

## Old Swimmers Tire Quickly: The Effect of Time on Quality of Thawed versus Washed Sperm

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**Abstract :** BACKGROUND: In the male fertility and sperm bank unit of Tel Aviv Sourasky medical center, women are treated with intrauterine insemination (IUI) using washed sperm from their partner or thawed sperm from a selected donor. In most cases, the women perform the IUI treatment in Sourasky, but sometimes they ask to undergo the insemination procedure in another clinic with their own fertility doctor. In these cases, the sperm sample is prepared at the Sourasky lab and the patient is inseminated after arriving to her doctor. Our laboratory has previously found that time negatively affects several parameters of thawed sperm, and we estimate that it has more severe and significant effect than on washed sperm. AIM: To examine the effect of time on the quality of washed sperm versus thawed sperm. METHODS: Sperm samples were collected from men referred for semen analysis. Each ejaculate was allowed to liquefy for at least 20 min at 37°C and analyzed for sperm motility and vitality percentage and DNA fragmentation index (Time 0). Subsequently, 1ml of the sample was divided into two parts, 1st part was washed only and the 2nd part was washed, frozen and thawed. Time 1 analysis occurred immediately after sperm washing or thawing. Time 2 analysis occurred 75 minutes after time 1. Statistical analysis was performed using Student t-test. P values<0.05 were considered significant. RESULTS: Preliminary data showed that time had a greater impact on the average percentages of sperm motility and vitality in thawed compared to washed sperm samples (26%±10% vs. 21%±10% and 21%±9% vs. 9%±10%, respectively). An additional trend towards increased average DNA fragmentation percentage in thawed samples compared to washed samples was observed (46%±18% vs. 25%±24%). CONCLUSION: Time negatively effects sperm quality. The effect is greater in thawed samples compared to fresh samples.

**Keywords :** ART, male fertility, sperm cryopreservation, sperm quality

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