

# ABG Interpretation Chart

## Patient Information

Name:

Age:

Gender:

Date:

## ABG Results

pH: \_\_\_\_\_ (Normal Range: 7.35-7.45)

PaCO<sub>2</sub>: \_\_\_\_\_ mmHg (Normal Range: 35-45 mmHg)

PaO<sub>2</sub>: \_\_\_\_\_ mmHg (Normal Range: 80-100 mmHg)

HCO<sub>3</sub><sup>-</sup>: \_\_\_\_\_ mEq/L (Normal Range: 22-26 mEq/L)

SaO<sub>2</sub>: \_\_\_\_\_ % (Normal Range: 95-99%)

## Interpretation

### 1. Assess pH:

Acidosis: pH < 7.35

Alkalosis: pH > 7.45 (7.48 in this case)

### 2. Assess PaCO<sub>2</sub> and HCO<sub>3</sub><sup>-</sup>:

Respiratory Acidosis: ↓pH, ↑PaCO<sub>2</sub>, Normal HCO<sub>3</sub><sup>-</sup>

Respiratory Alkalosis: ↑pH, ↓PaCO<sub>2</sub>, Normal HCO<sub>3</sub><sup>-</sup> (7.48, 30 mmHg, and 24 mEq/L in this case)

Metabolic Acidosis: ↓pH, Normal PaCO<sub>2</sub>, ↓HCO<sub>3</sub><sup>-</sup>

Metabolic Alkalosis: ↑pH, Normal PaCO<sub>2</sub>, ↑HCO<sub>3</sub><sup>-</sup>

### 3. Evaluate Compensation:

Partially Compensated: All three values (pH, PaCO<sub>2</sub>, HCO<sub>3</sub><sup>-</sup>) are abnormal

Fully Compensated: Normal pH with abnormal PaCO<sub>2</sub> and HCO<sub>3</sub><sup>-</sup>

No compensation as all three values are not abnormal

#### 4. Assess Oxygenation:

Hypoxemia: PaO<sub>2</sub> < 80 mmHg

Normoxemia: PaO<sub>2</sub> between 80-100 mmHg (90 mmHg in this case)

Hyperoxemia: PaO<sub>2</sub> > 100 mmHg

#### 5. Assess Ventilation:

Hypoventilation: ↑PaCO<sub>2</sub>

Normal Ventilation: PaCO<sub>2</sub> within normal range

Hyperventilation: ↓PaCO<sub>2</sub> (30 mmHg in this case)

	Acidosis	Normal	Alkalosis
Respiratory Acidosis	↓pH, ↑PaCO <sub>2</sub> , Normal HCO <sub>3</sub> <sup>-</sup>	Normal pH, ↑PaCO <sub>2</sub> , ↑HCO <sub>3</sub>	↑pH, ↓PaCO <sub>2</sub> , Normal HCO <sub>3</sub> <sup>-</sup>
Respiratory Alkalosis	↑pH, ↓PaCO <sub>2</sub> , Normal HCO <sub>3</sub> <sup>-</sup>	Normal pH, ↓PaCO <sub>2</sub> , ↓HCO <sub>3</sub>	↑pH, ↓PaCO <sub>2</sub> , Normal HCO <sub>3</sub> <sup>-</sup>
Metabolic Acidosis	↓pH, Normal PaCO <sub>2</sub> , ↓HCO <sub>3</sub> <sup>-</sup>	Normal pH, ↓PaCO <sub>2</sub> , ↓HCO <sub>3</sub>	↑pH, Normal PaCO <sub>2</sub> , ↑HCO <sub>3</sub> <sup>-</sup>
Metabolic Alkalosis	↓pH, Normal PaCO <sub>2</sub> , ↑HCO <sub>3</sub> <sup>-</sup>	Normal pH, ↑PaCO <sub>2</sub> , ↑HCO <sub>3</sub>	↑pH, Normal PaCO <sub>2</sub> , ↑HCO <sub>3</sub> <sup>-</sup>

#### Interpretation Summary:

**Notes:**