

Your vet may suggest performing a urine sample if your pet is ill, to help aid diagnosis of a problem. It is often indicated for cases of cystitis, incontinence, inappropriate toileting, difficulty/pain when urinating, excessive drinking/urinating, and suspected hormonal diseases, eg: diabetes mellitus. A urine test may also be included as part of a routine screen to ensure your pet is in the best of health, ie: at a yearly health check.

### How to Collect A Urine Sample

The most accurate results of urine analysis are achieved if you can:

1. Collect an early morning urine sample before your pet has anything to eat.
2. Collect a mid-stream urine sample.
3. Use a sterile container (eg: a small clean plastic or glass container with lid) to collect the voided urine (these can be purchased from reception).
4. The sample is analysed as soon as possible (between ½ to 2 hours). If there is any delay between collection and analysis, please store the sample in the fridge in the meantime and let us know that you have done this when the sample is submitted.

#### Dogs:

If you have trouble collecting a sample, often a problem with bitches, the following hints may be of help!

The simplest method is to collect the urine directly into a container, holding it in the stream of urine as it is passed. It is best to wear rubber or disposable gloves to do this. More convenient, especially in the case of bitches, is to hold a shallow dish (ceramic, metal or plastic) beneath the animal as it urinates and then transfer the urine to the container.

The need to transfer urine is avoided if you purchase a "Uripet" collection device (available from Reception), which fits into the end of the container to collect from male or female. Afterwards it is replaced by a screw cap.

An alternative suggestion for collecting urine from dogs is to open a wire coat hanger, form a loop at one end and place a plastic or Styrofoam cup in the loop. When your dog urinates, place the cup in the path of the urine flow. An old soup ladle can also be used.

**NB:** You will find collection easier with your dog on a lead.

#### Cats:

Urine samples are most easily obtained from cats using inert litter in a litter tray. This can be washed aquarium gravel or our own urine collection kit ("Katkor") with plastic beads and sample pot included. These are very cheap and available at reception.

### Cystocentesis

Your vet may need to take a urine sample from your pet directly from the bladder by inserting a needle through the abdomen and drawing a urine sample out with a syringe. This may sometimes be done under ultrasound guidance. The cat or dog will need to be gently restrained by a nurse for this procedure, but most animals tolerate it very well. This method may be necessary to get a non-contaminated sample, or after failing to get a manual sample.

Another method of obtaining a sample may be for your vet to pass a catheter through the urethra and into the bladder.

### Urinalysis

Once the urine sample has been collected, it may be analysed "in-house" or sent to a special laboratory (requiring the samples to be sent by post or courier). Here are some of the tests most commonly carried out on urine samples:

- **Urine Specific Gravity (USG)** – This measures the density of urine compared to water, ie: how dilute or concentrated the urine is. Very concentrated urine may indicate that an animal is dehydrated, whilst very dilute urine is common if the animal is drinking excessively (for example with many hormonal diseases). If the specific gravity is "isosthenuric", ie: it is the same concentration as protein-free plasma, it may indicate kidney dysfunction because they are not able to concentrate or dilute the urine.

- **Dipstick** – This is a paper strip with several squares impregnated with reagents that change colour with the presence of certain substances. A drop of urine is placed onto each square and the results can be read after sixty seconds. Urine is often tested for:

1. **White blood cells** – may indicate inflammation or infection, often originating from the bladder.
2. **pH** – how acidic or alkaline the urine is.
3. **Protein** – the presence of protein in the urine often suggests that there is inflammation of the kidneys.
4. **Glucose** – may indicate diabetes mellitus.
5. **Blood** – either whole blood cells or haemoglobin (from broken down cells) – indicates inflammation or infection of the urinary tract.

- **Microscopy of urine sediment** – the sample is “spun” in a special machine that cause the heavier cells and any debris to fall to the bottom of the tube. This “sediment” can then be examined under the microscope to look for inflammatory cells, bacteria, or crystals (that can build up to cause bladder or kidney stones).
- **Culture and sensitivity** – a sample of urine is spread onto a nutrient medium and incubated, usually for 24-48 hours. This gives any bacteria an optimum environment for growth and multiplication, and can then be identified. These colonies of bacteria can then be sub-cultured and small paper circles impregnated with known antibiotics are placed onto the second nutrient plate, and the process repeated. This will show whether the organism is resistant or sensitive to certain antibiotics, enabling the vet to prescribe the most effective treatment for your pet.



There are other tests that may be carried out on urine samples, for diagnostic or prognostic purposes, or to help decide on treatment regimes. Often sequential urine tests are required to allow your vet to monitor your pet’s response to treatment, and give a more accurate guide to long-term outcome. A diagnosis cannot always be reached from a urine sample alone, so other tests, such as blood samples, x-rays or ultrasound scans may be required for further information.

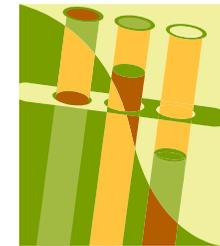


March 2010



## Quick Reference Guide

# Urine Tests



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