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Effect of 655-nm diode laser on dog sperm motility.

Corral-Baqués MI, Rigau T, Rivera M, Rodríguez JE, Rigau J.

Department of Basic Medical Sciences, Faculty of Medicine and Health Sciences, Rovira i Virgili University, Reus, Spain.
marcignasi@yahoo.co.uk

Sperm motility depends on energy consumption. Low-level laser irradiation increases adenosin triphosphate (ATP) production and energy supply to the cell. The aim of this study is to analyse whether the irradiation affects the parameters that characterise dog sperm motility. Fresh dog sperm samples were divided into four groups and irradiated with a 655-nm continuous-wave diode laser with varying doses: 0 (control), 4, 6 and 10 J/cm². At 0, 15 and 45 min following irradiation, pictures were taken of all the groups in order to study motility with computer-aided sperm analysis (CASA). Functional tests were also performed. Average path velocity (VAP), linear coefficient (Lin) and beat cross frequency (BCF) were statistically and significantly different when compared to the control. The functional tests also showed a significant difference. At these parameters, the 655-nm continuous-wave diode laser improves the speed and linear coefficient of the sperm.

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