

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

---

- Date:** December 9, 2006
- Study:** Clinical Trial Comparison of Kre-Alkalyn -vs- Creatine Monohydrate
- By:** Dr. Afgerinos Affouras (sports doctor, CSKA senior soccer team), Dr. Katia Vodenicharova, M.D. (therapist, nephrologist), Dr. Dobriana Shishmanova (PhD cardiologist), Dr. Krassimir Goranov M.D., Dr. Karmen Stroychev M.D.
- 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 | 0 grams   |
| Month 2 | 4 capsules | 3 grams   |
| Month 3 | 6 capsules | 4.5 grams |
| Month 4 | 8 capsules | 6 grams   |

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

**Results:**

***Creatinine Levels In Urine:***

Creatinine levels in the Kre-Alkalyn group were much lower than those of the creatine group. The following chart (Fig. 1)\* reflects the average % difference of creatinine levels in the Kre-alkalyn group versus the creatine monohydrate group.

<b>Std. Error of Difference</b>
7.14 % - Month 1a
7.17 % - Month 1b
8.31 % - Month 2a
8.51 % - Month 2b
7.30 % - Month 3a
7.21 % - Month 3b
4.94 % - Month 4a
4.94 % - Month 4b

**Fig. 1 - % Difference of Kre-Alkalyn Group's Creatinine Levels In Urine Below Creatine Group**

(\*Figure 1 - Measurements taken twice monthly. Average standard error of difference was 6.94%)

***Body Weight:***

No significant differences were found between the two groups in body weight measurements. Since these are endurance athletes who control their body weight, a significant difference was not expected to be found.

***Cholesterol:***

Cholesterol levels for the creatine monohydrate group were elevated by .02. Cholesterol levels for the Kre-Alkalyn group dropped by .08. (This was a very interesting and significant discovery)

***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

**VO<sub>2</sub> Max:**

VO<sub>2</sub> max levels were dramatically increased in the Kre-Alkalyn group over the creatine group as shown in the following chart (Fig. 2).

Std. Error Mean
169.510
135.628
185.556
154.076
157.073
147.838

**Fig. 2 - VO<sub>2</sub> Max Increase (l/p/min)**

\*(Figure 2 - Represents the average increase in VO<sub>2</sub> max of the Kre-Alkalyn group (158.28) over the creatine group)

**Conclusion & Final Analysis:**

Kre-Alkalyn out performed creatine monohydrate in nearly all ergometry measurements. Most notable were that Kre-Alkalyn actually lowered cholesterol and triglyceride levels over creatine. pH was also found to be elevated in the Kre-Alkalyn group.

The most significant performance finding was an increase in VO<sub>2</sub> Max of the Kre-Alkalyn group over the creatine group.