

EQUINE EMBRYO VITRIFICATION PROGRAM

**Equine Embryo Laboratory
Veterinary Physiology and Pharmacology
College of Veterinary Medicine & Biomedical Sciences
Texas A&M University
College Station, Texas 77843-4466**

PURPOSE OF THE EMBRYO VITRIFICATION PROGRAM

The embryo vitrification program is offered at Texas A&M as a means to cryopreserve (freeze) embryos from donor mares. Embryo vitrification has long been successful in small embryos, such as those flushed from mares on Day 6 after ovulation. Recently, we have developed a method to cryopreserve larger, Day-7 or Day-8 embryos (blastocysts). Using our vitrification method, blastocysts larger than 300 μm in diameter, which are fluid-filled, are collapsed by puncturing their outer layer. This manipulation allows the embryo to be vitrified successfully. The vitrified embryos are placed in liquid nitrogen and can be stored indefinitely. Collapsed, vitrified embryos reform their shape quickly when warmed, and have resulted in good pregnancy rates (70%) after transfer.

This advanced reproductive technology is useful in equine industries that desire foaling dates early in the year, and also has the advantage of using embryos recovered from donor mares at the standard time after ovulation (Day 7 or 8). Embryo vitrification makes it possible to attain earlier foals from mares that, due to age or chronic breeding issues, do not provide embryos until late in breeding season, or from mares that foal late in the breeding season. The vitrified embryos can be warmed and transferred in the following years, at a time of the embryo owner's choice.

Please Note:

- We do not store embryos here in our laboratory; once they are vitrified, they are shipped to you or to an embryo storage facility that will bill you directly for charges related to storage.
- Blastocyst (large embryo) vitrification is a new field and the procedure we have developed requires that, when the transfer is to be performed, the EMBRYOS BE WARMED AT OUR LABORATORY and shipped to the embryo recipient farm for best results. We are hoping to develop a method in which the embryo can be warmed at mare-side for next year.

- Before participating in the embryo vitrification program, it is important for each owner/lessee to know the regulations of their breed registry regarding the possibility of registering any resulting foals, and any effect of transferring an embryo in a year other than that of the recorded breeding.

The amount billed by the equine embryo laboratory only covers the charges for vitrification, blastocoele collapse, genetic biopsy (see below), warming and shipping. **All charges related to the transfer of vitrified/warmed embryos to recipient mares will be billed to you, the client, by the embryo transfer facility performing the transfer and are not included in this contract.**

BIOPSY FOR GENETIC DIAGNOSIS

Our laboratory also offers the option for embryo biopsy, which is, taking a small sample of cells from the embryo for genetic analysis. Embryo biopsy allows the owner the option to know the genetic makeup of their embryo. By knowing this, the owner can avoid production of a foal affected with a genetic disease, or may know the sex or color of the upcoming foal before the embryo is transferred. Embryos that have been subjected to biopsy and vitrification in our hands have yielded a 70% pregnancy rate, and foals born from biopsied embryos are normal.

COSTS OF THE PROGRAM

Fees are assessed for:

- Embryo vitrification (\$300); (\$200) additional embryo vitrified concurrently
- Embryo micromanipulation for blastocoele collapse, to allow vitrification of embryos greater than 300 µm in diameter (\$300)
- Embryo biopsy for genetic diagnosis (\$500)
- Packaging and submission of biopsied cells to genetic laboratory for genetic diagnosis (\$175)
- Warming of a vitrified embryo (\$150); (\$100) embryo warmed concurrently
- Embryo shipment (\$150)
- A surcharge (\$200) is assessed for cases that entail embryo vitrification or embryo warming on weekends/holidays.

If you have any questions regarding the equine embryo vitrification program, please contact:

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