Low and moderate intensity strength exercise affects more beneficially the lipid profile than high intensity strength exercise #55

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This study aimed to compare the time-course effects of four different intensities of strength exercise (bench press) bouts on the blood lipid profile. Thirty-five Brazilian Army male soldiers were allocated randomly into five groups based at different percentages of one repetition maximum, in previous test (1-RM): 50%-1RM, 75%-1RM, 90%-1RM, 110%-1RM (this executing only eccentric phase), and control group. The total volume (sets x reps x load) of the exercise was equalized. The lipid profile (Triglycerides, VLDL, HDL-cholesterol, LDL-cholesterol, HDL-c/Total Cholesterol ratio and Total cholesterol) was determined at rest and after 1, 24, 48 and 72 h of the strength exercise. The 75% group demonstrated greater TG and VLDL reduction when compared with the other groups (p<0.05). Additionally, the 110% group presented an increased TG and VLDL concentration when compared with the control, 50% and 75% groups (p<0.05). HDL-c concentration was significantly greater after strength exercise at 50% and 75% when compared with 110% (p<0.05). Accordingly, the 50% and control groups had greater HDL-c concentration than 110% group after 48 h and 72 h (p<0.05). Finally, The 50% group showed lesser LDL-c concentration than 110% group after 24 h (p<0.05). No significant differences were found in Total Cholesterol and HDL-c/Total cholesterol ratio concentration. Results indicate that acute strength exercise changes lipid profile in a specific-intensity manner. Overall, low and moderate exercise intensities appear to promote more benefits on lipid profile than high intensity. Long term studies should confirm these findings.

Key words**: lipid profile; strength exercise; exercise intensity.**