

EMBRYO DONATION/FROZEN EMBRYOS

MYTHS & FACTS

The vast majority of couples that elect to freeze embryos from a fresh – transfer cycle do so anticipating that they will use the remaining embryos in a future transfer. This could occur either because of a failed fresh cycle or if additional pregnancies are desired. Both the couple and the clinic/fertility program are committed to freezing embryos that have good pregnancy potential.

At the time that couples are counseled and have obtained consent on cryopreservation, the possible dispositions of unused embryos should be discussed, including:

- Donation to another couple
- Donation to research
- Discard

Any recommendations for future additional testing and screening in order to donate embryos to another couple may be discussed as well.

Nationally, IVF programs store embryos for couples or individuals that elect to hold embryos for future use. Many of these clients struggle with the storage/space issues that are a result of the long term storage of their embryos.

Couples return to their centers for frozen embryo cycles more commonly and more quickly because of:

- A failed cycle
- Lost pregnancy
- Termination related to genetic disorders

However, many couples that are successful with the fresh cycle tend to delay returning for additional cycles. The time delay for a patient/couple to return to treatment varies based on emotions, finances, and family dynamics.

Couples who eventually choose to donate their embryos for use by another couple have almost always had a successful IVF pregnancy from non-donor or donor eggs, and have decided that their family is complete.

The landmark that triggers donation may be their child's first or another designated birthday, the age of the mother, or something as arbitrary as an increase in embryo storage fees. Some embryos are donated immediately after reproductive goals are met, and others are donated many years later.

There are several estimates of the number of frozen embryos in the United States; most estimates suggest there are more than 400,000. Only a very small percentage of these are available to recipient couples. It is often very hard for couples to decide to donate their embryos to another couple or individual. Many couples find the alternative options of disposition of unused frozen embryos more appealing.

In almost all cases, embryos available for donation are from the same “batch” as others that have resulted in a pregnancy. Proven fertility with sibling embryos from the donor couple should be a factor favoring success.

However, assuming that “best quality” embryos were selected for the fresh transfer, those available for donation will generally be of either equal or lesser quality than the embryos that yielded a pregnancy in the donating couple.

Usually they are still adequate for use and able to yield a pregnancy. Sometimes the quality of frozen embryos is uniformly good, and sometimes it varies considerably.

Embryo donation is usually a lower cost option to conceive, because the donating couple has already born the cost of creating the embryos and is generously offering them to another couple or individual. While the recipients have few choices in characteristics of the donors, the outcome is still variable and uncertain.

Embryo donation programs certainly serve as an option for those couples seeking pregnancy and will face the challenges related to failed attempts, finances, and age related failure.

Embryo donation programs should have information on the embryos they are offering which should include:

- The date of freezing
- Age of the egg provider
- Lab information regarding the stage of freezing and quality of the embryos

This information should be available to recipient couples. Most programs will try to offer their patients the best quality embryos that meet their needs.

Successful Determinants

The most important determinant of the success of embryo donation is usually the age of the female partner who provided the egg. This information should be available to the recipient couple. In most programs, egg donors are ages 21-31 or 21-35, so embryos created from these donated eggs are usually very successful in embryo donation programs. Still, frozen embryos from older women who have conceived with IVF can also be very successful.

Many donated embryos come from couples who have conceived with donor egg. Donor egg cycles are very successful, so spare embryos are often available. The donating couples understand the value of third party reproduction and may be more likely to allow another couple to benefit from the embryos.

The length of time embryos have been frozen is not important by itself. Nothing should happen to an embryo in a cryotank. However, embryology laboratory techniques have advanced over the years, so embryos that are 15-20 years old may not be as successful in creating a pregnancy as embryos that have been frozen for a shorter period of time.

Understanding Cryogenic Types

Most embryos available for donation have been frozen with a slow-freeze method, and programs have used that method with variable success. Recently, many programs have begun to “vitrify” embryos, a method that may better preserve the embryo. When they become available, embryos that have been vitrified may expect to be associated with higher pregnancy rates than embryos that have been preserved with a slow-freeze method.

Different Types of Frozen Embryos

Embryos may be frozen in the pronuclear, multicell, or blastocyst stages:

1. Pronuclear embryos have not yet divided, so most labs will thaw them and culture them to the multicell or blastocyst stage before transfer. If the goal is to transfer 1-2 blastocysts, any spare ones can be refrozen, so no healthy embryos need to be discarded. This is an excellent stage to freeze embryos, but they are unselected at this point, and larger numbers need to be available (4-6) to provide a recipient with optimal chances of success.
2. Multicell stage: this may be the most problematic stage for an embryo donation program. Some programs freeze every embryo that is not transferred, whatever its quality. Others freeze only good quality multicell embryos, (6 cells or more). As more programs are freezing embryos in the blastocyst stage, only older embryos available for donation have been frozen in the multicell stage.
3. Blastocysts are excellent embryos in an embryo donation program. Most survive a freeze and thaw, and fewer numbers need to be replaced. To have one or two blastocysts available should still provide a good chance for conception.