

Journal of Andrology, Vol 8, Issue 5 330-337, Copyright © 1987 by The American Society of Andrology

JOURNAL ARTICLE

# Computerized videomicrographic analysis of rat sperm motility

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Quantitative methods for the determination of the concentration, percent motility and swimming speed of human and animal spermatozoa can assist in the objective analysis of sperm and semen quality. These parameters are among the most discriminating indicators for both clinical and toxicologic assessments of reproductive function. A computerized videomicrographic analysis system to measure sperm motility characteristics in the Fischer 344 rat was characterized and compared with both manual and semi-automated videomicrographic methods (Blazak et al, 1985). The system compares favorably, both in accuracy and sensitivity, to these more conventional methods. The most variable indicator of potential reproductive function in the Fischer 344 rat is the total sperm count from the cauda epididymidis (coefficient of variation [CV] = 24%), while parameters of sperm motility vary least. These include percentage of motile cells (CV = 15%), curvilinear velocity (CV = 9%) and linearity (CV = 10%), which is a ratio of straight-line to total distance traveled. It was concluded that the computerized system may be useful for routine assessment of changes in sperm quality that may occur in the rat after exposure to toxic drugs or chemicals.

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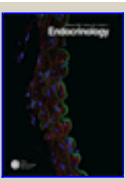
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