

When is regumate necessary?

Regumate is a synthetic progesterone that is given orally to mares. It can be used in a variety of different situations, including hastening of the spring transition period, suppression of estrus behavior, synchronization of mares for breeding or assisted reproductive techniques, but most commonly for supplementation during pregnancy.

The most important use for regumate is as a preventative treatment for abortion or placentitis late in pregnancy. It appears, however, that an increasing number of mares are placed on regumate as a treatment for infertility or maintenance of pregnancy, so a question arises: Is it really necessary and when?

After a mare ovulates, a Corpus Luteum (CL) is formed. This matures by day six post ovulation and should produce enough progesterone to provide a uterine environment conducive for embryo development.

It is controversial whether a blood concentration of >2ng/dl or > 4ng/dl is necessary for pregnancy establishment and maintenance. Progesterone increases the depth, branching, and tortuosity of the endometrial glands enhancing the production of uterine secretions.

These uterine secretions, or uterine milk, provide nourishment for the early embryo prior to placental development. Uterine tone also is enhanced under the influence of progesterone with the level of progesterone having been shown to affect the mobility, fixation, orientation, and survival of the early equine embryonic vesicle.

If the CL does not produce enough progesterone or is destroyed, pregnancy failure can occur. Lysis can occur due to inflammation either within the uterus (due to endometritis) or systemically (i.e. Colic) by prostaglandin release, causing the CL to regress.

Stress also has been implicated as potentially affecting the CL. Regumate supplementation, therefore, is necessary if blood

progesterone levels are low or if lysis of the CL may occur.

Other instances during which regumate may be used early in pregnancy include post twin pinch, during sales or if a pregnant mare has "poor tone" on palpation of her uterus, or a history of embryonic or fetal loss.

At about 36 days of gestation, endometrial cups start to form. These produce equine chorionic gonadotropin (ECG). ECG induces secondary ovulations with the formation of secondary CLs. This potentially increases or augments blood progesterone concentrations. Therefore, if mares are on supplementation, this is a good time to determine if continued supplementation is necessary.

By 120 to 150 days of gestation, the placenta takes over the production of progestagens (metabolites of progesterone) This is important to understand when trying to evaluate progestagen blood concentrations because there will be varying levels of progestagens measured depending on cross reactivity of the progesterone test used by each specific lab.

Ascertaining progestestagen blood levels at this stage of gestation is another period during which it can be determined if continued supplementation is needed. Regumate will not be measured when determining blood progesterone concentrations, but other sources of progesterone will.

One progestagen, 5alpha-pregnane has been suggested to maintain myometrial quiescence in the horse. Therefore, altrenogest or other progesterone supplements can be beneficial in diseases in which uterine irritability arises due to inflammation and prostaglandin release such as placentitis or other conditions that cause abortion.

However, it is incredibly important to remember that once any progesterone supplementation is used, it is essential that fetal viability be monitored. If death occurs, maintenance within the uterus can be detrimental to future fertility.



Karen Wolfsdorf, D.V.M.

Karen Wolfsdorf, D.V.M., attended veterinary school at the University of Florida and graduated in 1992. After completion of her degree, she began a field service internship at North Carolina State University.

In 1995, Dr. Wolfsdorf completed a residency in Theriogenology at the University of Florida and became board certified in that area. Before coming to Hagyard Equine Medical Institute, she spent time working in Australia with Dr. Reg Pascoe at Oakey Veterinary Hospital.

In 1996, Dr. Wolfsdorf joined Hagyard Equine Medical Institute as an associate and, in 2002, she became one of the first female partners at Hagyard. Her main area of interest is reproduction in the problem mare.

Dr. Wolfsdorf has authored many chapters on equine reproduction and has presented and published research regarding progesterone, retained endometrial cups, and equine twin reduction with cranio-cervical dislocation

