

ARTERIAL BLOOD GAS INTERPRETATION

	Arterial	Venous
PH	7.35-7.45	7.31-7.41
PaO ₂	90-100	35-40
PaCO ₂	35-45	41-51
HCO ₃	22-26	22-26
BE	=/-2	=/-2

Guidelines for interpretation of ABGs and acid-base balance

Examine pH first

If pH is reduced (<7.35), the patient is acidemic

- If PaCO₂ is elevated, the patient has respiratory acidosis
- If HCO₃ is reduced, patient has metabolic acidosis
- If PaCO₂ is elevated and HCO₃ is reduced, the patient has combined respiratory and metabolic acidosis.

If pH is elevated (>7.45), the patient is alkalemic

- If PaCO₂ is decreased, the patient has respiratory alkalosis
- If HCO₃ is elevated, the patient has metabolic alkalosis
- If PaCO₂ is decreased and HCO₃ is elevated, the patient has combined metabolic and respiratory alkalosis

-Expected change in pH for changes in PaCO₂: a commonly used rule is that the pH rises or falls 0.08 (or 0.1) in the appropriate direction for each change of 10mm in the PaCO₂.

-If the pH is normal (7.35-7.45), alkalosis or acidosis may still be present as a mixed disorder.