Amino Acids (Urine)

Description	A profile of amino acids is provided: alanine, α-amino butyric acid, arginine, asparagine, aspartic acid, carnosine, citrulline, cystine, glutamic acid, glutamine, glycine, histidine, homocystine, hydroxylysine, isoleucine, leucine, lysine, methionine, 1-methyl histidine, 3-methyl histidine, ornithine, phenylalanine, phosphoethanolamine, proline, sarcosine, serine, taurine, threonine, tyrosine, tryptophan, valine.
Indication	In general, urine is useful when investigating a disorder of renal transport particularly with a positive urine nitroprusside test eg for cystinuria and homocystinuria, nephrolithiasis and or the Fanconi syndrome. Other reasons maybe selective metabolic screening, hyperammonaemia, suspected aminoacidopathy, suspected disorder of energy metabolism, epileptic encephalopathy, control of protein restricted diet.
Additional Info	Functions of amino acids include the basic structural units of proteins, metabolic intermediates and neurotransmission. Over 95% of the amino acid load filtered from the blood at the renal glomerulus is normally reabsorbed in the proximal renal tubules by saturable transport systems. The term 'aminoaciduria' is used when more than 5% of the filtered load is detected in the urine. In normal individuals, aminoaciduria is transient and is associated with protein intake in excess of amino acid requirements.
Concurrent Tests	Plasma amino acids
Dietary Requirements	N/A
Interpretation	Values depend on metabolic state. Cystinuria: Increased urinary cystine, lysine, arginine and ornithine. Homocystinuria: Increased urinary homocysteine and methionine. Fanconi syndrome: Generalised increase in urinary amino acid excretion.
Collection Conditions	No restrictions.
Frequency of testing	Repeat measurement inappropriate *except* in acute presentation of undiagnosed suspected metabolic disorder.