

i-Stat (POCT) Blood Gas & Chemistry

POCT Equipment	Abbott i-Stat Alinity														
Clinical Indications	Production of rapid quantitative blood gas (and haemoglobin derivative) results may be used for the assessment of oxygenation and acid-base status in respiratory, metabolic, or renal disorders. Basic chemistry parameters can be assessed outside of the laboratory setting in appropriate circumstances such as assessment of the deteriorating patient.														
Sample Type	Capillary whole blood collected into a heparinised plastic capillary or heparinised venous or arterial whole blood collected into a lithium heparin blood gas syringe.														
Sample container	Heparinised blood gas syringe or heparinised plastic capillary.														
Sample volume	Sample volume required for analysis is 95µL. Any air introduced during sample collection must be expelled.														
Sample Handling	<p>Samples must be well mixed by rolling or gently inverting the sample several times to ensure heparin distribution and prevention of clotting in the sample.</p> <p>Capillary samples must be analysed immediately and syringe samples within 20 minutes.</p>														
Special precautions	<p>The person who collects the blood sample should be the person to analyse the sample.</p> <p>When drawing blood samples with a syringe from a saline filled catheter, withdraw the saline first and make sure only whole blood is sampled for analysis.</p> <p>Syringes without anticoagulant are not to be used for blood gas sampling.</p> <p>Lithium heparin or balanced heparin salts are the only acceptable anticoagulants for blood gas.</p>														
Turnaround time	Results are produced by the analyser within 3 minutes of sample introduction.														
Reference range	<table border="0"> <tr> <td>pH</td> <td>7.35 - 7.45</td> </tr> <tr> <td>pCO₂</td> <td>4.67 – 6.0 kPa</td> </tr> <tr> <td>pO₂</td> <td>10.67 - 13.33 kPa</td> </tr> <tr> <td>sO₂</td> <td>95.0 – 99.0 %</td> </tr> <tr> <td>Lactate</td> <td>0.4 - 2.2 mmol/L</td> </tr> <tr> <td>Glucose</td> <td>4.4 - 6.1 mmol/L</td> </tr> <tr> <td>Sodium</td> <td>133 – 146 mmol/L</td> </tr> </table>	pH	7.35 - 7.45	pCO ₂	4.67 – 6.0 kPa	pO ₂	10.67 - 13.33 kPa	sO ₂	95.0 – 99.0 %	Lactate	0.4 - 2.2 mmol/L	Glucose	4.4 - 6.1 mmol/L	Sodium	133 – 146 mmol/L
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Potassium	3.5 - 5.3 mmol/L
Calcium	1.12 - 1.32 mmol/L
Chloride	95 – 108 mmol/L
Urea	2.5 – 6.5 mmol/L
Creatinine	45 – 117 µmol/L
tHb	115 – 174 g/L
Hct	35 – 50 %

Limitations

Values which suggest a request for blood transfusion must be confirmed by the haematology laboratory.

Samples can only be used once.

If the test result is questionable or if clinical signs and symptoms appear inconsistent with the test result, re-test with a fresh sample or certain parameters may be confirmed by sending a sample to the laboratory.

Training

The test should only be carried out by a trained member of staff. If you have not been trained, please see your ward-based link nurse, or contact the POCT team mse.POCT.btuh@nhs.net or mse.POCT.suhft@nhs.net