

CLINICAL STUDIES

As of December 2018, LifeWave has completed more than 80 clinical studies on its products since 2002. X39 is no exception, with clinical research comprising traditional blood, urine and saliva analysis along with various bioelectrical data such as Heart Rate Variability. We have also completed clinical work utilizing self-assessment to determine how X39 improves such things as pain management and sleep.



The following is a summary of a study performed by Dr. Melinda Connor on the X39 patch. This study explores the metabolic implications and physiologic results of wearing the Lifewave X39 patch over the period of one week. Measures were taken at baseline, 24 hours and at 7 days of wearing the patch.

A sample of convenience of 15 subjects made up of both men and women aged 40-65 were selected to participate in this study. For the purposes of this study the Sabre Sciences HPA2 metabolic suite has been selected. The HPA 2 Profile includes both urine and saliva collection.

The urine evaluates 5-HTP, Serotonin, Dopamine, Epinephrine, Norepinephrine, GABA, Glutamate, Histamine, L-DOPA, Normetanephrine, Metanephrine 3-Methoxytyramine. The saliva evaluates, Cortisol and DHEA. Several additional measures have been added to the HPA2 suite, Glutathione, and a cysteine to cystine ratio will also be tested using the urine sample.

All study participants had testing done at base line, 24 hours and 7 days. Six minute recordings of EKG, pulse, respiration, heart rate variability (HRV), temp, blood volume pulse, galvanic skin response, 2 EMG (muscle) leads.

A series of questionnaires were administered to support metabolic findings. Marlowe Crowne (accuracy of findings), McGill Pain Scale, Pittsburgh Sleep Quality Index, AIOS-VAS (for vitality and well-being), Profile of Mood States (POMS) (anxiety/depression), WAIS III (short- and long-term memory).

After only one day of wearing X39, people reported feeling better. After one week of using X39 there was statistical significance showing clear overall improvement in the feelings of vitality and wellness.

WAIS III (short and long term memory)

WAIS III is a well-established intelligence test which includes a standard memory test. There was a clear improvement in short term memory by day 7. It is also interesting that there was improvement in both mid- and long-term memory as well, though to a much lower degree.

Pittsburgh Sleep Quality Index

This questionnaire showed an immediate strong shift the first night, though it was not quite significant. The shift by day 7 was significant.

This is particularly important as sleep strongly effects everything else related to health and well-being.

Metabolic outcomes urine testing

Amino acids and neurotransmitters play a critical role in health and well-being. If an individual's amino acid and neurotransmitter production is broken, the individual cannot maintain body health for long.

The number of statistically significant changes demonstrated in this study shows the powerful impact of the X39.

Among the 20 biochemicals improved include: Epinephrine, GABA, Histamine, Normetanephrine, PEA (Phenylethylamine), Alpha-aminobutyric acid.

Epinephrine	-	Marker of Response to Stress
GABA	-	Quality of Sleep, Anxiety, Mood
Histamine	-	Measures Inflammatory Response
Normetanephrine	-	Measure for Adrenal Glands
PEA (Phenylethylamine)	-	Indicator for Mood and Cognition
Alpha-aminobutyric acid	-	Indicator for GABA Synthesis

A number of amino acids also improved:

Cystine	-	Involved in Glutathione Formation
Glutamine	-	Involved in Intestinal Repair
Lysine	-	Immune Function
Leucine	-	Muscle Repair
Tryptophan	-	Involved in Sleep

Heart Rate Variability

HRV measures ratios of the low frequency and high frequency muscle contractions in the heart.

Statistical significance was achieved in demonstrating that X39 helps to support the health of the heart.

BVP-HR, EMG, Skin-Condition, Temperature and Respiratory Rate

Reduction in blood pressure and improved muscle relaxation are consistent changes which are present in the physiology data.

Greater flexibility in HRV in the over age-60 population is an important finding.

Summary

The data from this study shows improvement in:

- Blood pressure and overall health of the heart
- 17 statistically significant amino acid changes over the 7 days
- Key neurotransmitters involved in overall health
- Improvement in sleep levels
- Improvement in short-term memory
- Improvement in reported feelings of overall health and vitality.