

What crystal is this?



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<http://diaglab.vet.cornell.edu/clinpath/modules/UA-SED/crystal1.htm>

The answer is over the page.....

PREGNANCY TESTING IN VETERINARY SPECIES

Vetpath Laboratory Services have several blood tests available for diagnosing pregnancy in veterinary species. These tests are described below.

Dogs

Canine pregnancy can be diagnosed by using the **Relaxin** test. Relaxin is a hormone that is first detectable by week 4 of pregnancy, peaks at the 6-8th week then decreases. Relaxin is not detectable during pseudo-pregnancy. The test can be performed on serum or heparinised plasma and is run Monday

to Friday on a minimum of 1ml of whole blood.

Cats

Progesterone can be serially measured to determine the onset of pregnancy since elevated progesterone reflects the continuing presence of a corpus luteum. Onset of pregnancy can be defined as the first day that the progesterone exceeds 8 nmol/L. Progesterone is measured Monday to Friday on a serum sample with a minimum sample size of 2 ml.

Horses

There are two pregnancy tests available in horses; PMSG (pregnant mare serum gonadotrophin) and oestrone sulphate. Both tests are performed on Wednesdays (cut off time is 11:00am) on serum samples of at least 2ml (oestrone sulphate can also be measured on EDTA plasma). Choosing which test is appropriate depends on how many days pregnant the mare is; without this information the wrong test may be performed.

PMSG (also known as equine chorionic gonadotropin) is produced by the endometrial cups of a pregnant mare's uterus. PMSG is detectable from day 45 to 120, peaking at 70 days. Oestrone sulphate is a steroid hormone produced in the gonads, the adrenals and is produced by the foetal-placental

unit during pregnancy. In mares oestrone sulphate is detectable in the maternal circulation from early as 60 days post-mating until foaling, with reliable results occurring after 80 days post-mating.

In summary, the timing for equine pregnancy tests is as follows:

PMSG: 45 – 120 days pregnant.

Oestrone sulphate: >80 days pregnant.

Camelids

Camelids are induced ovulators and if the female camelid is pregnant, the progesterone will be elevated until parturition. The interpretation of the progesterone concentration is dependent on knowing when the animal was likely to have been mated. If the progesterone result is greater than 6 nmol/L in a sample collected a month or more after exposure to a male, the female is most likely pregnant.

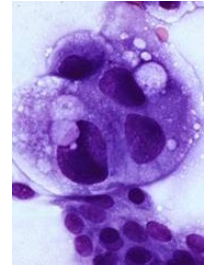
Urine cytology

Vetpath frequently receives requests for urine cytology; however cytology is of use only when neoplasia is suspected. A summary is below to assist you in choosing the best test.

Urine “wet micro” (wet microscopy) involves examination of urine sediment for cells, infectious agents, casts, crystals, spermatozoa and debris. Urine specific gravity and pH are also determined. In most cases wet microscopy is the all that is necessary for an accurate diagnosis. Increased numbers of epithelial cells may indicate the need for cytological examination.

Urinalysis includes wet microscopy and the specific gravity reading, and the use of a dipstick to measure the pH and the presence of protein, glucose, ketones, blood and bilirubin. The biochemical urine analysis can assist in diagnosing a variety of disorders and provides additional information to help interpret the wet micro.

Urine cytology involves examination of stained slides of urine sediment, primarily when assessing for neoplasia. Wet microscopy, urine pH and specific gravity are also reported but a dipstick examination is not performed.



The crystals are

Calcium oxalate dihydrate.

Calcium oxalate dihydrate crystals are typically seen as colourless squares with intersecting diagonal lines (envelope crystals). They can occur in urine of any pH and can be of variable size.

Calcium oxalate dihydrate crystals are often seen in normal urine from horses and cattle. They are less common, but can be seen in normal feline and canine urine. Urolithiasis due to calcium oxalate has been reported in dogs and cats. In some cases, they occur secondary to abnormal calcium metabolism. Miniature Schnauzers are reported to be predisposed to calcium oxalate urolithiasis despite having no abnormalities in urinary calcium excretion.