

Relevant Information on QAP

Utilizing the Proficiency sample type on the GEM 4000 minimizes the effect CO-Oximetry and total bilirubin proficiency materials may have on the electrochemical sensors. The Proficiency sample type must be used when analysing proficiency materials for CO-Oximetry and total bilirubin.

Note to Super users: Please check with your local PoCT Coordinator or Laboratory Staff regarding who runs QAP

Pre-analytical Considerations

Sequence: Blood gas sample should be run before Co-oximetry

Stability: Samples are to be used within 30 seconds after opening for blood gases, within 2 minutes for pH and within 30 minutes for electrolytes, avoiding evaporation.

Blood Gases QAP

Materials Required

- **Aqueous sample:** (blood gas, electrolyte, and metabolite determinations)
- **Q barcode** (Label attached to Aqueous sample)

Sample Preparation and Analysis of Aqueous QAP Material

1. Remove aqueous sample from the refrigerator at least **one hour** prior to sampling. Allow to equilibrate at room temperature (22-25°C)
2. Shake the aqueous ampoule vigorously for **15-20 seconds** holding only the top and bottom of ampoule
3. Swirl the ampoule gently to ensure the liquid returns to the bottom of the ampoule. **Bubbles should remain on the liquid as a protective interface from air contamination**
4. Choose proficiency sample type then press **GO**



5. Log on to analyser

6. Choose blood gas electrolyte panel and press **OK**



Protect fingers with gauze, tissue or gloves. Hold ampoule with the coloured **dot as shown**. Snap off neck of ampoule in the opposite direction of the coloured dot

7. Present QAP sample to the probe and press **OK**
NOTE: Sample immediately – **within 30 seconds** for gas analysis
8. Remove sample when prompted
9. During sample analysis, **scan** Q barcode for Aqueous sample into "Material" field only
10. Parameters other than pH, pCO₂, pO₂ may be repeated if required. **DO NOT** repeat pH, pCO₂, pO₂
11. Discard sample appropriately once analysis complete

Co-oximetry QAP

Reconstitution: Special attention is required to achieve a homogenous solution after reconstitution. **If sampling is delayed, the reconstituted material is stable for 60 mins at 2-8°C.**

Materials Required

- **Lyophilised sample:** (*co-oximetry parameters.*)
 - **Distilled water:** (0.5ml) for lyophilised co-oximetry sample reconstitution
 - **Calibrated Pipette:** For lyophilised co-oximetry sample reconstitution
- **Q barcode** (Label attached to lyophilized sample)

Sample Preparation

1. Remove lyophilised sample from the refrigerator and allow to stand for **15 minutes** at room temperature
2. Remove the plastic screw cap and lift rubber stopper carefully
3. Using calibrated pipette, add exactly 0.5 mL of distilled water to sample. Replace stopper
4. Hold vial at an angle of 45 degrees and swirl gently for 30 seconds, ensure liquid doesn't touch the stopper
5. Allow vial to **stand for 5 minutes**
6. Repeat Step 4 until the solution is uniform (homogeneous)

7. Gently invert vial a few times ensuring any particles attached to the rubber stopper are dissolved
8. The vial is ready for use, remove the stopper and analyse sample using procedure below

Analysis of Lyophilised Sample

1. Choose proficiency sample type then press **GO**



2. Log on to analyser
3. Choose co-oximetry panel (second panel down) gas electrolyte panel and press **OK**



4. Present QAP sample to the probe and press **OK**. Remove sample when prompted
5. During sample analysis, **scan** Q barcode for Aqueous sample into "Material" field only
6. Discard sample appropriately once analysis complete



Running a patient sample as 8x8's(training) between aqueous QAPs may improve the response of the sensors to QAP material. Run the sample at the end of the QAP schedule to ensure the GEM 4000 analyser is ready for patient testing.