

How to perform a control of quantitative G6PD test – Part 1a THEORY

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

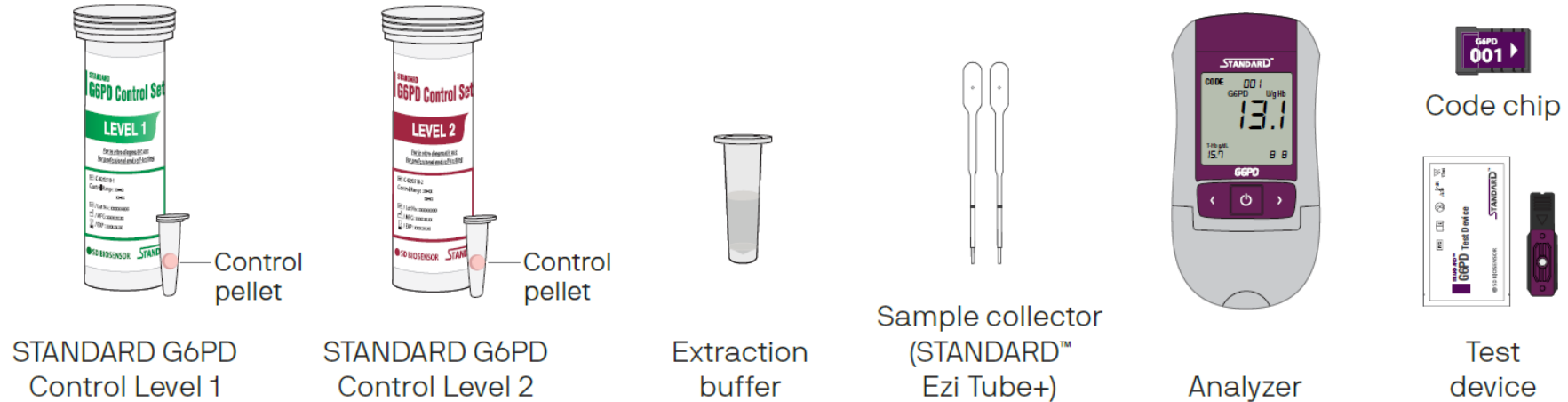
- Demonstrate how to run the QC reagents on the SDB Biosensor G6PD analyzer
- Determine whether G6PD analyzers are operating properly

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?

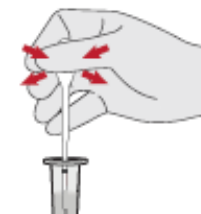
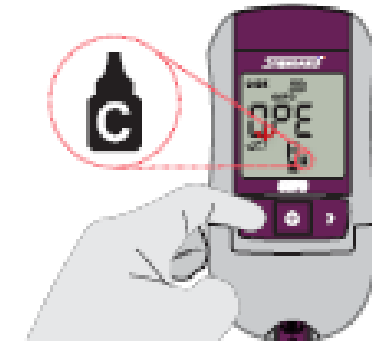
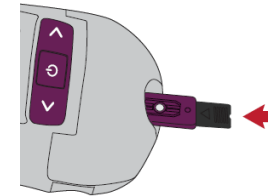
Prepare all components needed for testing



Test procedure

Control test procedure steps

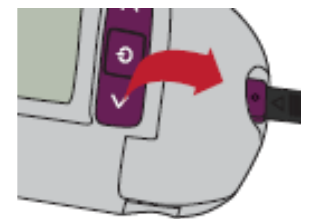
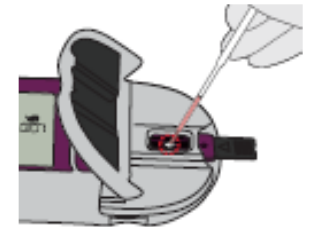
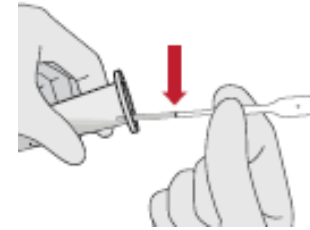
- Insert test device into analyzer
- Press left button until you see 'C'. This starts the control mode
- Put level 1 control pellet into the buffer
- Mix with sample collector 8-10 times



Test procedure

Control test procedure steps

- 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

Control test procedure steps

Control ranges

	G6PD	T-Hb
G6PD Control Level 1	0.1–3.0 IU/g Hb	7.0–12.0 g/dL
G6PD Control Level 2	6.0–17.0 IU/g Hb	13.0–20.0 g/dL

- **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**

Control results interpretation

Control test procedure steps

G6PD Control Level 1

*G6PD - 2.0 IU/g Hb

*Hb - 9 g/dL

Example 1

G6PD Control Level 2

*G6PD - 15.0 IU/g Hb

*Hb - 15 g/dL

G6PD Control Level 1

*G6PD - 2.5 IU/g Hb

*Hb - 10.1 g/dL

Example 2

G6PD Control Level 2

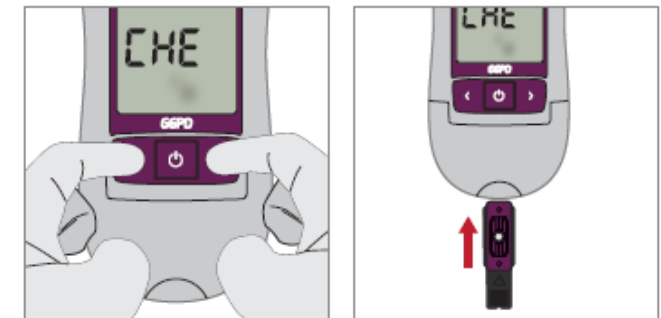
*G6PD - 6.5 IU/g Hb

*Hb - 19.2 g/dL

What to do if there is a control failure

Control test procedure steps

- 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 mode



What to do if there is a control failure

Control test procedure steps

- 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

Control test procedure steps

- **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?