

ABG Exercise – Campus Lab

ABG Components

ABG Component	Normal Value (Perfect)	Range
pH	7.4	7.35-7.45
PaO ₂	95 mm Hg	80-100 mm Hg
PaCO ₂	40 mm Hg	35-45 mm Hg
SaO ₂	95% - 99%	93% - 100%
BE	± 2	
HCO ₃ ⁻	24 mEq/L	22-26 mEq/L

- ### Four-Step ABG Analysis
1. Examine the PaO₂ and SaO₂
 2. Determine if pH is normal
 3. Study the PaCO₂ and HCO₃⁻ values
 4. Determine which compensatory mechanism is working

PaO ₂	SaO ₂	pH	PaCO ₂	HCO ₃
95	98	7.48	38	30

Metabolic Alkalosis

PaO ₂	SaO ₂	pH	PaCO ₂	HCO ₃
58	89	7.3	50	24

Respiratory Acidosis

PaO ₂	SaO ₂	pH	PaCO ₂	HCO ₃
94	96	7.3	35	20

Metabolic acidosis

PaO ₂	SaO ₂	pH	PaCO ₂	HCO ₃
98	97	7.49	30	24

Respiratory alkalosis

PaO ₂	SaO ₂	pH	PaCO ₂	HCO ₃
60	90	7.31	50	22

PaO ₂	SaO ₂	pH	PaCO ₂	HCO ₃
100	96	7.31	44	20

PaO ₂	SaO ₂	pH	PaCO ₂	HCO ₃
98	98	7.33	40	21

PaO ₂	SaO ₂	pH	PaCO ₂	HCO ₃
85	94	7.48	45	30

PaO ₂	SaO ₂	pH	PaCO ₂	HCO ₃
80	93	7.33	49	26

PaO ₂	SaO ₂	pH	PaCO ₂	HCO ₃
96	97	7.48	33	24

PaO ₂	SaO ₂	pH	PaCO ₂	HCO ₃
100	99	7.5	29	25

PaO ₂	SaO ₂	pH	PaCO ₂	HCO ₃
60	90	7.26	59	26

PaO ₂	SaO ₂	pH	PaCO ₂	HCO ₃
90	95	7.21	40	19

PaO ₂	SaO ₂	pH	PaCO ₂	HCO ₃
94	97	7.53	39	36

PaO ₂	SaO ₂	pH	PaCO ₂	HCO ₃
100	100	7.4	40	26
