

OOCYTE ULTRA-FAST WARMING: A GLANCE ON PRELIMINARY RESULTS

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Introduction: Ultra-fast warming is an optimized technique that allows thawing oocytes, embryos and blastocysts in 1 minute with the action of a single solution with a composition of 1 M trehalose at 37°C. There are a good number of studies with positive results conducted on this method applied to the thawing of blastocysts and embryos. However, there are still few studies conducted on oocyte thawing cycles from which it emerges that the conventional warming method and the ultra-fast method are comparable in terms of oocyte survival and embryo competence in reaching the blastocyst stage.

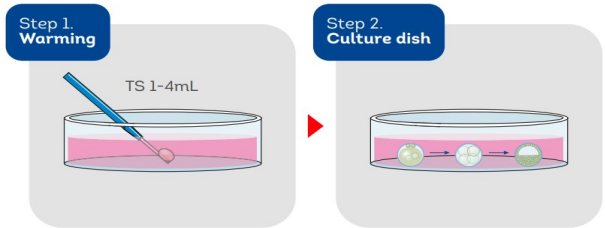
Aims: To analyze the preliminary results of the ultra-fast warming technique in terms of oocyte survival and embryo development in some couples undergoing ICSI with thawed oocytes at the ESPA center of the P.O. Melloni – ASST Fatebenefratelli Sacco of Milan in March 2025.

Results: A total of 17 oocytes vitrified with conventional methods were thawed in 4 couples using the ultra-fast warming technique. Ultra-fast warming did not demonstrate a negative impact on thawed oocytes in terms of survival, fertilization rate, cleavage and blastulation, in compliance with Alpha consensus meeting (2012) competence values of KPIs for oocyte cryopreservation. One procedure esitated in an ongoing pregnancy. Results are shown in the table

	n°	%
Survival rate	17/17	100
Fertilization rate	13/17	76.5
Cleavage rate	10/17	76.9
Blastulation rate (on supernumerary embryos)	4/5	80
Utilization rate	9/10	90

References:

- Aydin, B. et Al. *Human oocyte survival, early embryo development, metabolic fingerprinting, and pregnancy outcomes following ultra-rapid or standard vitrification and thawing.* ESHRE 2024
- Bronet F. et Al. *Rapid warming protocol of human oocytes: a randomized controlled trial.* ASRM 2024.
- Alpha Scientis in Reproductive Medicine. *The Alpha consensus meeting on cryopreservation key performance indicators and benchmarks: proceedings of an expert meeting.* RBM Online (2012) 25: 146-167



Conclusions: The ultra-fast warming protocol demonstrated results comparable to the conventional warming method, significantly optimizing the workload of the embryo laboratory. These data are encouraging but it will be necessary to expand the sample of oocytes subjected to thawing with this method focusing also on cumulative clinical outcomes before adopting it as a routine protocol for oocyte thawing in our center.

