



FOREVER HOME GREYHOUND ADOPTIONS



PROUDLY SERVING THE ENTIRE NORTHEAST REGION!

GREYHOUND URINE ANALYSIS

Greyhound Urine analysis

There is a tendency to consider a dipstick analysis as a complete urine analysis. Unfortunately in doing so, very important parts of a urine analysis are missed out on, namely specific gravity and sediment examination.

While a dipstick test is available for specific gravity, accuracy is not always as good as required, and sediment examination provides essential information on red blood cells, white blood cells, bacteria, casts, crystals and other cells in the urine.

There again, while specific gravity provides a good indication of the ability of the greyhound to retain water. Any specific gravity test, if looked at in isolation without considering the hydration of the dog, forced fluid intake such as extra water added to the meal, the addition of alkalizing diuretics to the diet, or the effects of a recent run, may provide a misleading result.

Correct sample collection is also of extreme importance, a clean container must be used as any contamination, and even soap or detergent will alter test results.

It is also best, if first urine of the morning can be collected, and a midstream sample if possible, to reduce the chance of bacterial contamination.

Wiping the animal first with a clean tissue will also help in this regard.

It can not be stressed enough that the sample should be tested when the urine is fresh, any sample left longer than 20 minutes should be refrigerated and tested within a few hours.

Specific Gravity

Specific gravity 1.045

A specific gravity of this level and higher in dogs with slight dehydration indicates normal kidney function.

Specific gravity 1.045----1.030

In dogs with no medical problems and with normal hydration, BUN, and serum Creatinine, this range is considered normal. However, in dogs with dehydration and or a high BUN reading, this may indicate a slight loss of urine concentrating ability.

Specific gravity 1.029----1.013

Urine specific gravity in this range may be normal in dogs, when no need to concentrate urine exists. However in greyhounds with dehydration, further tests to check kidney function may be indicated, as in that case only slight ability to concentrate urine exists.

Specific gravity 1.012----1.008

No urine concentration has occurred in urine with this specific gravity, there again that may be normal in dogs with no need to retain water. However, if dehydration exists, values in this range are definitely abnormal and a blood chemistry profile is indicated.

Specific gravity 1.008

Specific gravity at this range and lower may still be normal if the dog has a need to excrete extra water, but are abnormal if any dehydration exists and would indicate the need for a blood chemistry profile, as well as a complete urine test, including sediment examination.

If these are normal, an Anti Diuretic Hormone response test should be carried out.

Urine Ph

Urine Ph in greyhounds may vary each day, as the kidneys maintain and adjust electrolyte and acid-base balances in relation to dietary intake, or a hard run.

Therefore, no specific urine Ph is abnormal, except as it relates to other findings from urine analysis, and to the acid-base and electrolyte balance as a whole.

Urine Ph 7.1 and lower

Urine in this range is acidic or neutral, and because greyhounds are usually fed only one main meal each day they generally have a Ph in this range.

However, if the urine is markedly acidic (6.0 or lower) a systemic problem may exist and further investigations should be undertaken.

Urine Ph 7.0 and higher

This information is designed to provide valuable information about caring for your Greyhound. Questions and concerns may be directed to either Paula 518-261-7025 or Martha 518-883-5554. Remember be kind and be patient and you will discover a joy beyond belief as you watch your new Greyhound blossom and flourish under your loving guidance.

Alkaline urine may be caused by addition of excessive amounts of alkalizing medications to the diet, however consistent alkaline urine may also be caused by a urinary tract infection.

Some of the types of bacteria that cause urinary tract and kidney infections produce an enzyme that breaks down to ammonia and turns the urine alkaline.

Consistent alkaline urine in dogs may also cause the formation of a type of kidney stone (crystals); these may also be caused by the indiscriminate use of sulphonamide antibiotics.

Another reason for persistent alkaline urine may be the inability of the kidneys to re-absorb bicarbonate.

Any consistently alkaline urine should be investigated, including a urinary sediment examination.

Protein

Protein in the urine is usually tested for by dipstick analysis, however this test does not provide for an accurate quantity of protein in the urine, nor are dipsticks capable of detecting some proteins in the urine associated with plasma cell damage.

Protein urine dipstick tests are qualitative and are recorded as a trace to 4+.

To accurately interpret the significance of protein in the urine, the urine specific gravity must be known. Simply because a small amount of protein may read as negative in urine with a specific gravity of 1.010 but positive in urine concentrated to 1.045.

A small amount of protein in the urine is normal, provided that the specific gravity is in the normal range for the state of the dog being tested, however any amount of protein in the urine at a specific gravity of less than 1.030 may be abnormal.

Blood in the urine can provide a false positive reading for protein in the urine, because proteins are present in blood in large quantities, compared with the amount of protein in normal urine.

There are a number of diseases that cause increased quantities of protein in the urine including kidney disease; therefore any significant increase in protein in the urine should be investigated.

Ketones

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Any reading of ketones in the urine is abnormal, false positive reactions are uncommon but could occur in highly concentrated and pigmented urine.

Causes of a positive reading may include impaired liver function, persistent fever, and chronic diseases involving blood glucose levels.

Glucose

Normal urine does not contain glucose; therefore any glucose reading is abnormal.

The most common cause of glucose in the urine is an elevated blood sugar to a level that exceeds the ability of the body to re-absorb the glucose, however this is extremely rare if not unheard of in greyhounds.

Bilirubin

Some bilirubin in the urine of dogs is normal, however the amount of bilirubin should be compared with the urine specific gravity. A trace to 1+ of bilirubin in urine with a specific gravity above 1.035 is normal, any increase above this level is abnormal, and may indicate some degree of liver damage.

Urobilinogen

Far too many problems exist in the measurement of urobilinogen using a dipstick test, and a false negative or a false positive result is common, and is therefore not recommended.

Blood

A positive test to blood in the urine may indicate the presence of haemoglobin, myoglobin, or intact red blood cells. Any positive blood urine test warrants further investigation.

Urine colour

Urine is normally yellow to amber in colour, and depth of colour will depend on urine volume.

However, dark urine does not necessarily indicate that the kidneys are concentrating the urine in a fluid saving effort.

Red Coloured Urine

The discoloration of the urine will depend on the type of pigment causing the discoloration and the urine Ph.

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Hemoglobinemia acid urine colours the urine a smoky brown while in alkaline urine the colour is red.

If a urine sample is to be checked for Red Blood Cells it should be done as soon as possible after the sample has been collected, as RBC's start to breakdown within minutes, releasing HAEMOGLOBIN into the urine. (HEMOGLOBINURIA)

The presence of blood in the urine may indicate a variety of diseases ranging from kidney-nephritis, cysts or trauma to infections in the bladder, urethra, prostate, or genital area. While HAEMOGLOBIN only in the urine may indicate a blood disease, bacterial infection, red blood cell parasites, or even some type of chemical poisoning.

Brown Red Urine

Myoglobin in the urine (Myoglobinuria) is characterized by brownish red urine.

Myoglobin is released from the muscle tissue following excessive exertion (RHABDOMYOLYSIS) or trauma such as torn muscle fibres.

The presence of Myoglobin in the urine indicates the need for a thorough muscle check, and a blood test for muscle enzymes to rule out muscle disease.

Myoglobin in the urine may also adversely affect the kidneys (toxicity) and the greyhound should receive intense fluid therapy.

Blood, Haemoglobin and Myoglobin will all give a positive result to occult blood with a dipstick test.