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JOURNAL ARTICLE

Cryopreservation of human semen. Comparison of cryopreservatives, sources of variability, and prediction of post-thaw survival

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Human semen was cryopreserved using Human Sperm Preservation Medium, TEST-Yolk buffer, or glycerol alone. Sperm characteristics for each specimen were measured before and after freezing to determine which cryopreservative resulted in better cryosurvival and recovery of motile sperm. Sperm frozen in Human Sperm Preservation Medium had a significantly better recovery of all semen parameters (motility, velocity, and recovery) than either TEST-Yolk or glycerol alone. Statistical analyses also were done to examine the variability between and within donor semen specimens. Differences between donors, between specimens, and measurements within donors all contributed to variability of sperm characteristics. Specimen-to-specimen variability for a given donor represented 12% to 47% of the total variability, whereas processing and measurement variability represented 12% to 41%. Donors also varied in the ability of their sperm to tolerate freezing. There was a relationship between motile count after dilution with cryopreservative and post-thaw motile count. This relationship allows the prediction of poor-thaw survival before freezing a specimen.

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