

Factors affecting surgical dexterity in novice and experienced vitreoretinal surgeons

Dicas para melhora da destreza cirúrgica

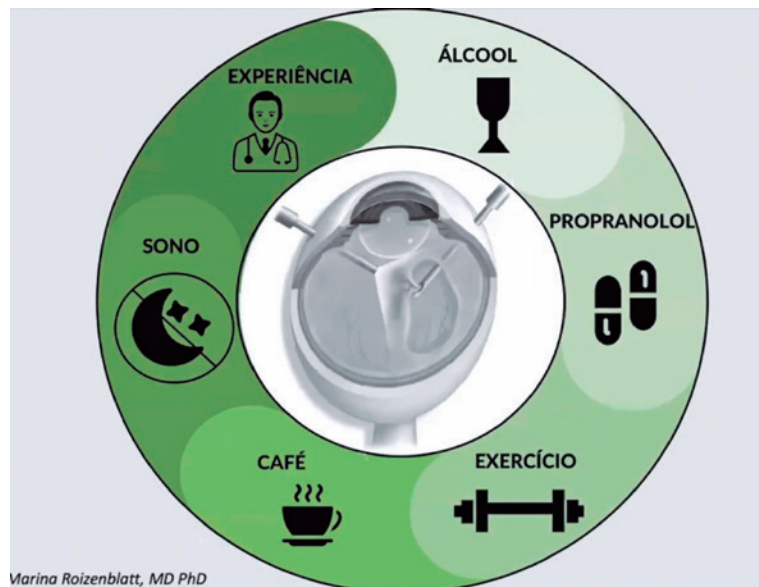
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Novice and experienced vitreoretinal surgeons were evaluated after being exposed to the following variables: caffeine, propranolol, alcohol, exercise, and sleep deprivation. Multiple comparisons have indicated the importance of these external and potentially modifiable variables in improving the surgical

skills of ophthalmologists with different levels of experience.

On different non-consecutive days of the study, tasks were performed using the Eyesi simulator, 30-40 min after exposure to weight-adjusted doses of caffeine, propranolol, and alcohol as measured using



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a breathalyzer. Furthermore, the surgeons were instructed to perform push-ups until exhaustion. Finally, a night of sleep deprivation, with a total time in bed of 3 h, was recorded by polysomnogram.

As compared to the baseline, the results of our study indicated that novice surgeons performed worse after consuming weight-adjusted doses of coffee or alcohol¹⁻³. Moreover, after consuming alcohol, novice surgeons performed a longer intraocular pathway to complete the tasks and experienced more tremor. Furthermore, sleep deprivation negatively affected the duration of the tasks and caused increased tremor among novice surgeons⁴, while consumption of propranolol increased the surgical speed^{2,3}. The scores of experienced surgeons only deteriorated after alcohol consumption.

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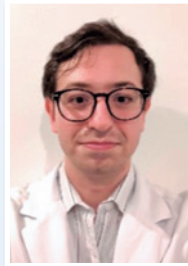
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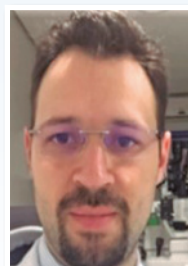
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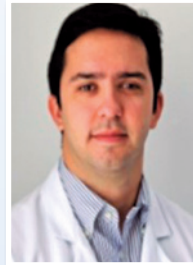
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