

BLOOD GASES PLUS

Orderable - BGP

Turn Around Time: 30 minutes (Cord gases: 1 hour)

STAT: 15 minutes

Specimen:

See Note in Interpretive Comments.

Collection Information:

Samples that are clotted, have an insufficient amount, contain bubbles, are not received within 60 minutes of collection time, or are leaking will be canceled.

Syringes, minimum volume
Electrolyte-balanced heparin in blood gas syringes

- Arterial, 3 mL
- Venous, 3 mL
- Capillary, completely filled 125 µL
- o Mixing wire (flea), Caps, Glass Clinitube (heparinized)
- o Free-flowing sample, completely filled, air free, with sealed ends (caps tight)

Labeling:

Put small Cerner label on syringe and place in biohazard bag with large Cerner label in the outside pocket of the biohazard bag.

Transport for blood gas specimens:

Send specimens to the laboratory immediately at room temperature. Suggested transport time is 15 min. Do NOT freeze.

If specimens will not be received in lab within 30 minutes, transport on ice slurry.

Special Processing:

- Avoid air bubbles when collecting specimen. Air bubbles will falsely increase pO₂ result.
- Mix capillary blood with metal flea by running magnet up and down full length of the tube multiple times, to prevent clotting. Not mixing immediately will result in microclots formation that can affect results.



Laboratory:
Core Lab



Requisition:
GENERAL LABORATORY
REQUISITION



Method of Analysis:
GEM Premier 4000 Blood
Gas Analyzer

- Amperometric: pO₂,
Glucose, Lactate
- Potentiometric: pH,
pCO₂, Na⁺, K⁺, Ca⁺⁺, Cl⁻
- Calculated parameters:
O₂ Saturation, Total CO₂
(Bicarbonate)

Please note that the measured %saturation (sO₂) overestimates oxygenation status in the presence of dyshemoglobins (carboxyHb & metHb) and may result greater than 100%

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Reference Ranges:

	Age Range	Arterial/ Capillary	Venous
pH	birth-1 day	7.29 - 7.45	7.32 - 7.42
	2 days- adult	7.35 - 7.45	7.32 - 7.42
pCO₂	birth - 2 days	27 - 40	38 - 50
	2 days - adult	35 - 45	38 - 50
pO₂	birth - 2 days	54 - 95	30 - 50
	2 days - adult	83 - 108	30 - 50
Base Excess (BE)	(all)	(-2) - 3	(-2) - 3
O₂ saturation, calculated	(all)	N/A	N/A
Sodium, Na	(all)	135-145	135-145
Potassium, K	(all)	3.5-5	3.5-5
Chloride, Cl	(all)	98-107	98-107
Total CO₂ (Bicarbonate)	(all)	22-28	25-29
Ionized Calcium	(all)	1.09-1.3	1.09-1.3
Glucose	(all)	3.4-11.0	3.4-11.0
Lactate	(all)	0.9-2.4	0.9-2.4




Test Schedule:
As required

Interpretive Comments:

Venous pCO₂ >45 is suggestive of arterial pCO₂ >40 mmHg, which may be clinically important.

Comments:

	Critical Low	Critical High
pH	7.20	7.60
pCO ₂	20	60
pO ₂ (arterial only)	40	
Na	120	160
K	3.0	6.0
Glucose	2.8	30.0
Lactate (ED only)		4.0



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Storage and Shipment:

- Send all blood gas specimens to core laboratory at room temperature within 30 minutes
- Store on ice slurry if delay in analysis or delivery longer than 30 minutes
- Do not freeze

Please note that if the blood specimen was not received within the specified 30 min; some of the results may have been affected.