

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 cardilogist), 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.

| Std. Error of Difference |
|---------------------------------|
| 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 |

VO₂ Max:

VO₂ 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 - VO₂ Max Increase (l/p/min)

*(Figure 2 - Represents the average increase in VO₂ 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 VO₂ Max of the Kre-Alkalyn group over the creatine group.