

The Acute Effects of L-Arginine on Recovery and Resistance Exercise

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Purpose: To determine if acute L-Arginine supplementation improves recovery and exercise performance. **Methods:** Six trained individuals (age: 21.5 ± 0.8 yrs) participated in the study. After determining one repetition maximum (1-RM) on bench press (BP) and leg extension (LE), subjects performed three sets of BP and LE each at 70% of 1-RM to failure. Subjects then immediately consumed either placebo or L-Arginine supplements (0.1g/kg BW). Subject performed three more sets of BP and LE exercises. Number of repetitions from the exercise was counted to evaluate performance. Heart rate (HR), systolic blood pressure (SBP) and Lactate (bLa) were measured before, during and after exercise. A 2x2 ANOVA for repeated measures was used to compare the results. **Results:** There was no significant difference in performance between placebo and L-Arginine condition for either exercise. As expected, HR, SBP and bLa were significantly higher after both exercises when compared to resting. However, no significant differences were observed between conditions.

		Lactate (mM)		Ex. Performance (Rep)	
		Placebo	L-Arginine	Placebo	L-Arginine
Pre-Treatment	Rest	3.0 \pm 0.6	3.2 \pm 1.4	N/A	N/A
	Post BP	N/A	N/A	35.7 \pm 9.9	35.3 \pm 10.1
	Post LE	9.5 \pm 1.3	11.2 \pm 2.6	30.8 \pm 11.6	31.7 \pm 10.2
Post-Treatment	Rest	4.9 \pm 0.8	4.5 \pm 1.3	N/A	N/A
	Post BP	N/A	N/A	43.2 \pm 8.8	38.0 \pm 12.3
	Post LE	10.1 \pm 1.0	12.9 \pm 5.1	39.8 \pm 9.2	42.0 \pm 13.8

Conclusion: Our findings suggest that acute L-Arginine supplementation has no significant effect on recovery between sets of exercises.