

# ABG

## TIC-TAC-TOE

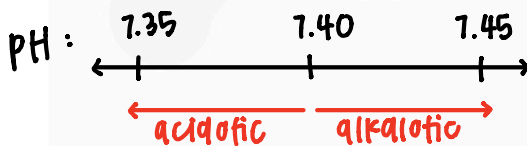
### VALUES

	ACIDOTIC	NORMAL	ALKALOTIC
pH	< 7.35	7.35 - 7.45	> 7.45
pCO <sub>2</sub>	> 45	35 - 45	< 35 ← respiratory
HCO <sub>3</sub> <sup>-</sup>	< 22	22 - 26	> 26 ← metabolic

### GRID

ACID	NORMAL	BASE

### COMPENSATIONS



uncompensated: abnormal pH, other value is normal  
 partially compensated: abnormal pH, other value is opposite  
 fully compensated: normal pH

\* if all 3 values are in different columns, look at pH  
 ↳ if acidotic, look at value in acid column to determine if respiratory or metabolic issue (vice versa for alkalotic)

### INSTRUCTIONS

1. set up tic-tac-toe grid

ACID	NORMAL	BASE

ex) pH: 7.53, pCO<sub>2</sub>: 23, HCO<sub>3</sub><sup>-</sup>: 19

2. put the ABG under the correct column based on the value

ACID	NORMAL	BASE
HCO <sub>3</sub> <sup>-</sup>		pH
		pCO <sub>2</sub>

ex) pH: 7.53, pCO<sub>2</sub>: 23, HCO<sub>3</sub><sup>-</sup>: 19  
 ↓ base      ↓ base      ↓ acid

3. look at the column that has 2 values under it. determine if it is a respiratory or metabolic issue.

ACID	NORMAL	BASE
HCO <sub>3</sub> <sup>-</sup>		pH
		pCO <sub>2</sub>

ex) pH: 7.53, pCO<sub>2</sub>: 23, HCO<sub>3</sub><sup>-</sup>: 19  
 respiratory

4. then determine if it is acidotic or alkalotic.

ACID	NORMAL	BASE
HCO <sub>3</sub> <sup>-</sup>		pH
		pCO <sub>2</sub>

alkalotic  
respiratory

ex) pH: 7.53, pCO<sub>2</sub>: 23, HCO<sub>3</sub><sup>-</sup>: 19

5. determine if patient is compensating

ACID	NORMAL	BASE
HCO <sub>3</sub> <sup>-</sup>		pH
		pCO <sub>2</sub>

partially compensated  
alkalotic  
respiratory

ex) pH: 7.53, pCO<sub>2</sub>: 23, HCO<sub>3</sub><sup>-</sup>: 19

ANSWER:  
respiratory alkalosis,  
partially compensated