



Guinea Pig Helpline Factsheet

Urine Analysis to Aid Diagnosis

Certain medical conditions may require a urine test (or **urinalysis**) to back up the symptoms and suspected diagnosis. Depending on the type of test, the results given could provide a good indication to many conditions like urinary tract infections, kidney problems, and pregnancy toxemia.

Urine tests can be carried out on a **test strip** bought from a pharmacy or supplied by your vet; these strips give a basic indicator to abnormalities, and it is this type of urine testing that this factsheet explains.

More in depth analyses on urine samples can be performed by the vet or lab: **microscopic analysis** involves “spinning” the urine to check for crystals, blood cells, bacteria, yeast and parasites present, while **urine cultures** are samples left to develop over a 24-48 hour period to identify any bacteria or yeasts present.

How to Collect a Urine Sample

Place the guinea pig in a very clean plastic box with no bedding in it. Wait for the piggy to urinate – this can take up to a few hours; if you are able to safely syringe 10ml+ water into the pig, this can help to cut down on waiting time, and it should not interfere with (dilute) the readings. Once piggy has peed, remove from the plastic box, and use the sterile syringe(s) to suck up the urine.

For a basic test on a urine test stick you only need to collect up to 0.4ml urine, but if taking a sample in to the vets it is usually best to take in around 5ml urine to ensure there is plenty for testing.

Keep the urine in the syringes to ensure the urine remains in a sterile container. If you collect the urine a while before your vet appointment, keep the samples in the fridge, but do try to collect as fresh a sample as possible to ensure the most accurate results.

Reading a Urine Test on Test Sticks

Drip 1-2 drops of urine onto each square on the urine test stick. As close to the indicated time as possible (30 seconds for glucose, 40 seconds for ketones etc.) compare the colour of the relevant square on the stick, to the coloured boxes on the chart supplied. Note which numbers or letters are above the closest matching colour box, and either contact Laura or your vet to help you understand the results.

Normal Urine Values – and what Abnormal Results might mean

It is important to remember that a basic urine test stick and urinalysis alone cannot fully diagnose any medical problem. The piggy’s symptoms and medical history, along with other tests where advised, are important to reach an accurate diagnosis and treatment.

(GLU) GLUCOSE – negative

A positive reading does not always suggest diabetes; diet can heavily influence this result which is essential to take into account. A positive glucose reading alone should not diagnose diabetes.

(KET) KETONES – negative

In a pregnant sow a positive result can indicate pregnancy toxemia and the sow requires urgent attention. A positive result can also suggest starvation, diabetes, and liver problems.

(NIT) NITRITES – negative

A positive result can indicate infection.

(BLD) BLOOD – negative

Blood can be present in the urine without any visible signs of blood. A positive reading can indicate infection, inflammation, renal stones or potential kidney problems.

(SG/DEN) SPECIFIC GRAVITY/DENSITY – mid-scale

This reading can give a basic idea of kidney efficacy. A reading higher on the scale means concentrated urine associated with dehydration, whereas a reading lower on the scale means diluted urine, associated with kidney disease.

pH – 8.0 – 8.5

The urine is very alkaline, hence the species is more prone to developing renal stones. A lower pH reading may be desirable if a guinea is prone to kidney or bladder stones.

(PRO) PROTEIN – negative

Protein in the urine can indicate infection or kidney problems. Protein in the urine can also be caused by diet, often the dry food (pellets/nuggets/mix).

(LEU) LEUCOCYTES – negative

A positive leucocyte reading can be associated with infection and inflammation.

(BIL) BILIRUBIN – negative

A positive result may point to liver problems.

Additional Notes

It is worth noting that some urine samples should be collected **before** certain treatments are commenced to allow for an accurate diagnosis. For example, guinea pigs already on antibiotics may not give as accurate a reading in a urine test as is needed to back up the theory of a urinary tract infection. For more accurate results, always allow at least 72 hours after the last dose of antibiotic to do a urine test.

In persistent urinary problems where the diagnosis needs to be very specific, the urine may be drawn by cystocentesis, a needle directly into the bladder via the abdomen, rather than in a sample taken as described on this factsheet.