LIVE BIRTH OUTCOMES IN PGT-A TESTED eSET CYCLES:

Autologous versus Donor Oocyte IVF with Fresh and Frozen Oocytes

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n = 3,435 PGT-A Tested eSET Cycles • 2023–2024

Retrospective Cohort Study — Single Private Fertility Center

BACKGROUND

Preimplantation genetic testing for aneuploidy (PGT-A) with single embryo transfer (eSET) lowers age-related chromosomal risk and improves IVF outcomes. Yet live birth rates (LBR) may still vary by oocyte origin (autologous vs. donor) and embryo state (fresh vs. frozen). Whether euploid status fully equalizes outcomes across these groups has remained unclear , a question with direct implications for counseling patients on the value of donor and frozen-oocyte pathways.

OBJECTIVE

To compare live birth rate, implantation failure, and pregnancy loss across autologous and donor oocyte IVF cycles, stratified by oocyte state in PGT-A tested eSET cycles performed between 2023 and 2024.

INDEPENDENT PREDICTORS OF LIVE BIRTH

Maternal Age
OR 0.92 per SD • p = 0.03

Body Mass Index (BMI)
OR 0.84 per SD • p < 0.001

Oocyte Source & State
Not significant after adjustment

On multivariate logistic regression, age and BMI independently reduced the odds of live birth. Once embryos were confirmed euploid, oocyte source and state were no longer significant predictors — suggesting PGT-A neutralizes much of the gap typically seen between autologous and donor cycles.

DESIGN & METHODS

Design: Retrospective cohort study.

PGT-A–tested eSET cycles (2023–2024) performed at a single private fertility center were stratified by oocyte origin and oocyte state. Chi-square, Fisher's exact test, and multivariate logistic regression were applied, with significance set at α = 0.05.

COHORT STRATIFICATION

Autologous Fresh
3,251
cycles
Mean age: **35.5 yrs**
DOR: **15.6%**

Autologous Frozen
78
cycles
Mean age: **39.1 yrs**
DOR: **34.6%**

Donor Fresh
58
cycles
Mean age: **41.0 yrs**
DOR: **63.8%**

Donor Frozen
48
cycles
Mean age: **44.3 yrs**
DOR: **87.5%**

DOR = diminished ovarian reserve. Age and DOR differed significantly across strata (p < 0.001), reflecting expected demographic differences between autologous and donor oocyte recipients.

WHY IT MATTERS

Stratifying by both oocyte source and state isolates the contribution of euploidy testing itself — allowing the team to ask whether PGT-A levels the playing field across very different patient populations, from young autologous responders to advanced-age donor-egg recipients.

RESULTS

	Auto Fresh	Auto Frozen	Donor Fresh	Donor Frozen	P-value
Mean age (yrs)	35.5	39.1	41.0	44.3	**< 0.001**
DOR (%)	15.6	34.6	63.8	87.5	**< 0.001**
LBR (%)	**53.6**	**59.0**	**51.7**	**39.6**	ns
Not Pregnant (%)	25.7	24.4	31.0	43.8	**0.008**
Pregnancy Loss (%)	20.7	16.7	17.2	16.7	ns

Not-pregnant rate was significantly higher in donor frozen vs. autologous fresh and autologous frozen cycles. LBR and pregnancy loss did not differ significantly across the four groups.

53.6%
LBR — Autologous Fresh

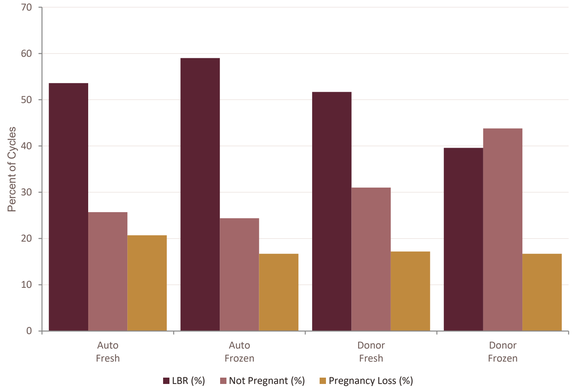
59.0%
LBR — Autologous Frozen

43.8%
Not-Pregnant — Donor Frozen

Zero donor recipients used a gestational carrier across the cohort — a potentially underutilized strategy for advanced-age recipients facing elevated not-pregnant rates.

Interpretation: lower pregnancy rates with euploid embryos from frozen donor eggs may reflect the added stress of double vitrification at both the oocyte and embryo stages — even though the speed-to-transfer advantage of frozen donor oocytes remains clinically valuable.

OUTCOMES BY GROUP



CONCLUSION

- Euploid FET yields similar LBR and miscarriage rates regardless of oocyte source (autologous vs. donor) or state (fresh vs. frozen).
- Higher not-pregnant rate in donor frozen recipients may reflect uterine/endometrial factors tied to advanced recipient age.
- Once implantation occurs, miscarriage risk is comparable across fresh and frozen eggs.
- PGT-A appears to neutralize the effects of age and egg source on pregnancy rates.
- Double vitrification (oocyte + embryo) in frozen donor cycles may add cumulative stress, despite faster time-to-transfer.

LIMITATIONS

Single-center, retrospective design. Donor and frozen subgroups were small (n = 48–78), limiting statistical power. Recipient endometrial and uterine factors were not directly measured.

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REFERENCES & CONTACT

Full reference list available upon request. Corresponding author: Janelle Jackman, Johns Hopkins University. Presented at the MRSI Annual Meeting, 2026.