

Mitochondrial respiratory capacity, sperm motility linked

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Image: U.S. National Institute of Environmental Health Sciences

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(HealthDay) -- Sperm with higher motility have increased mitochondrial respiratory capacity, according to a study published in the April issue of *Urology*.

Alessandra Ferramosca, of the University of Salento in Lecce, Italy, and colleagues investigated whether sperm mitochondrial respiratory efficiency correlated with [sperm motility](#) and sperm morphologic anomalies. They used a polarographic assay of [oxygen consumption](#) to evaluate the mitochondrial respiratory activity of hypotonically-treated [sperm cells](#).

The researchers observed a positive correlation between mitochondrial respiratory efficiency and sperm motility and a negative correlation with

the percentage of immotile sperm. Mitochondrial functionality was impaired in sperm with midpiece defects.

"The results reported in this study support a strong and positive correlation between mitochondrial respiratory efficiency and sperm progressive motility. In addition and in strict agreement with these findings, morphologic alterations of the sperm midpiece, where mitochondria are found, are associated with lower mitochondrial functionality and lower sperm motility," the authors write. "These results confirm the important role played by mitochondria in supplying [metabolic energy](#) for sperm motility and provide more insights into the biochemical basis of mitochondria-based asthenozoospermia."

More information: [Abstract](#)
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