



What is urine protein to creatinine ratio test?

The urine protein to creatinine ratio (UPC) test measures the amount of protein being lost through the urine. Normally, proteins are not able to pass through the kidney's filtration barrier. When it happens, it is considered abnormal and the cause for proteinuria needs to be identified. Common causes of protein in urine include kidney glomerular disease, high blood pressure, hyperadrenocorticism and tick-borne disease.

Why is this test indicated for my pet?

This test will provide useful information about the magnitude of protein loss. This helps determine if specific treatment is required and can also monitor the response to treatment.

Can any urine sample be used for a UPC test?

No, it is important for urine to be free of inflammatory cells, blood or other contaminants for the test to be accurate. For this reason, we will usually also perform a routine urinalysis on fresh urine before submitting a pooled sample for UPC.

Why do you need several samples?

A single sample can be helpful, but it may either over-estimate or under-estimate the amount of protein in the urine. It is more accurate to pool together a bit of urine collected over several days to measure a kind of "average" UPC. This is especially useful when monitoring response to treatment for proteinuria.

Urine Collection Method For Urine Protein Creatinine Ratio (UPC) Test

1 Collection is best done during the morning when the animal has enough urine stored. Gloves are encouraged for collection since there may be some spilling of urine.

2 Select a small, clean plastic or glass container that can be sealed shut. Another option is using a ladle spoon or a larger container to facilitate urine collection, then later transfer urine to a small container.



3 Take your dog for a walk and place close attention when your dog appears to want to urinate. Place container under the stream to collect sample.



4 A sample of at least 15 mL (1 tablespoon) is an adequate amount to collect.

5 The container must be sealed closed to avoid any spilling or contamination of sample. Identify the sample (name and date of collection) and place in small plastic bag to avoid any spilling. Place the sample in the freezer.



6 Collect samples on a daily basis for three consecutive days prior to your pet's scheduled veterinary appointment day.

12 Collect urine sample ✓	13 Collect urine sample	14 Collect urine sample	15 Lucky's veterinary appointment
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7 Store samples in freezer until taken to your veterinarian's office. Do not let your dog urinate before the appointment as your veterinarian is likely to collect one more sample for urinalysis.



Proteinuria

What is Proteinuria?

Proteinuria is when proteins are lost through the urine. Proteins are normally found in the blood and should be retained in the blood after it is filtered by the kidney to make urine. The kidney's filters are called the glomeruli, and under normal conditions blood proteins are unable to pass through this filter therefore are kept within the bloodstream.

Sometimes, proteins are detected on a routine urine evaluation (urinalysis). Once proteinuria has been documented in a patient it is important to try to determine the underlying cause. The cause is sometimes not related to the urinary system at all; these include "physiologic" causes of proteinuria or abnormal blood proteins. Some physiologic causes of proteinuria include seizures, fever, stress, or exercise; once the proximate cause is gone the

proteinuria will resolve. Abnormal protein in the urine can also come from the urinary bladder or reproductive tract. Urine protein creatinine ratio is typically measured only after it is determined that the protein is not due to either physiologic causes or to problems of the lower urinary tract, but is due to kidney disease.

Further tests that are commonly performed to characterize proteinuria include: urine protein creatinine ratio, blood pressure, blood chemistry, infectious disease testing, abdominal ultrasound, and others. The treatment and prognosis of proteinuria largely depend on the underlying cause. Commonly, kidney disease causing proteinuria requires long-term treatment and monitoring of response to therapy.

References: Nelson, Richard W. Couto, C. Guillermo. Small Animal Internal Medicine. Elsevier. 2019