gravity	intake: 1.016 to 1.022 Newborn: 1.001 to 1.020 Others: 1.001 to 1.030		Presence of protein or glucose Presence of radiopaque contrast medium after radiologic examinations
		Low	Excessive fluid intake Distal tubular dysfunction Insufficient ADH Diuresis
Osmolality	Newborn: 50 to 600 mOsm/L	Fixed at 1.010	Chronic glomerular disease
	Thereafter: 50 to 1400 mOsm/L	High or low	Same as for specific gravity More sensitive index than specific gravity
Appearance	Clear pale yellow to deep gold	Cloudy Cloudy reddish pink to reddish brown Light Dark Red	Contains sediment Blood from trauma or disease Myoglobin after severe muscle destruction Dilute Concentrated Trauma
Chemical Tests			
pH	Newborn: 5 to 7 Thereafter: 4.8 to 7.8 Average: 6	Weak acid or neutral Alkaline	If associated with metabolic acidosis, suggests tubular acidosis If associated with metabolic alkalosis, suggests potassium deficiency Urinary infection Metabolic alkalosis
Protein level	Absent	Present	Abnormal glomerular permeability (e.g., glomerular disease, changes in blood pressure) Most kidney disease Orthostatic in some individuals
Glucose level	Absent	Present	Diabetes mellitus Infusion of concentrated glucose-containing fluids Glomerulonephritis Impaired tubular reabsorption
Ketone levels	Absent	Present	Conditions of acute metabolic demand (stress) Diabetic ketoacidosis
Leukocyte esterase	Absent	Present	Can identify both lysed and intact WBCs via enzyme detection
Nitrites	Absent	Present	Most species of bacteria convert nitrates to nitrites in the urine
Microscopic Tests			
WBC count	<1 or 2	>5 polymorphonuclear leukocytes/field	Urinary tract inflammatory process
		Lymphocytes	Allograft rejection Malignancy
RBC count	<1 or 2	4 to 6/field in centrifuged specimen	Trauma Stones Glomerular injury Infection Neoplasms
Presence of bacteria	Absent to a few	>100,000 organisms/ml in centrifuged	UTI