

West Coast Fertility Centers Shows: “Twice Frozen Eggs” Yield Equal Blastocyst Formation with Slow Freeze or Vitrification

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Since the year 2000, the team at West Coast Fertility has constantly explored new developments to improve the outcome of patients using frozen eggs to achieve their pregnancy. To validate the efficacy of West Coast Fertility’s established egg freezing program, 40 eggs were initially frozen with our modified programmed freezing protocol. The eggs were warmed with a rapid thaw technique resulting in an 87.5% survival (35/40). The thawed eggs were then divided into 2 groups. Our goal was to observe the effect on oocytes, initially frozen with our slow freeze technique, then re-freezing the same oocytes with either slow freezing or vitrification. The end point was to document blastocyst formation in both groups after ICSI.

Following the **First Thaw**, the previously frozen oocytes were observed for 2 hours to confirm viability then randomized into 2 populations. Group A, consisted of 17 thawed eggs selected to be re-frozen using our programmed freezing method. (Slow/Slow Group)

Group B was comprised of 18 thawed oocytes randomized to be re-frozen by vitrification using Vitstraw as the carrier vessel. (Slow/Vitrification Group)

Both populations were cryopreserved in LN₂ for 30 days.

During the **Second Thaw**, a total of 18 oocytes were thawed between the two groups and viability was confirmed. In Group A, 9/9 of the slow/slow frozen oocytes survived. In Group B, 9/9 of the slow/vitrified frozen oocytes survived. Both groups of surviving oocytes were cultured for 2 hours at 37degrees, followed by ICSI insemination. (See Graph 1)

Fertilization and blastocyst formation rates were as follows: 7/9 (78%) and 7/9 (78%) and 3/7 (43%) and 2/7 (29%) in the Slow/Slow and Slow/Vit groups respectively. (See Photo 1).

Did you know? West Coast Fertility is the only Egg Bank to offer Frozen Donor Eggs preserved by either the Slow Freeze or Vitrification technique.

Graph 1:

