

Embryo Cryopreservation (Freezing)

What is embryo cryopreservation?

- Embryo cryopreservation (freezing) is a routine procedure offered as part of your in-vitro fertilization (IVF) cycle.
- Good quality embryos that are not transferred back to your uterus are preserved in extremely low temperatures such that they are essentially “frozen in time” until you need them.

How is it performed?

- Embryos can be cryopreserved at any stage in development but most commonly at the blastocyst stage (Day 5, Day 6 or Day 7).
- Embryos are cryopreserved using a technique called vitrification. The process of vitrification involves exposure of the embryos to cryoprotectant solutions which work to remove the water from the cells in the embryo. After this treatment, the embryos are loaded onto specially designed straws and rapidly exposed to liquid nitrogen. The combination of the cryoprotectant solutions and the rapid plunge into liquid nitrogen virtually eliminates the formation of ice crystals which are known to damage cells. As a result, embryos cryopreserved using vitrification have survival rates as high as 90-95%.

Why is it beneficial?

- Embryo cryopreservation allows you to store good quality embryos for use in future cycles. This means you can avoid ovarian stimulation medications and an egg retrieval and will only need to have an embryo transfer once the embryo(s) is thawed. This is particularly helpful if you don't conceive with a fresh transfer or if you do get pregnant and want to return for a subsequent pregnancy attempt.
- Cryopreservation of all top quality embryos (and foregoing a fresh embryo transfer) is often performed in order to avoid patient illness, to test the embryos using PGT, or as part of your individualized treatment plan to maximize pregnancy success.

Who are candidates for embryo cryopreservation?

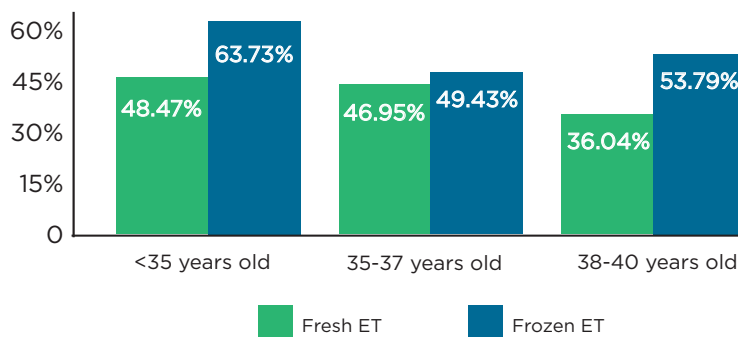
- All IVF patients that have consented for embryo cryopreservation are candidates.
- Embryos must be at the expanding blastocyst stage and have good quality cells in order to be cryopreserved.
- Poor quality or embryos that have stopped growing (arrested) have a low likelihood of making a baby and usually do not survive the cryopreservation process.

What is the success rate with embryo cryopreservation?

- The ongoing pregnancy rates are the same or higher after transferring a thawed cryopreserved blastocyst compared to a fresh blastocyst.
- The data are difficult to interpret considering the multiple variables involved in pregnancy success and the different indications for embryo freezing and fresh transfers.
- However, the cryopreservation and thawing process do not appear to lower your likelihood of getting pregnant and undergoing a frozen embryo transfer (FET) may improve your chances of success (see below).



Percentage of Babies Born From Fresh and Frozen Transfers (2020-2021)



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