

## PGS IS MOST BENEFICIAL FOR OLDER WOMEN WITH MANY EMBRYOS

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### Abstract Body

Women of advanced maternal age (AMA) have mostly aneuploid embryos (up to 85%), and traditionally PGS followed by eSET is employed. However, currently there are two opinions regarding PGS: a) it is beneficial because eSET after PGS improves the clinical pregnancy rate and reduces chances of twin pregnancy and miscarriage; b) it is harmful because some embryos are falsely diagnosed as aneuploid and rejected, thus reducing the chance of pregnancy, and it is better to freeze all embryos and transfer them one by one in consecutive cycles. When women of advanced maternal age have a choice of several top quality blastocysts available for transfer, it is not clear which strategy is better.

This is a retrospective cohort study of 211 patients undergoing IVF coupled with transfer of a single autologous frozen embryo after PGS in AVA-PETER fertility clinic between October 2012 and January 2017. Total of 1055 embryos were analyzed, and patients were divided into 3 groups by proportion of euploid embryos. Real clinical pregnancy (CP) rates were compared to the theoretical chance of choosing the euploid embryo ('right choice') for transfer in the first cycle. Calculated and actual rates for clinical pregnancy, as well as spontaneous abortion and live birth rates, are compared for three groups of patients with different proportion of euploid embryos (Table 1).

In the group with the smallest ratio of euploid embryos eSET after PGS resulted in 0.67 clinical pregnancy rate while the calculated chance to choose a euploid embryo for transfer is 0.23. This suggests that when AMA patients have a choice of blastocysts for transfer, PGS followed by eSET gives them a much higher chance of clinical pregnancy and live birth already after the first cycle than consecutive transfer of all available embryos.

### Abstract image

**Table 1.** Outcomes of IVF cycles with and without PGS in patients with different proportion of euploid embryos (EE).

EE	Mean age	Mean N of embryos	N of IVF cycles	Chance*	First ET			Cumulative rates		
					CP	LB**	SA	CP	LB**	SA
0,1-0,29	36,8	5,67	39	0,23	0,67	0,56	0,15	0,67	0,56	0,15
0,3-0,57	34,7	5,69	95	0,44	0,45	0,37	0,19	0,62	0,49	0,20
0,6-1,0	33,9	3,75	78	0,84	0,50	0,40	0,21	0,71	0,55	0,22

\* Theoretical chance to pick a euploid embryo for the first transfer

\*\* Including progressing pregnancies after 30 weeks