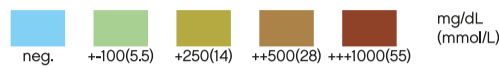


Handy chart for interpreting URANOTEST[®] urine dipsticks

urano[®]vet

Glucose



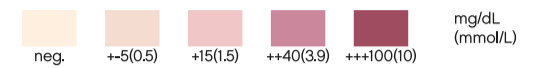
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| <p>False negatives</p> <ul style="list-style-type: none"> • Cold urine. • High concentrations of Vit. C or ketones. • High urine specific gravity (values lower than normal may occur) | <p>Clinical significance</p> <ul style="list-style-type: none"> • Diabetes mellitus. • Renal tubular disease and non-renal chronic disease in cats: both may cause glycosuria without hyperglycaemia. • Administration of glucose containing fluids. • Hyperadrenocorticism. • Endocrine disorders. • Pancreatitis. • Stress in cats. | <p>False positives</p> <ul style="list-style-type: none"> • Contact with bleach or hydrogen peroxide. • Treatment with corticosteroids, aspirin, ephedrine, morphine, furosemide, dextrothyroxine, anaesthesia. |
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Bilirubin



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| <p>False negatives</p> <ul style="list-style-type: none"> • Samples with large amounts of nitrite or vitamin C <p>False positives</p> <ul style="list-style-type: none"> • High concentrated urine in dogs. • High doses of chlorpromazine and phenazopyridine. | <p>Clinical significance</p> <ul style="list-style-type: none"> • Haemolytic anaemia. • Liver disease. • Bile duct obstruction. • Prolonged fasting. • Haemolysis. • Fever. • The detection of bilirubin in urine may precede clinically evident jaundice, so that it may be an early indicator of disease. • In dogs, traces of bilirubin in concentrated urine may be physiological. In cats, bilirubin in urine is always abnormal. |
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Ketones



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| <p>False negatives</p> <ul style="list-style-type: none"> • Uncommon in dogs in fresh urine. Very common in stored urine, as ketones are highly volatile. • Common in cats because it doesn't detect β-Hydroxybutyric acid which is the main ketone in cats. | <p>Clinical significance</p> <ul style="list-style-type: none"> • Increased lipid catabolism. (starvation, diets low in carbohydrates and high in fat). • Persistent hypo-glycaemia (insulinoma). • Diabetic ketoacidosis. • Fever. • Intense exercise. | <p>False positives</p> <ul style="list-style-type: none"> • Very uncommon. Caused by highly pigmented urine or with high concentrations of levodopa metabolites in urine. |
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Urobilinogen



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| <p>False negatives</p> <ul style="list-style-type: none"> • In stored urine, because urobilinogen is unstable when exposed to light and air. | <p>Clinical significance</p> <p>Cholestatic hepatitis
Biliary obstruction.</p> <p><u>Limited diagnostic value in veterinary medicine.</u></p> | <p>False positives</p> <ul style="list-style-type: none"> • Administration of certain drugs. |
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Specific gravity



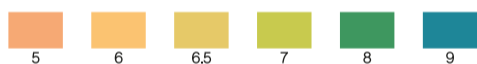
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| <p>False negatives</p> <ul style="list-style-type: none"> • Highly alkaline urine. <p>False positives</p> <ul style="list-style-type: none"> • Proteinuria. | <p>Clinical significance</p> <p>Measures the ability of the renal tubules to concentrate or dilute the urine. Strips provide approximate density readings, so that their diagnostic value is merely indicative. The use of a refractometer is recommended for greater reliability. Normal values: a wide range depending on the circumstances (1.001-1.065 in dogs, and 1.001- 1.080 in cats). Heavily influenced by diet, hydration and urine volume. In animals which produce large volumes of urine, specific gravity of the latter is expected to be low.</p> <ul style="list-style-type: none"> • Low values may be normal in overhydrated animals. • High values may be normal in dehydrated dogs. • Low urine specific gravity values observed in successive samples are indicative of renal impairment caused by: diabetes insipidus, hyperadrenocorticism, pyometra, hypercalcemia, hypocalcemia, liver disease and psychogenic polydipsia. • Oliguria + low urine specific gravity = acute renal failure. <p><u>For greater clinical significance it is recommended to use first morning urine.</u></p> |
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Blood



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| <p>False negatives</p> <ul style="list-style-type: none"> • Urine samples not homogenised before testing (erythrocytes sediment rapidly). • Formalin used as a preservative. • Presence of nitrates. | <p>Clinical significance</p> <ul style="list-style-type: none"> • Haematuria due to trauma, infection, inflammation, kidney stones, neoplasms. • Haemoglobinuria. • Myoglobinuria. • Sample obtained by catheterisation. • Contamination of genital tract due to prostatic, uterine, vaginal or preputial disease. • Idiopathic cystitis in cats • Parasites (Capillaria plica). • Treatment with cyclophosphamide. | <p>False positives</p> <ul style="list-style-type: none"> • Contamination of the sample with bleach, iodine or bromine. • Heat in batches. • Urine obtained by catheterisation. |
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pH



