

## Choosing the appropriate assisted reproduction technique based on sperm DNA fragmentation

Summary of the article:

### Sperm DNA integrity assessment in prediction of assisted reproduction technology outcome

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Sperm DNA Fragmentation (SDF) is correlated with pregnancy outcome in intra-uterine insemination (IUI). When SDF levels are above 30%, the probability of delivery is significantly reduced from 19.0% to 1.5% (**Table 1**).

On the other hand, using *in vitro* fertilization (IVF) or intracytoplasmic sperm injection (ICSI) there is no such statistical correlation. This is probably because the selection of gametes and embryos in these techniques mitigates any effect that DNA damage in sperm cells may have over pregnancy outcome.

Thus, the measurement of SDF may serve to evaluate the most appropriate assisted reproduction technique. Couples presenting values of SDF above the 30% threshold should undergo IVF or ICSI in their first cycle, avoiding unnecessary IUI cycles.

The results obtained from Bungum et al., 2007 demonstrate that there is a greater number of deliveries when measuring SDF to determine the type of assisted reproduction technique. By selecting IVF or ICSI for couples presenting SDF values over 30% there is a significant increase from 62 to 78 deliveries; that is, a 25.8% increase in the efficacy of the first cycle of assisted reproduction (**Table 2**).

**Table 1: Deliveries per started cycle (%)**

	SDF < 30%	SDF > 30%
IUI	19.0%	1.5%*
IVF	not significant	
ICSI	not significant	

\* Odds ratio (95% confidence interval) = 0.07 (0.01-0.48)

**Table 2: Number of deliveries after the first cycle, taking into account SDF in the choice of assisted reproduction technique**

