

## *Clinical Trial comparing Kre-Alkalyn to Creatine Monohydrate*

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- Date:** December 9, 2006
- Study:** Clinical Trial comparison of Kre-Alkalyn vs- Creatine Monohydrate
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- Test Performed at:** Dr. I.S. Greenberg Medical Center, Sofia, Bulgaria
- Purpose of Study:** To determine if a difference exists between Kre-Alkalyn and Creatine Monohydrate
- Procedures:** 24 healthy male Olympic level soccer players were divided randomly into two groups. One group ingested Kre-Alkalyn and the other used Creatine Monohydrate. This was a 4 month study
- Athletes were tested at the start to determine a base line and then were tested once per month for 4 months. Since these are Olympic level athletes, no changes were made to their diet or training schedule during the duration of this study.
- The following was the administration schedule: for both groups:
- |         |            |
|---------|------------|
| Month 1 | 0 capsules |
| Month 2 | 4 capsules |
| Month 3 | 6 capsules |
| Month 4 | 8 capsules |

The test group was administered a Kre-Alkalyn capsules containing 750 mg. The creatine monohydrate group was administered a capsule containing 750 mg of creatine monohydrate. Both capsules were verified for purity by an independent lab.

## The Results:

### *Creatinine Levels in urine:*

The Kre-Alkalyn group's creatinine levels were much lower than the creatine groups levels. The average standard error of difference was 6.94%.

Std. Error of Difference
7.14 T1
7.17
8.31 T2
8.51
7.30 T3
7.21
4.94 T4
4.94

\*\*Chart reflects the Kre-Alkalyn groups average % difference of creatinine levels versus the creatine group. These numbers represent % below creatine groups levels.

### *Body Weight:*

In measurements of body weight, no significant difference's were found between the two groups. Since these are endurance athletes who control their body weight, a difference was not expected to be found.

### *Cholesterol:*

Cholesterol levels for the creatine group were actually elevated by .02.

Cholesterol levels for the Kre-Alkalyn group dropped by .08.

(This was a very interesting and significant discovery)

*Below is the findings from the HDL and LDL testing:*

#### *HDL: (good cholesterol)*

Creatine Group	HDL elevated by .03
Kre-Alkalyn Group	HDL elevated by .01

#### *LDL: (bad cholesterol)*

Creatine Group	LDL increased by .12
Kre-Alkalyn Group	LDL decreased by .14

### *Triglycerides:*

Creatine Group	Lowered 3-glycerides by .08
Kre-Alkalyn Group	Lowered 3-glycerides by .11

### *WBC:*

Creatine Group	Lowered WBC count by 1
Kre-Alkalyn Group	Elevated WBC count by .76

### *RBC:*

Creatine Group	Elevated RBC count by .09
Kre-Alkalyn Group	Elevated RBC count by .12

pH:

pH was measured in the urine.

Creatine group base line	5.5
Creatine group ending	5.6
Std error of difference	0.1

Kre-Alkalyn group base line	5.27
Kre-Alkalyn group ending	5.92
Std error of difference	0.65

The Kre-Alkalyn group raised pH levels by 650% over the creatine group.

*Vo<sub>2</sub> max*

Vo<sub>2</sub> max levels were dramatically increased in the Kre-Alkalyn group over the creatine group.

Std. Error Mean
169.510
135.628
185.556
154.076
157.073
147.838

\*\*This chart represents the Kre-Alkalyn groups average increase in Vo<sub>2</sub> max of 158.28 over the creatine group.

### Conclusion:

During the 4 month trial, many test and measurements were performed to see if a difference exist between two groups in which one was administered Kre-Alkalyn and the other Creatine Monohydrate.

Kre-Alkalyn out performed creatine in most all ergonometry measurements. The most significant proved that Kre-Alkalyn actually lowered cholesterol and triglyceride levels over creatine. pH was also elevated in the Kre-Alkalyn group.

The most significant performance find was the increase in *Vo<sub>2</sub> max* of the Kre-Alkalyn group over the creatine group.

VO<sub>2</sub> max is the maximum volume of oxygen that the body can consume during intense, whole-body exercise, while breathing air at sea level. This volume is expressed as a rate, either liters per minute (L/min) or milliliters per kg body weight per minute (ml/kg/min). Because oxygen consumption is linearly related to energy expenditure, when we measure oxygen consumption, we are indirectly measuring an individual's maximal capacity to do work aerobically.

Just to put this into perspective, if you walk into the locker room of a bunch of American Football players, bragging rights are reserved for the man with the heaviest bench press. Similarly, talk to a group of Olympic endurance athletes that are "in the know", and conversation will eventually turn to "What is your VO<sub>2</sub> max?" A high maximal oxygen consumption is indeed one of the hallmark characteristics of great endurance performers in running, cycling, rowing and cross-country skiing, etc

### Final Analysis:

Kre-Alkalyn out performed creatine monohydrate as a creatine product especially in the VO<sub>2</sub> max category