td>
<td>0.1–3.0 IU/g Hb</td>
<td>7.0–12.0 g/dL</td>
</tr>
<tr>
<td>G6PD Control Level 2</td>
<td>6.0–17.0 IU/g Hb</td>
<td>13.0–20.0 g/dL</td>
</tr>
</tbody>
</table>
Control results interpretation

**Example 1**

<table>
<thead>
<tr>
<th>G6PD Control Level 1</th>
<th>G6PD Control Level 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>*G6PD - 2.0 IU/g Hb</td>
<td>*G6PD - 15.0 IU/g Hb</td>
</tr>
<tr>
<td>*Hb - 9 g/dL</td>
<td>*Hb – 15 g/dL</td>
</tr>
</tbody>
</table>

**Example 2**

<table>
<thead>
<tr>
<th>G6PD Control Level 1</th>
<th>G6PD Control Level 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>*G6PD - 2.5 IU/g Hb</td>
<td>*G6PD – 6.5 IU/g Hb</td>
</tr>
<tr>
<td>*Hb – 10.1 g/dL</td>
<td>*Hb – 19.2 g/dL</td>
</tr>
</tbody>
</table>
What to do if there is a control failure

- Check to ensure that the analyser is in control mode. You should see a letter ‘C’ on the screen.

- If the analyser is not in control mode, re-run the controls with the device in control mode.

- Reset the analyser with the check strip: switch on the analyser and press left and right button together for 3 seconds to enter the check strip modem.
What to do if there is a control failure

- When the ‘CHE’ appears on the screen, insert the check strip and wait 10 seconds

- If there is a problem with the analyser, ‘EEE’ error message will appear on the screen. If the analyser is working correctly ‘OK’ message will appear

- Re-run the control

- If the second run fails, contact… [XXXX]
Control canister storage

- Correct storage of the controls is essential; please ensure the following:
  
  - Close the lid of the G6PD control canisters tightly
  - Store away from the sun (in a shaded place or in the refrigerator)
G6PD control demonstration

- Split into groups of 3-5 people
- 15 mins test demonstration
Key points to remember:

• Be sure to run Controls level 1 **AND** 2 to determine if analyzer is running normally
• Advise health worker’s not to use the analyzer if it fails two control runs

Any questions?