

MULTISTIX URINALYSIS

(see instructions for urine collection and analysis procedure)

GLUCOSE <i>Testing for glycosuria, result should be negative</i>	Positive/presence: Usually indicates Diabetes Mellitus but also possibly renal tubular disease, pancreatitis, shock or severe pain, hyperthyroidism, phaeochromocytoma, acromegaly and Cushings syndrome.
	Notes: Samples taken 2 hours after eating may help identify milder cases of diabetes.
BILIRUBIN <i>Testing for bilirubinuria and therefore hyperbilirubinaemia</i>	Positive/presence: Positive results imply hepatobiliary disease. Bilirubin may appear in the urine before other signs of abnormality are present.
	Absence/negative: In jaundiced patient: suggests haemolysis. Notes: Phenothiazides and chlorpromazide may give false positive results.
KETONES <i>Testing for ketonuria</i>	Positive/presence: Positive results are likely in uncontrolled diabetes, reduced carbohydrate diet or severe vomiting or diarrhoea. Can be found in severe eclampsia, trauma, fever and chloroform anaesthesia. Most significant when ketonuria is found with glycosuria.
	Notes: Phenolphthalein, bromsulphthalein and L-dopa metabolites give false positives.
SPECIFIC GRAVITY <i>Concentration of urine or osmolality</i>	Low: Implies renal abnormality or continuous high fluid intake.
	Normal: values fluctuate and are around S.G. 1.021. Fixed results may indicate renal failure.
	High: possible dehydration or simply good concentrating ability. Notes: Pre-breakfast sample provides the most accurate reading.
BLOOD <i>Haematuria is usually serious (unless menstrual blood)</i>	Positive/presence: (Trace) : Renal or urological disease or UTI. Trace amounts are usually least serious increased amounts on a + scale of 1-3.
	Positive/presence: (Large) : Urine may be red, smoky and reddish brown
	Positive/presence: (Non-haemolysed): consider renal, bladder or prostatic carcinoma, occasionally in prostatic hyperplasia.

	Notes: Urine colour can be affected by variety of substances such as beetroot, dyes, vitamins and phenolphthalein.
PH <i>Range of values from neutral to acidic</i>	Strongly alkaline: A value of more than 8 may indicate a stale urine sample, however check against nitrites and leucocytes for infection. Strongly acidic: May indicate uncontrolled diabetes/starvation/dehydration - check against glucose and ketone results.
	Notes: Normal range 5-6
PROTEIN <i>Test for albumins and globulins present in urine, normally negative</i>	Positive/presence: (Trace) Small amounts of protein show as a "trace" larger amounts on a + scale of 1-3. Small amounts indicate UTI, haematuria, heart failure and malignant hypertension. Positive/presence: (Large): Chronic renal disease such as nephrotic syndrome and glomerular disease. Consider orthostatic proteinuria in healthy children or adolescents. False positives may occur in very alkaline urine or if collection receptacle is contaminated.
	Notes: Concentrated early morning urine samples are best for detecting protein.
UROBILINOGEN <i>Normally present but within "normal values"</i>	Positive/presence: Elevated levels in hepatic dysfunction e.g. partial biliary obstruction/pyrexia/ cardiac failure (bilirubin present). Raised levels of urobilinogen in haemolytic disease (bilirubin not present). Urobilinogen is readily oxidised on exposure to air at room temperature therefore only fresh samples are valid.
	Notes: Diurnal variation shows urobilinogen at highest in the afternoon.
NITRITE	Positive/presence: Presence indicates UTI
	Notes: Sample from urine that has been in bladder for at least 4 hours to allow bacteria to convert nitrates into nitrites. Only detects gram-negative bacteria.
LEUCOCYTES	Positive/presence: Presence indicates genito-urinary infection
	Notes: When present without nitrites consider vaginal or urethral discharge or more serious renal disease.