



Causes of Metabolic Acidosis and Metabolic Alkalosis	
Anion Gap Acidosis	
Cause	Examples
Exogenous Poisonings	Ethylene glycol; ethanol; methanol; aspirin
Endogenous acids	Lactic acidosis (tissue hypoxia), diabetic ketoacidosis
Non-Anion Gap Metabolic Acidosis	
Gastrointestinal Disorders	Diarrhea; pancreatic fistula, biliary fistula; laxatives; cholestyramine; ureterointestinal diversions
Exogenous Acid Administration	Ammonium chloride; hydrochloric acid; amino acids (particularly L-arginine or L-lysine)
Renal	Proximal (type 2) tubular acidosis; distal (type 1) tubular acidosis; defective amniogenesis; renal failure; hyperaldosteronism; hyperkalemia; acetazolamide
Metabolic Alkalosis Chloride Sensitive (urine chloride <20 meq/L)	
Gastrointestinal acid losses	Nasogastric suctioning; vomiting; rectal villous adenoma
Renal	Postdiuretic; posthypercapneic
Metabolic Alkalosis Chloride Insensitive (urine chloride >40 meq/L)	
Hypertensive	Renovascular hypertension; primary aldosteronism; Cushing's syndrome; Liddle's syndrome; licorice
Normotensive	Diuretics; Bartter's and Gitelman's syndrome; severe potassium depletion; hypercalcemia and hyperparathyroidism; administration of alkali