TABLE B.1 — NUTRIENT EVALUATIONS RELATED TO STANDARD SERUM CHEMISTRIES

	Test		Potential Clinical Indications	Related Nutrient Evaluations
Electrolyte Panel	Sodium	L	Metabolic acidosis Adrenal dysfunction	Urinary organic acids, adrenal stress profile
		H	Dehydration Renal dysfunction	Elemental profile
	Potassium	L	Adrenal hyperactivity Magnesium deficiency	Adrenal stress profile, elemental profile
		H	Adrenal dysfunction	Adrenal stress profile, elemental profiles
	Chloride	L	Adrenal dysfunction Hypochlorhydria	Adrenal stress profile, gastrointestinal function profile
		H	Renal failure Excessive salt or aspirin intake	Urinary elemental profile
	Carbon dioxide	L	Metabolic acidosis B-vitamin deficiency Sleep apnea Breathing abnormality	Urinary organic acids, gastrointestinal function profile
		H	Hypochlorhydria Alkalosis	Gastrointestinal function profile
	Calcium	L	Osteoporosis Thyroid dysfunction Parathyroid dysfunction HPA axis dysfunction Heavy metal toxicity	Bone loss marker, elemental profiles, detoxification status
		H	Thyroid or parathyroid dysfunction Chemical or heavy metal toxicity Excess vitamin D	Urinary iodide, adrenal stress profile, urinary organic acids for markers of oxidative stress and detoxification
	Phosphorus	L	Hypochlorhydria Insufficient protein assimilation	Plasma amino acids, gastrointestinal function profile
		H	Renal or parathyroid dysfunction Excessive phosphate intake	Elemental profiles
	Test		**Potential Clinical Indications**	**Related Nutrient Evaluations**
Metabolic Panel	Blood urea nitrogen	L	Hypochlorhydria Dietary protein deficiency Maldigestion Malabsorption Liver failure	Gastrointestinal function profile, plasma amino acids, urinary organic acids, detoxification profiles
		H	Renal failure	
	Uric acid	L	Low hematopoiesis Copper deficiency	Elemental profiles
		H	Gout Rheumatoid arthritis Atherosclerosis Hepatic failure Hyperhomocysteinemia	Urinary organic acids, immune profiles, cardiac health profile, detoxification profiles
	Glucose	L	Hypoglycemia	Organic acid profile, amino acid profile
		H	Diabetes	Trace element profile, fatty acid profile
	Bilirubin, total (Conjugated + unconjugated)	H	Gilbert's syndrome Chemical or heavy metal toxicity Liver failure Enhanced erythrocyte turnover Congestive heart failure Sickle cell anemia	Detoxification capacity profile, cardiac health profile

Table B.1 continued on following page...

Table B.1 continued from previous page...

	Test		Potential Clinical Indications	Related Nutrient Evaluations
Metabolic Panel	Albumin	L	Liver failure Alcoholism Malnutrition Chemical or heavy metal toxicity Inflammation Insulin insensitivity Obesity	Porphyrin profile, urinary organic acids, elemental profile, fatty acid profile, cardiac health profile
		H	Dehydration	—
	Globulin	L	Inflammation Immune deficiency	Food sensitivity profile, gastrointestinal function profile
		H	Hypochlorhydria Chemical or heavy metal toxicity Liver damage Autoimmune disease	Gastrointestinal function profile, porphyrin profile, urinary organic acids, elemental profiles, plasma amino acids
	A/G Ratio	L	Protein deficiency	Plasma amino acids
		H	Myeloma	Fatty acid profile, Serum antioxidants and oxidative stress profile
	Test		**Potential Clinical Indications**	**Related Nutrient Evaluations**
Enzyme Panel	AST (SGOT)	L	Vitamin B_6 or protein deficiency Alcoholism Liver disease	Urinary organic acids, plasma amino acids, plasma fatty acids, gastrointestinal function profile
		H	Acute myocardial infarction Liver disease Skeletal muscle breakdown Metastatic cancer	Plasma amino acids, cardiac health profile, elemental profiles, serum adma, urinary organic acids, hepatic detoxification capacity profile
	ALT (SGPT)	L	Vitamin B_6 or protein deficiency Alcoholism Liver disease	Urinary organic acids, plasma amino acids, plasma fatty acids, gastrointestinal function profile
		H	Liver disease Fatty liver Congestive heart failure Salicylate toxicity	Detoxification capacity profile, urinary organic acids, cardiac health profile, plasma fatty acids
	Alkaline phosphatase	L	Hypothyroidism Pernicious anemia Scurvy Low fat or low protein diet Zinc deficiency Excessive vitamin D intake	Plasma fatty acids, plasma amino acids, elemental profile, urinary iodine, serum vitamin d, urinary organic acids
		H	Elevated bone turnover/loss Hypothyroidism Paget's disease Rickets Bile acid deficiency Excessive dietary fat or protein	Bone turnover marker, plasma fatty acids, gastrointestinal function profile, plasma amino acids, urinary iodine, serum vitamin D

Table B.1 continued on following page...

Table B.1 continued from previous page...

	Test		Potential Clinical Indications	Related Nutrient Evaluations
Lipid Panel	Triglycerides	L	Oxidative stress Chemical/metal toxicity Liver dysfunction Low dietary carbohydrates	Oxidative damage markers, porphyrins, toxic elements, organic acids, fatty acids
		H	Insulin resistance Diabetes Fatty liver Hypothyroidism	Cardiac health profile, organic acids, fatty acids, iodine, ADMA, hormones
	Cholesterol	L	Oxidative stress Chemical/metal toxicity Liver dysfunction Low dietary carbohydrates Viral hepatitis *Hyperthyroidism*	Oxidative damage markers, porphyrins, toxic elements, organic acids, fatty acids, hormones
		H	Insulin resistance Diabetes; Fatty liver Hypothyroidism Acute biliary obstruction; Pancreatitis	Cardiac health profile, oorganic acids, fatty acids, ADMA, hormones
	HDL Cholesterol	L	Oxidative stress Chemical/metal toxicity Sedentary lifestyle Obesity Insulin resistance Fatty liver Starvation Diabetes Hypothyroidism Uremia	Oxidative damage markers, porphyrins, organic acids, fatty acids, amino acids, elements, cardiac health profile, iodine
	Test		**Potential Clinical Indications**	**Related Nutrient Evaluations**
Iron Panel	Iron, TIBC, Iron saturation	L	Iron deficiency	Trace element profile
			Iron excess	Antioxidants
		H	Inflammation Hemochromatosis Iron excess Oxidative damage	Cardiac health profile, elements, oxidative damage markers, immune profiles, hepatic detoxification capacity
	Test		**Potential Clinical Indications**	**Related Nutrient Evaluations**
Thyroid Panel	Total T3, T3 Uptake, T4, T7, TSH	L	Primary hypothyroidism	Urinary iodine, plasma amino acids, organic acids
		H	Primary hyperthyroidism	