



## **MARBLES IN THE UTERUS – Can a Marble Keep a Mare Out of Heat?**

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Expression of behavioral estrus, or heat, in mares can have a profound negative effect on training and performance. Estrus is normally expressed for 5 to 7 days out of the 21-day estrous cycle. Owners and trainers often cite variations in performance and temperament of mares when they are in heat. Examples of adverse behaviors noted in performance mares when in heat include attitude changes, tail swishing, difficulty in training, squealing, horsing, excessive urination, kicking, decrease in performance, and colic-like discomfort.

Numerous techniques to suppress or modify the estrous cycle or estrous behavior of the mare have been tried. This month we will review the facts regarding efficacy of marbles in suppression of estrus in mares.

A study was reported in which marbles were inserted into the uterus of mares for suppression of estrus. In the study, 35-mm ('shooter size') glass marbles were sterilized in an autoclave and subsequently a single marble was placed into the uterus of each of 12 mares. Smaller sized marbles apparently have a tendency to be expelled from the uterus. Marbles were inserted within 24 hours after ovulation while mares were still in heat and the cervix was relaxed.

The mares were subsequently monitored by teasing, ultrasonography and hormone

analysis to evaluate effect of treatment. Only five of the twelve mares (41.7%) receiving marbles remained out of heat for a prolonged period of time. The other seven mares came back into estrus after a normal diestrous period and ovulated approximately 20 days after the initial ovulation. The five mares that experienced an alteration in their estrous cycle remained out of heat for an average of approximately 3 months (76, 78, 86, 95, and 109 days, respectively).

Pseudopregnancy, or formation of a persistent corpus luteum, was noted as the reason for the prolonged suppression of estrus in the five mares. Apparently, the intrauterine marble caused an alteration in prostaglandin secretion from the uterine lining (endometrium) in these mares. Prostaglandins are normally released in a pulsatile manner in non-pregnant mares approximately 13 to 15 days after ovulation. Prostaglandins cause destruction of the corpus luteum and a reduction in progesterone levels, allowing mares to return to estrus. The suppression of estrus in the five affected mares was due to a chronic elevation in progesterone production secondary to formation of a persistent corpus luteum.

Uterine biopsies were collected prior to insertion of the marbles and after removal. No significant uterine problems were noted

during or after the treatment period. In addition, eight of the mares were bred the following year and three were reported to be pregnant.

Removal of an intrauterine marble is best accomplished when the mare is in heat and the cervix is relaxed. In most instances, removal is not difficult. However, anecdotal reports and our own experiences have indicated that marbles may be difficult to remove in some cases.

Although the technique is interesting from a physiological standpoint, the rate of efficacy is too low for most owners or trainers to count on if suppression of estrus is critical. However, the treatment would be inexpensive, easy to administer and reversible.

Currently, there are no approved treatments or medications administered as a single dose that are effective for long-term suppression of estrus in mares. The only method of estrus suppression currently approved for use in the horse is Regumate<sup>®</sup>, which must be administered orally once daily.

Fact Check:

Placement of a sterilized marble into the uterus is only effective in blocking heat in a limited percentage of mares treated. On the positive side, marble therapy is not expensive. However, if you absolutely want to keep a mare from showing heat during a show or performance, the best therapy is still administration of oral Regumate<sup>®</sup> once daily beginning 3 to 5 days prior to the critical event. If you go the cheap route and it doesn't work and your horse doesn't perform up to speed, your colleagues may suggest that both you and your horse have lost your marbles.



**Marble removed from the uterus of a mare**