LAMININE AND MAINTAINING NORMAL CORTISOL LEVELS IN THE BODY

SUMMARY:

This study was designed to ascertain the effect of the nutritional supplement, Laminine in regulating normal cortisol levels in the body. During the experiment, 28 subjects, 16 women and 12 men, between the ages of 36 and 83 took part in the study. Salivary cortisol level content of each participant was measured prior to him/her taking part in the study. This figure is known as "pre-Laminine usage level." The salivary cortisol level was also measured every fifth day three times throughout the study when each participant's intake amount
was changed.

Overall, study participants' cortisol levels were down-regulated by an average of 23.7 percent, where 16 started on a higher intake of Laminine—four capsules, twice a day—and 12 started on one capsule twice per day.

Participants that initially started on a higher intake of Laminine saw their cortisol level regulated significantly over the first four days as compared to subjects that began the study with a lower usage amount. However, at the end of the study, there was a small, although insignificant, difference in favor of the high initial intake. In general, the cortisol levels were regulated within the normal range.

The cortisol level rises gradually over time and continues to climb as a human ages. When reviewing the cortisol regulation by age group—36 to 50 years old, 50 to 70 year old and 70 to 83 years old—subjects in the youngest age group had a lower down-regulation in cortisol compared to the eldest group of subjects.

METHODS AND MATERIALS:

The study took pace during two periods. The first 16 participants were divided into two groups: eight of them on the high initial Laminine intake of four capsules twice a day and the second group beginning with one capsule twice a day. The next 12 subjects were divided into a group of eight and a group of four, with eight starting on the high initial intake and four on the low initial intake. Intake was changed every fifth day, so each test period last four days. There was no washout between the test periods.

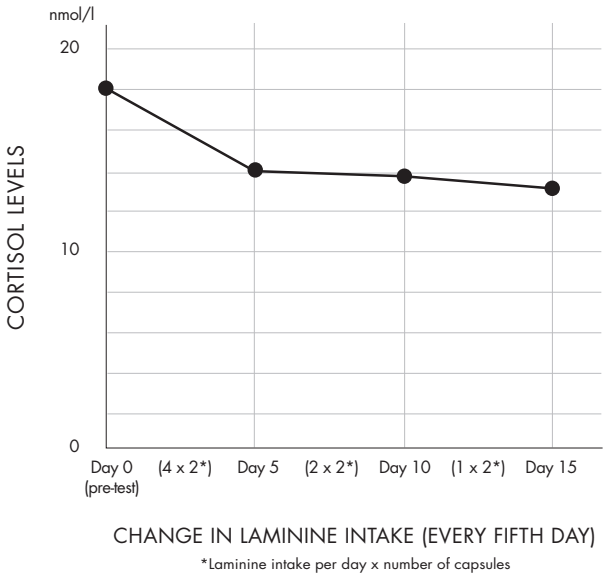
The subjects in this study had no chronic diseases that required drug treatment and none had been taking any anti-depressants.

Cortisol has a low molecular weight, is lipophilic in nature and therefore unbound cortisol enters cells by passive diffusion that makes it feasible to measure free cortisol fraction in any body fluids. In this study, cortisol level was measured using salivary secretions.

RESULTS AND DISCUSSION:

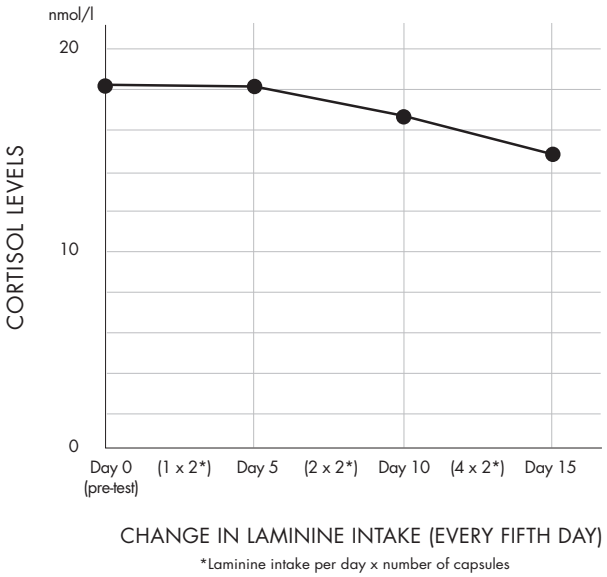
It is well known that a high level of the stress hormone, cortisol, over an extended period of time has a negative effect on the general wellbeing and health of the human body.

