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## JOURNAL ARTICLE

# Longitudinal study of semen quality of unexposed workers: sperm head morphometry

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As part of a longitudinal study of human semen characteristics of unexposed workers, sperm head measurements were made using image analysis (Image Technologies Corp., Deer Park, NY). Morphometry was conducted on monthly samples from 45 men for 9 months. Measurements of area, perimeter, length, width, the width-length ratio, and the oval factor ( $4[\pi] \text{ area/perimeter}$ ) of 100 sperm heads per sample were obtained. The variability within a sample, between monthly samples from the same individual, and between individuals were calculated for each parameter. Tolerance intervals for each parameter were calculated, and are expected to contain 75% of all individual measurements. Similar intervals were calculated for the means and coefficients of variation of a semen sample. The largest source of variability was attributed to individual cell variation within a semen sample.

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