

disorder	mechanism	manifestation	treatment	goal
respiratory acidosis ↓pH (< 7.35) ↑PaCO ₂ (> 45 mmHg)	hypoventilation d/t drugs, head injury, lung disease, airway obstruction, respiratory muscle dysfunction, chest wall dysfunction	early symptoms: HA, fatigue, flushed skin, irritability later: lethargy → confusion → somnolence	breath more (↑ RR and depth), treat underlying cause, reverse narcs prn, improve respiratory effort (use IS, ↑ mobility, positioning, C/DB, bronchodilators, correct vent settings, continually reassess.	↓ CO ₂ levels provide adequate O ₂ normal pH
respiratory alkalosis ↑pH (> 7.45) ↓PaCO ₂ (< 35 mmHg)	hyperventilation d/t stimulated resp. system, arterial hypoxemia, ↑ metabolism/hepatic failure, mechanical ventilation	anxiety, ↑ stimulation of CNS and peripheral NS	address underlying cause (give pain and/or anxiety meds), ↓ RR by calming patient or changing vent settings, ↓ volume on vent	↑ CO ₂ levels provide adequate O ₂ normal pH
metabolic acidosis ↓pH (< 7.35) ↓HCO ₃ (< 22 mEq)	loss of base or gain or acid d/t loss of bile, pancreatic juice, small intestine secretions containing bicarb (fistulas, diarrhea); ketoacidosis, lactic acidosis, drugs, poisons, TPN, renal failure (↓ secretion of H ⁺ ions)	CNS depression, HA, weakness, Kussmaul's, respiratory depression, confusion → delirium → stupor	treat the underlying problem, replace bicarb, monitor K ⁺	normal pH normal Bicarb
metabolic alkalosis ↑pH (> 7.45) ↑ HCO ₃ (> 28 mEq)	gain of base or loss of acid d/t excessive antacid use, GI output via vomiting and gastric suctioning	irritability of CNS and peripheral NS (tingling of fingers, toes, circumoral), cramps, tetany, dizziness, disorientation → lethargy	remove source (decrease antacids, decrease gastric sxn), monitor electrolytes (K ⁺), treat cause of vomiting	normal pH normal Bicarb

Black, Joyce M., and Jane Hokanson Hawks. *Medical-Surgical Nursing: Clinical Management for Positive Outcomes - Single Volume (Medical Surgical Nursing- 1 Vol (Black/Luckmann))*. St. Louis: Saunders, 2009. Print.