Laminine and Maintaining Normal Cortisol Levels in the Body (Higher initial Laminine intake)



Graph 1

Laminine and Maintaining Normal Cortisol Levels in the Body (Lower initial Laminine intake)



Graph 2

Age of subjects: 36 - 83 (X=59)	Pre-test cortisol level (nmol/l)	Laminine intake per day x number of capsules		
		4 x 2	2 x 2	1 x 2
		Cortisol level after change in intake (every fifth day)		
15 (9 Females, 7 Males)	18.1	14.25	13.9	13.4

X = average age of participant

Table 1

Age of subjects: 37 - 75 (X=57)	Pre-test cortisol level (nmol/l)	Laminine intake per day x number of capsules		
		1 x 2	2 x 2	4 x 2
		Cortisol level after change in intake (every fifth day)		
12 (7 Females, 5 Males)	18.1	18.05	16.6	14.85

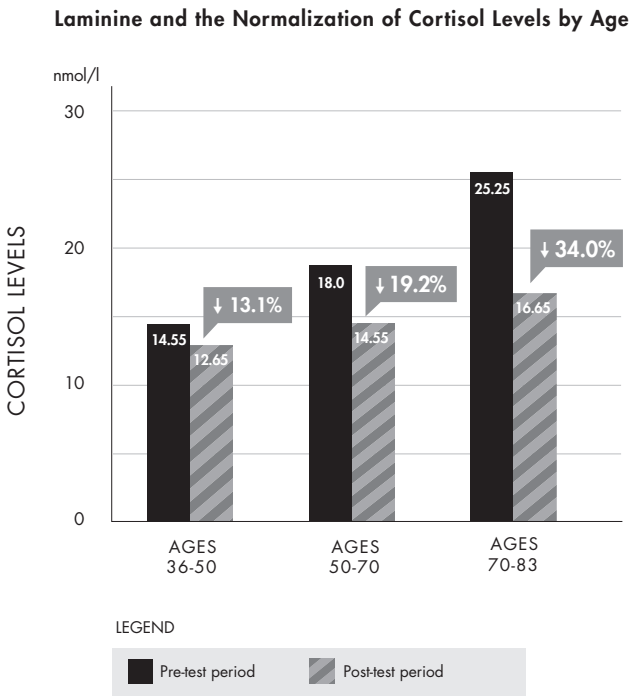
X = average age of participant

Table 2

In general, women experienced a greater down-regulation in cortisol levels than men. However, the pre-test cortisol level in women was also higher compared to the men in the study. The table also indicates that a higher initial Laminine intake was slightly more efficient in regulating the cortisol levels by the end of the study.

As seen in Table 2, the higher initial intake (4 Laminine capsules taken 2 times per day), appears more efficient in regulating the cortisol level than the gradual increase over 12 days.

From these data, one can recommend a high initial intake and then gradually reducing usage to a maintenance level.
A "hangover" effect on the high initial intake into the lower intake is expected as there was no washout between test periods.



Graph 3

	Age Range		
Participant (by age) - 16 women, 12 men	36 - 50	50 - 70	70 - 83
Number in each age range	13	9	6
Pre-test period cortisol level (nmol/l)	14.55	18.0	25.25
Cortisol level post-test period (nmol/l)	12.65	14.55	16.65
Reduction (percentage)	13.1%	19.2%	34.0%

Table 3

As presented in Table 3a and 3b, women in this study showed a greater response to Laminine than men. The eldest group saw a 37.6 percent normalization in cortisol levels compared to the pre-test levels. Compared to men in the same age group, the normalization of cortisol was 29.7 percent.

Subjects in the younger age group experienced no significant differences when looking only at gender. Even subjects in the youngest age group saw a down-regulation in their cortisol levels during the course of the study.