

**ONE IVF CENTERS EXPERIENCE TRANSITIONING BETWEEN TWO PREIMPLANTATION GENETIC TESTING REFERENCE LABORATORIES: VALIDATING NEWLY REPORTED RESULTS AGAINST TRADITIONAL VALUES**

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Objective: With an ever growing number of companies providing preimplantation genetic testing for aneuploidy (PGT-A), choosing/transitioning laboratories can be concerning. Protocols, technologies, level of education/experience of technologists, accreditation standards and the cut-off values for normality vary greatly. These issues are difficult for the clinician to discern, but can have a great impact on the outcome of testing and ultimately clinical care. This study investigated observed rates of euploid and “no call” results from one large IVF center during a transition between two PGT-A laboratories. Design:Retrospective analysisMaterials and Methods:Trophectoderm biopsies (n=327) were tested using validated, New York State accredited next generation sequencing (NGS), with results reported as euploid, aneuploid or “no call”. Results were stratified by female age: <36, 36-37, 38-39, 40-41, and >41. Outcomes were compared to published rates from two reference laboratories. ANOVA was used for statistical analysis. Results: Euploidy and “no call” rates from a new NGS laboratory were analyzed. There was no significant difference with “no call” rates (<1%), when compared to reference data. When analyzing female age, variation was observed compared to traditionally reported euploidy rates. However, differences did not reach statistical significance due to limited sample size in the higher age groups. Power calculations demonstrated >150 embryos/age category would be necessary to validate significance. Conclusions: Transitioning technologies/different PGT-A laboratories requires diligent monitoring. Similar “no call” rates were observed between laboratories. In our study, there was a trend towards more euploid embryos with the new laboratory, although the numbers in the higher age categories were too small to demonstrate significance. Monitoring of clinical factors such as implantation, miscarriage and births are also highly important, but require much longer time frames with frozen embryo transfers and gestational outcomes. Our clinical data presents an early validation method that can be utilized when transitioning PGT-A services.

**Abstract image**

Table 1: Age Groups, Euploidy, “No Call” and Reference Laboratory Data

Age-Range	Number of Embryos	Euploidy Rate	“No Call” Rate	Traditionally Reported Euploid Rates at New Laboratory	Traditionally Reported Euploid Rates at Old Laboratory
<36	199	59.0%	1.0%	57.0%	58.0%
36-37	7	71.4%	0%	47.0%	51.0%
38-39	51	37.3%	0%	36.0%	35.0%
40-41	45	44.4%	0%	25.0%	21.0%
>41	25	40.0%	0%	20.0%	13.0%