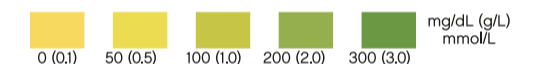
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| <p>Clinical significance of acidic urine</p> <ul style="list-style-type: none"> • Animals on high protein diets. • Metabolic acidosis. • Treatment with acidifying agents. • Hypochloridaemia. • Acidic urine: oxalate stones, uric acid and cystine. <p>Normal values, cats & dogs</p> <ul style="list-style-type: none"> • 5,5- 7 | <p>Clinical significance of alkaline urine</p> <ul style="list-style-type: none"> • Animals on grain-rich diets. • Metabolic alkalosis. • Treatment with alkalisating agents. • Urinary tract infection by Proteus and Staphylococcus. • Alkaline urine: struvite, calcium carbonate, calcium phosphate, ammonium and phosphor crystal stones. |
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Proteins



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| <p>False negatives</p> <ul style="list-style-type: none"> • Acidic or highly diluted urine. • Proteinuria due to proteins other than albumin, such as globulins or Bence-Jones proteins to which the reagent on the strip is less sensitive. <p>False positives</p> <ul style="list-style-type: none"> • Haematuria or pyuria caused by infections or inflammatory conditions are often associated with proteinuria. • Highly alkaline urine. • Urine contaminated by benzalkonium chloride disinfectants. • Urine with urease-producing bacteria. • Treatment with ampicillin, barbiturates, aspirin, bacitracin, steroids gentamicin, kanamycin, phenylbutazone, streptomycin, sulphonamides. | <p>Clinical significance</p> <ul style="list-style-type: none"> • Glomerular disease • Glomerulonephritis • Amyloidosis <p>Highly dependent on specific gravity. The same protein levels in urine may be abnormal in diluted urine, or physiological in concentrated urine. The results should be interpreted based on the clinical history, urine collection method, density, sediment.</p> <p>Calculate the protein/creatinine ratio (UPC) to obtain a more reliable indicator of kidney damage, as this ratio is used to correct the variation resulting from urine volume.</p> |
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Creatinine



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| <p>False negatives</p> <ul style="list-style-type: none"> • Inappropriate sample storage. | <p>Clinical significance</p> <p>Creatinine is a product of muscle metabolism and its excretion is consistent from one day to the next in normal conditions. When determined at the same time as protein concentrations, the protein/creatinine ratio (UPC) is a very important indicator in the diagnosis and monitoring of renal disease. UPC \geq 0,5: consistent with renal disease.</p> <p>↑ Creatinine: extrarenal diseases such as myopathy, hyperthyroidism, diabetes mellitus with acidosis, bleeding GI problems, encephalitis and prerenal azotemia.</p> | <p>False positives</p> <ul style="list-style-type: none"> • High protein diets. |
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Nitrite



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| <p>False negatives</p> <ul style="list-style-type: none"> • The determination of nitrite has poor clinical significance in veterinary medicine due to the high number of false negatives, since many bacteria do not reduce nitrate to nitrite. <p>False positives</p> <ul style="list-style-type: none"> • Very dark urine. • Very high specific gravity urine. • Large quantities of Vit.C in the urine sample. | <p>Clinical significance</p> <p>Infection with Gram+ bacteria.</p> <p>For more accurate results, the urine should spend at least 4 hours in the bladder.</p> |
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Leukocytes



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| <p>False negatives</p> <ul style="list-style-type: none"> • Very high specific gravity. • Glycosuria. • Treatment with cephalixin and tetracycline. | <p>Clinical significance</p> <ul style="list-style-type: none"> • Dogs: pyuria, inflammation or urinary tract infection (a negative results does rule out infection). • Cats: no clinical significance due to the high number of false positives. | <p>False positives</p> <ul style="list-style-type: none"> • Faecal contamination. • Samples obtained by urination in dogs with prostatitis or pyometra. |
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Microalbumin



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| <p>False positives</p> <ul style="list-style-type: none"> • High levels of haemoglobin. • Blood visible in the urine. • Urinary pH >8. • Urine contaminated with disinfectants. | <p>Clinical significance</p> <p>The detection of microalbuminuria is an early indicator or renal disease or damage which helps diagnose underlying disease in outwardly healthy pets. It is an earlier indicator than the UPC ratio.</p> <ul style="list-style-type: none"> • Assessment of renal damage in dogs with Leishmaniasis, Ehrlichiosis, Dirofilariosis, FeLV, FIV, FIP. • Assessment of renal damage in cancer and inflammatory diseases (periodontal disease, pyoderma, rheumatic disease, etc.) • Treatment for renal failure. • Review of efficacy of treatment with potentially nephrotoxic drugs. • Geriatric examinations. • Renal disease prevention campaigns. • Pre-surgical tests. |
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