

## Effects of Creatine Monohydrate vs. Creatine Hydrochloride on Muscle Endurance Performance.

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**Purpose:** To compare the effects of creatine monohydrate (MH) to creatine hydrochloride (HCl) on muscular endurance performance. **Methods:** Eighteen male and female active individuals (age:  $21 \pm 4$  yrs, ht:  $172.0 \pm 0.9$  cm, wt:  $72.3 \pm 14.9$  kg) participate in the study. Subjects were randomly assigned into three groups: MH (20g/day MH), HCl (2g/day HCl+18g/day maltodextrin), and control (C) (20g/day maltodextrin). On day 1, subjects completed a 1-repetition maximum (RM) test for the squat and bench press exercise. On their second visit, subjects performed the same two exercises at 75% of 1-RM to failure (1:1 sec eccentric/concentric ratio). Subjects then supplemented with assigned treatment for one week. After a week, subjects performed the same exercise as the baseline. A 3x2 ANOVA for repeated measures was used to compare pre and post exercise performance by treatment. **Results:** The number of repetitions performed was significantly higher during post-test when compared to pre-test in all groups ( $p < 0.05$ ). However, no significant difference was found between groups for either exercise.

Group	Bench Press Repetitions			Squat Repetitions		
	Pre-test	Post-test	% Change	Pre-test	Post-test	% Change
MH (rep)	24.8 $\pm$ 8.1	25.8 $\pm$ 5.1	4.0%	25.9 $\pm$ 12.6	36.0 $\pm$ 17.1	43%
HCL (rep)	19.8 $\pm$ 5.8	23.8 $\pm$ 7.6	20%	28.8 $\pm$ 10.0	41.8 $\pm$ 13.1	45%
C (rep)	20.4 $\pm$ 4.9	22.0 $\pm$ 7.6	8%	27.6 $\pm$ 8.8	33.2 $\pm$ 11.5	20%

**Conclusion:** Short term supplementation of MH or HCl shows no significant effect on muscular endurance performance.