EXHALE ACADEMY CSE CHEAT SHEET #18

ABG PATTERN RECOGNITION

STEP 1: pH

- Low pH = acidemia.
- High pH = alkalemia.
- Normal pH with abnormal CO2/HCO3 may be compensated.
- Severe low pH is a danger sign.

STEP 2: PaCO2

- High PaCO2 causes respiratory acidosis.
- Low PaCO2 causes respiratory alkalosis.
- Rising PaCO2 with falling pH = ventilatory failure.
- Normalizing PaCO2 during severe asthma can be bad if the patient is tiring.

STEP 3: HCO3

- Low HCO3 supports metabolic acidosis.
- High HCO3 supports metabolic alkalosis or compensation.
- Chronic CO2 retainers may have elevated HCO3.
- Treat the underlying metabolic cause while supporting ventilation as needed.

OXYGENATION

- PaO2 and SpO2 tell oxygenation, not ventilation.
- Hypoxemia with high FiO2 suggests shunt/severe V/Q problem.
- P/F ratio helps grade oxygenation severity.
- Add PEEP/CPAP when oxygen alone is not enough.

ACTION PATTERNS

- Acute respiratory acidosis -> improve ventilation.
- Chronic compensated COPD -> controlled oxygen and monitor.
- Metabolic acidosis -> support ventilation, treat cause.
- Severe hypoxemia -> oxygen/PEEP and treat underlying disease.

EXHALE MEMORY LINE

pH tells danger. CO2 tells ventilation. HCO3 tells metabolic/compensation. PaO2 tells oxygenation.