



## WHAT IS AN EMBRYO TRANSFER?

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### *Puget Sound Equine Reproduction Center*

Embryo transfer is a breeding procedure in which a fertilized egg is flushed out of one mare's uterus, and transferred to another mare's uterus. The surrogate, or recipient, mare then carries the foal to term. Puget Sound Equine Reproduction Center (PSERC) offers two alternatives for embryo transfer: using your own recipient mare for the surrogate, or shipping the flushed embryo to an approved recipient program (such as Colorado State University) to be transferred to a mare in the recipient herd. At PSERC, we recommend having three surrogate mares to provide the most reliable results in synchronizing heat cycles (estrus) with that of the donor mare. It can be accomplished with two mares, however, three mares will ensure that synchronization of heat cycles occurs. Should you decide to use embryo transfer to create a foal, PSERC can help you decide which option is best for you and your mare.

#### WHAT IS THE PROCEDURE?

Embryo transfer is becoming a common procedure in equine reproduction. At PSERC, a surrogate mare's estrus is synchronized with that of the donor mare. This may be a natural phenomenon, or may be done through hormonal treatments. Special attention is given to calculating the exact date of ovulation. Eight days after ovulation, the donor mare is flushed in order to extract the fertilized embryo. Once an embryo has been identified, it is transferred into the recipient mare's uterus. One week following the implantation, the surrogate mare is examined by ultrasound to determine if a pregnancy has occurred. Once this has been verified, the surrogate mare carries the fetus to term.

#### CANDIDATES FOR EMBRYO TRANSFER

The stallion used should be at peak semen production for the greatest chance of fertilization. Because timing is so important, the stallion's semen should be readily available. The donor mare should be current on immunizations, in good health, and have a history of producing eggs that can be fertilized. The surrogate mare should be young, healthy, and her uterine health should be excellent. A uterine biopsy of the surrogate mare can verify uterine health.

#### REASONS TO USE EMBRYO TRANSFER

The most compelling reason to use embryo transfer is the need to avoid a layoff due to pregnancy in a performance horse. Today, by using the embryo transfer method of reproduction, a performance mare can continue her show career and still produce a genetic foal for her owners. Other reasons to consider embryo transfer include: the donor mare has a history of twins; the mare's advanced age poses a risk; the donor mare's uterus can no longer support a pregnancy; or the owner of the donor mare may want more than one foal from a mare per year.

The use of embryo transfer as a means to create a foal should be discussed with your veterinarian, as it is not a viable option for all mares. However, if you do decide to use this reproductive method, PSERC would be happy to assist you in achieving your goal.