**Egg Freezing and Thawing
Comparison of Vitrification and
Slow - Freeze Methods at West Coast
Fertility Centers.**

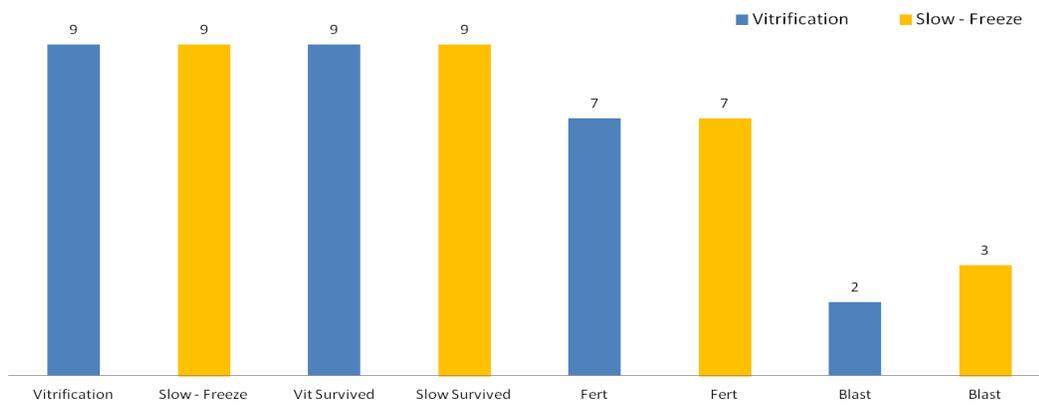
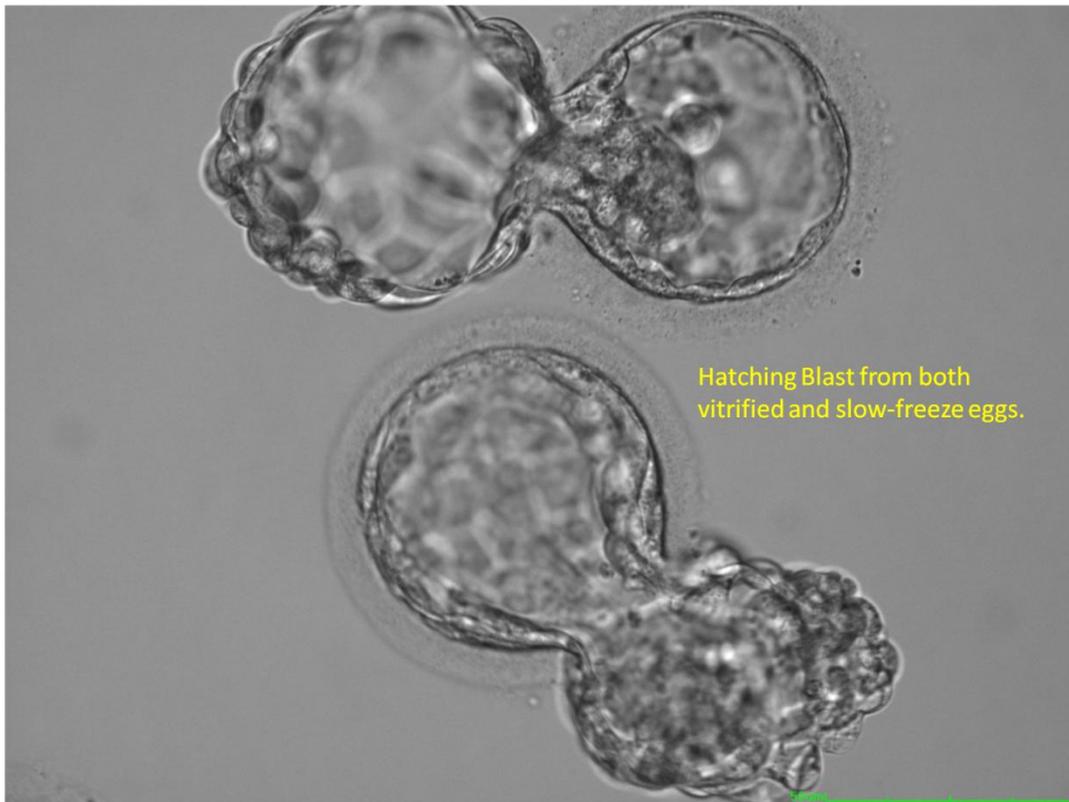


Photo 1:

Blastocyst formation from our comparison of vitrified vs. slow freeze of eggs



Conclusion:

There are differing opinions about the most efficacious technique to utilize when oocyte freezing is performed. The two prevailing contemporary methods are programmed freezing/rapid thaw and vitrification, each with its own advantages and disadvantages.

This preliminary report is intended to suggest that in experienced hands, skilled in performing both techniques, either freezing method can lead to successful blastocyst development and pregnancies.

A successful outcome when performing egg freezing, involves more than simply following a series of printed steps as in a cookbook. A firm and clear mastery of cell structure and function is fundamental to developing new strategies for egg freezing. Continuously making modifications to existing protocols is necessary in order to maximize the desired effect. Familiarity with the principles of physics, cell membranes and biochemistry are indispensable in understanding subtle changes in solution concentrations, fluctuations in temperature and chemical reactions. These skills are known as *the technical footprint* of the embryologist.

It is challenging to develop this skill set combined with the stamina and determination to persevere and troubleshoot unexpected problems. This dedication is reflected in the accomplishments of a handful of forward thinking researchers who can advance the science of egg freezing. West Coast Fertility is fortunate to employ two such talented scientists.

As the public's interest in egg freezing increases, consumers should be cautious as many less successful clinics overstate their claims of success with egg freezing despite having few if any successful pregnancies and no live births.

West Coast Fertility's egg freezing technique has resulted in the birth of more than 70 healthy babies born from frozen eggs. We maintain a registry to document the health of children born from our egg freezing technique. These babies and their families were honored by West Coast Fertility in 2011 at the world's first reunion of babies born from frozen eggs.

“No one knows more about egg freezing in the Western U.S. than West Coast Fertility”.

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