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## JOURNAL ARTICLE

# A prospective study of the relationship between semen quality and fertility in cases of unexplained infertility

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The male partners of 68 couples exhibiting 5.1 +/- 0.3 (SEM) years of unexplained infertility were assessed using the conventional criteria of semen quality, the movement characteristics of the spermatozoa and the outcome of the zona-free hamster egg penetration test. After a follow-up period of 2.3 +/- 0.06 (SEM) years, 25 (37%) of these patients were found to have initiated a pregnancy, thereby permitting an analysis of those aspects of semen quality which most accurately predicted their subsequent fertility. A multivariate discriminant analysis revealed that the conventional semen profile, per se, was not of significant value in discriminating the incidence of pregnancy. However, significant discrimination ( $P = 0.0173$ ) was obtained when the postcapacitation movement characteristics of the spermatozoa were incorporated into the analysis. The accuracy of this prognosis was further increased if either the duration of infertility or the outcome of the zona-free hamster egg penetration test was taken into consideration. Overall classifications of fertility were then 76.3% and 76.5% accurate, respectively. These results suggest that in vitro assessments of human sperm function are of significant value in evaluating male fertility.

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