

Mare and foal health

During breeding and foaling season there are a number of laboratory tests that can help ensure a successful equine pregnancy and a healthy foal. Here are some recommendations:

Uterine Health Testing

Uterine culture and cytology

Before breeding, assess uterine health with a cytology test and a culture. These tests detect uterine inflammation and/or infection that could impair the mare's ability to conceive or carry a foal. Be sure to perform both tests (guarded swabs are recommended to avoid contamination). Bacteria identified by culture could simply be a contaminant; cytology is required to confirm infection.

Uterine biopsy

For older mares or mares with a history of fertility problems, an endometrial biopsy should be performed to help with diagnosis and prognosis for future reproductive success. It can be done any time during the cycle. Most veterinarians perform this test in autumn to prepare for spring breeding.

Testing During Pregnancy

Progesterone

In normal mares, peripheral progesterone concentrations peak around 5 to 10 days after ovulation but then decline to low levels by day 35 of pregnancy. At this time, equine chorionic gonadotropin boosts progesterone levels by inducing the formation of secondary corpora lutea after days 38 to 40. Studies have shown that mares with greater than 4ng/mL progesterone were less likely to abort than those with less than 4ng/mL. It is recommended that a diagnosis of progesterone insufficiency in horses should be based on the analysis of two or three samples taken during the course of a week, as opposed to testing a single blood sample.

Pregnant mare serum gonadotropins (PMSG)

This is detectable in mares between days 40-120 of gestation when functional endometrial cups are present. Peak concentrations in most mares occur between days 60-80. Variation in levels between mares means that a negative test result before 60 days or after 90 days from breeding does not rule out pregnancy. A positive result generally indicates pregnancy but false positives do occur if there has been fetal death after the endometrial cups have formed (i.e. after day 40).

Oestrone sulphate test

This is the most reliable means of pregnancy diagnosis from approximately 100 to 310 days. Increased concentrations of oestrone sulphate indicate a viable fetus and concentrations will drop immediately if fetal death occurs. Oestrone sulphate concentrations can decrease in late pregnancy and can give a negative result in mares in late pregnancy.

Health Postpartum

Foal IgG testing

Measuring the IgG concentration assesses whether there is adequate transfer of colostral antibodies to the foal and can help in optimizing the health and survivability of the foal. All Gribbles Veterinary laboratories use the TIA method for measuring serum IgG and, with its



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superior turnaround times, it enables rapid detection of failure of passive transfer, thus facilitating earlier therapy and a better prognosis. Testing should be done at 18—24 hours after birth.

Serum amyloid A

Measurement of serum amyloid A (SAA) has been shown to be particularly useful in differentiating between infectious and non-infectious diseases that cause weakness in neonatal foals. As SAA is more sensitive in detecting inflammation (compared to CBC and fibrinogen), earlier detection and monitoring of inflammatory processes would assist in earlier treatment and prognostication.

Neonatal isoerythrolysis

Colostrum is important to foals but those at risk of neonatal isoerythrolysis need to be prevented from suckling for the first 24–36 hours of life, or tested before being allowed to suckle to reduce the possibility of them developing this condition.

Faecal egg counts

Mare: To reduce pasture contamination and assess the effectiveness of the farm deworming program, perform a faecal egg count on the mare before turning the mare and foal onto pasture.

Foals (>2 months old): Roundworm infestation can lead to serious problems such as diarrhoea, colic, respiratory illness and death from severe impactions. Foals should be checked for roundworms beginning after 70 days of age.

Foal diarrhoea

Several other pathogens may also be responsible for diarrhoea in foals. We can perform testing for *Salmonella* spp., *Rhodococcus equi* and *Cryptosporidium*.



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