

Table 1. Differential diagnosis of AG metabolic acidosis

Clinical process		Acid product	Note
Toxic ingestion	Methanol	Formic acid	Metabolites highly toxic, renal excretion
	Ethylene glycol	Glycolic acid, glyoxylate, oxalate	
	Toluene	Hippuric acid	Renal excretion of metabolites
	Salicylate	Endogenous acid	Renal excretion; Urinary alkalination markedly increases renal excretion of free salicylate
	Paraldehyde	Acetic acid, chloroacetic acid	Renal excretion of metabolites
	Acetaminophen	5-oxoproline	Possibly due to glutathione depletion; 5-oxoproline is renally excreted
Lactic acidosis		Lactic acid (L- or D-)	
Ketoacidosis	Diabetic	Ketoacids, e.g., β -hydroxybutyrate	
	Alcoholic	Ketoacids, e.g., β -hydroxybutyrate	
	Starvation	Ketoacids, e.g., β -hydroxybutyrate	
Uremia/renal failure		From protein metabolism, e.g., sulfate, phosphate, urate	In advanced CKD when glomerular filtration rate (GFR) falls below 15-20 ml/min, acids from protein metabolism are retained