

# No Normal Embryos: Outcomes After an Initial IVF Cycle with Complete Aneuploidy

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## Introduction

- Preimplantation genetic testing for aneuploidy (PGT-A) reduces miscarriage and shortens time to pregnancy, particularly in patients over age 35.
- Patients with complete aneuploidy (no euploid embryos) in their first IVF cycle face uncertainty regarding whether to pursue additional autologous cycles or transition to donor oocytes/embryos.
- Data quantifying the likelihood and timing of achieving a euploid embryo after initial complete aneuploidy are limited.

## Objectives

### Primary Objective

- To determine the proportion of patients with complete aneuploidy on their first IVF cycle with PGT-A who subsequently obtain at least one euploid embryo in later autologous cycles.

### Secondary Objectives

- To evaluate the association of maternal age and number of IVF cycles with the likelihood and cycle-by-cycle timing of achieving a euploid embryo.
- To describe patient pathways after complete aneuploidy (further autologous cycles, immediate transition to donor oocytes/embryos, or discontinuation of treatment) and associated intrauterine pregnancy and live birth rates.

## Methods

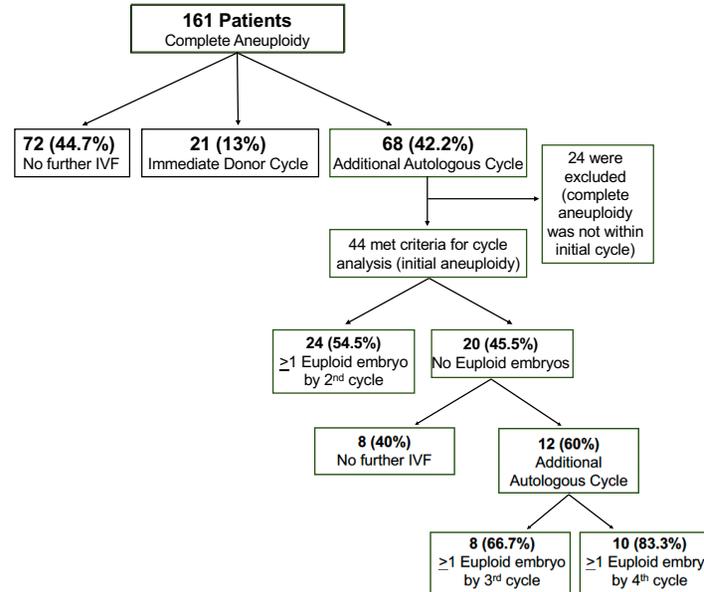
Retrospective cohort study.  
Single-site, private IVF clinic affiliated with an academic medical center (July 2013–March 2025).

### Inclusion criteria

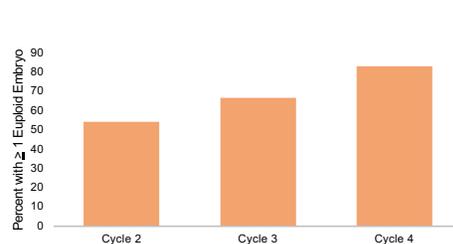
- Patients undergoing IVF with PGT-A
- Complete aneuploidy (no euploid embryos) on their first IVF cycle with PGT-A

### Exclusion criteria

- Use of donor oocytes in the initial cycle
- Missing or incomplete PGT-A data or follow-up



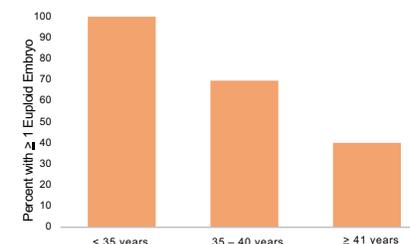
Euploid Embryo Achievement by Cycle Number



Cycle Milestone	Patients with $\geq 1$ euploid embryo, n (%)
By second IVF cycle	24 (54.5)
By third IVF cycle	8 (66.7)
By fourth IVF cycle	10 (83.3)
Never achieved euploid embryo after $\geq 3$ cycles	2 (16.7)

Cycle number was significantly associated with euploid embryo success ( $\chi^2 = 4.5$ ,  $p = 0.03$ )

Euploid Embryo Achievement by Maternal Age



Age Group	Patients with $\geq 1$ euploid embryo, n/N (%)
< 35 years	11/11 (100)
35 – 40 years	16/23 (69.6)
$\geq 41$ years	4/10 (40)

Maternal age was a significant predictor of obtaining at least one euploid embryo on a subsequent cycle ( $\chi^2(2, N = 44) = 8.4$ ,  $p = 0.03$ )

## Results

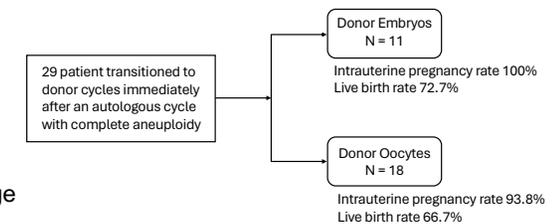
### Primary outcome

- Attainment of  $\geq 1$  euploid embryo in any subsequent autologous IVF cycle (yes/no), and cycle number at first euploid embryo.

### Secondary outcomes

- Intrauterine pregnancy and live birth rates for autologous and donor cycles.
- Proportions choosing additional autologous cycles, donor gametes, or discontinuation.

Outcome	n/N (%)
Achieved $\geq 1$ euploid embryo in subsequent cycle(s)	31/44 (70.5%)
No euploid embryos despite additional cycle(s)	13/44 (29.5%)



Intrauterine pregnancy rates and live birth rates did not differ significantly between groups ( $p = 1.0$ ,  $p = 0.75$ , respectively)

## Conclusions

- After initial complete aneuploidy, most patients who pursue additional autologous cycles ultimately achieve  $\geq 1$  euploid embryo.
- Probability increases with cycle number but declines with advancing maternal age.
- Donor gametes offer high pregnancy and live birth rates and should be discussed early in counseling.