



## TWINS

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Twins are a significant cause of reduced reproductive efficiency in the mare and usually result in abortion, stillbirth or early foal death. Good breeding management practices and early pregnancy diagnosis are the keys for diagnosis and successful management of twins.

Identical twins result from the splitting of an embryo that formed after fertilization of an egg ovulated from a single follicle. In the horse, a majority of twins are a result of fertilization of two eggs ovulated from separate follicles and consequently are genetically non-identical. Sperm from a fertile stallion can survive in the reproductive tract of a mare for several days. Twins may therefore develop from ovulations that occur on the same day or several days apart.

Thoroughbreds, Warmbloods, and Draft horses have the highest incidence of multiple ovulations and twins. American Quarter Horses have about a 10 % chance of ovulating multiple follicles during any given cycle. Mares that have multiple ovulations during one cycle have a much higher chance of having multiple ovulations during subsequent cycles. Consequently, mares with a history of twins have a higher likelihood of developing twins in the future.

Early detection of twins is critical for proper management. Twin pregnancies can be diagnosed as early as 12 days after ovulation. The equine embryo migrates throughout the uterus until about day 16 or 17 when it 'fixes' in one location. It is highly advantageous to identify twins during the mobility phase, so that one embryo can be eliminated when it is in a separate location within the uterus from the other embryo.

If twins are located adjacent to each other in the same uterine horn (unilateral twins), it is more difficult to eliminate one without also damaging or eliminating the other embryo. In a case of unilateral twins, it is prudent to re-examine the mare a few hours later or the next day when the embryos have had a chance to separate. Ultrasound examinations may have to be repeated multiple times waiting for an opportunity to eliminate one embryo. Natural resorption or elimination of one embryo may occur if both embryos are adjacent to one another in one uterine horn. It is less likely to occur if the embryos are located in opposite uterine horns.

Elimination of one embryo may be accomplished by a veterinarian during an ultrasound examination. Application of pressure on one embryo manually or by using the ultrasound probe can disrupt the embryonic vesicle, while leaving the other

embryo intact. Management of twins in this manner is most successful between 14 and 16 days postovulation. During this time period it is also possible to gently move embryos that are only slightly separated into opposite uterine horns to facilitate the elimination of one embryo. Your veterinarian may opt to administer a prostaglandin inhibitor such as Banamine® prior to the reduction attempt and/or provide progesterone supplementation for several days after the embryo elimination procedure.

Limited options exist in situations in which twins remain in contact with each other in one uterine horn beyond day 16. These mares are usually monitored periodically by ultrasound to determine if natural elimination of one embryo has taken place. However, if twins are still present on day 30 to 32 after ovulation, the unfortunate decision to abort both embryos may be necessary if the mare is to be bred again that season. Endometrial cups begin to form on about day 35 and it is unlikely that a mare will return to estrus after cup formation occurs. Termination of twin pregnancies may be accomplished by administration of prostaglandins.

It is rarely recommended that a twin pregnancy be allowed to progress to term. The consequence is usually abortion between 5 and 9 months of pregnancy. Adverse consequences, such as dystocia, trauma to the reproductive tract, and retained placenta may result in severe medical complications and/or loss of part or all of the next breeding season.

Twin management is easier, safer and more effective if performed early in pregnancy. Delayed detection leads to increased risk, increased expense, and increased chance of failure.

