## HEALTHYER MOTION INGREDIENTS LIST & INDEPENDENT STUDY TRIAL

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### HEALTH FER MOTION

### INTRODUCTION

Healthier Motion's supplier commissioned an observational independent trial with the aim of understanding the potential impact of their diet patch (a transdermal delivery system) on a number of body indices in a group of UK women.

### DESCRIPTION

The patch includes a proprietary formula incorporated into a latex base. The ingredients include the following: Fucus vesiculosus extract 5-HTP Guarana Zinc pyruvate Yerba mate

- Flaxseed oil Raspberry Fruit Extract Lecithin L-Carnitine
  - Zinc citrate

## **INGREDIENT BREAKDOWN**

#### 10 Powerful Ingredients - What they are and what they do:

**Fucus Vesiculosus Extract:** A natural sea plant extract that has been used for hundreds of years by traditional healers worldwide to aid varying ailments. Fucus Vesiculosus has more recently been used by both herbalists and conventional practitioners to help in weight control.

**5 HTP:** During dieting, serum tryptophan levels and CNS serotonin levels drop dramatically. These low serotonin levels in obese patients have been associated with carbohydrate cravings and resultant binge eating. 5-HTP can help prevent this dieting-associated decline in serotonin, thus enhancing weight loss. 3 independent trials in obese patients have demonstrated decreased food intake and subsequent weight loss with 5-HTP supplementation.

**Guarana:** This is an extract of the Guarana plant, which was originally used by Amazonian Indians as a stimulant and a treatment for stress.

**Zinc Pyruvate:** A combination of highly unstable pyruvic acid and other substances like calcium, sodium, or potassium, added to stabilize pyruvic acid. This new compound is used to enhance fat burning, boost endurance, increase lean muscle mass, decrease blood glucose, and lower blood cholesterol.

**Yerba Mate:** In 1964 one group of investigators from the Pasteur Institute and the Paris Scientific Society concluded that Yerba Mate contains nearly all of the vitamins necessary to sustain life. Yerba Mate is often used as a staple food, sometimes substituting for such important foods as bread and vegetables. It easily eliminates the sensation of hunger and can impart as much invigoration as a full meal, according to the well-known Chilean herbalists J. Zin and R. Weiss.



## **INGREDIENT BREAKDOWN**

**Flaxseed Oil:** Despite all the concern about fat in our diet, the body does require fat to function. The problem is that most people are getting the wrong kinds of fats in their diet and are lacking good fats in their diets. The human body cannot function properly without 2 polyunsaturated fats - linoleic and alpha-linolenic acid. These fatty acids, which are found in Flaxseed Oil are essential to normal cell structure and body function.

**Lecithin:** Lecithin contains Choline & Inositol which are essential for the breakdown of fats and cholesterol. It helps prevent arterial congestion and distribute bodyweight, increases immunity to virus infections, cleans the liver and purifies the kidneys.

**Raspberry Fruit Extract:** Raspberries also contain plant chemicals called flavonoids, which have antioxidant effects. Antioxidants help the body eliminate toxic substances known as free radicals.

L-Carnitine: Facilitates the burning of fat for energy by making it possible for the long-chain fatty acids it transports to enter the cell. If the fatty acids cannot reach the mitochondria where they are transformed to cellular energy, it stands to reason they are going to be deposited in places where the body will suffer from their presence, as happens in fatty liver disease, fatty build-up in the heart, and obesity, where fatty buildup occurs in the muscles.

**Zinc Citrate:** Zinc is required for many functions in the body, including growth, taste and smell, nucleic acid synthesis, keratin metabolism, sexual development and function in both genders, bone and joint metabolism, wound healing, brain development, nerve function and behavior, and lipid and carbohydrate metabolism.



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# INDEPENDENT STUDIES TRIAL

#### **PROTOCOL**:

12 healthy, adult female volunteers were accepted into the trial. These were subsequently separated into 'active' (Group A) and 'placebo' (Group B) groups. No individual was aware of the allocation. Prior to the commencement of the trial, details pertaining to each individual were recorded, these included:

- date of birth
- contact details
- allergy and health history, and
- present use of any medicines or supplements

In addition, a number of measurements were completed using a standard metal tape (rather than a cloth tape which might stretch over time and therefore cause inconsistency in measurement):

- girth measurements at the biceps
- chest measurement at nipple height
- waist measurement standardized to navel height
- hip measurement
- thigh girth



# INDEPENDENT STUDIES TRIAL

Weight (using a digitalized Salter scale) and height (using standardized equipment were also recorded, allowing for the calculation of the body mass index (BMI) – defined by the division of weight by the square of height. Standard charts allow for the following determinations:

Obese: BMI over 30.0 Overweight: BMI 25.0 – 30.0 Ideal weight: BMI 20.0 – 25.0 Underweight: BMI less than 20.0

Individuals considered obese, or underweight were eliminated from the trial. Weight was subsequently recorded weekly, along with any comments pertaining to the product use – whether physical effects or psychological manifestations. Each individual was subsequently presented with sufficient patches (either active or nonactive) for the trial period, that being 4 weeks.

Both groups were asked not to change either their dietary or exercise habits.

In order to substantiate dietary habits, all individuals completed a three day (2 weekdays and 1 weekend day) journal.

In order to substantiate exercise habits, a daily diary was requested. Individuals were telephoned and visited once each week in order to discuss progress/problems, etc in addition to the weekly weighing and measuring sessions.



# INDEPENDENT STUDIES RESULTS

Table 1 reveals a spread of ages thereby typifying the general population and a BMI below the level generally recognized as independently obese.

TABLE 1. INITIAL AGE, BODY WEIGHT, HEIGHT AND BODY MASS INDEX (BMI) FOR THE EXPERIMENTAL AND PLACEBO GROUPS (n = 6 per group).

	AGE	WEIGHT (lbs)	HEIGHT (ins)	BMI
Group A	40.3	175.5	63.9	30
Group B	39.0	176.8	63.4	30

Table 2 shows a record of average weekly weight and how this fluctuated over the period of the trial. Weight loss varied between individuals with a maximum of 6lbs and a minimum of 2lbs. These losses were achieved in the absence of any changes of either dietary or exercise patterns.

### TABLE 2. AVERAGE BODY WEIGHT CHANGES (lbs) OVER 4WEEKS (n =6 per group).

	Week 1	Week 2	Week 3	Week 4	Mean
Group A	2.9	2.1	2.1	2.1	6.1
Group B	0.1	0.2	0.1	0.1	0.2



# INDEPENDENT STUDIES RESULTS

Table 3 indicates the changes observed in body mass index (BMI) as measured pre- and post-trial. Since BMI is calculated via height and weight any changes reflect changes in weight. These data show an average BMI reduction of one unit. It should be noted that some individuals did not reduce their BMI although there was a slight reduction in body weight. In order to attain a change in BMI, weight must be changed by a full 5lbs.

### TABLE 3. PRE-AND POST BODY MASS INDEX (BMI)(n = 6 per group).

	Pre	Post	Changes
Group A	30	29	1
Group B	30	30	0

Table 4 contains the pre and post records of the various girths measured (biceps, chest, waist, hips, and thighs). The largest reductions (for Group A) occurred at the waist and hips but losses were also seen for the other measures too.

### TABLE 4. CHANGES IN GIRTHS (INCHES) OVER 4 WEEKS(n = 6 per group).

	Biceps		Chest		Waist		Hips		Thigh	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Group A	12.6	12.5	42.4	41.9	38.6	37.7	43.8	42.8	24.9	24.6
Group B	12.9	13.0	42.6	42.5	39.0	39.1	44.0	43.9	26.1	26.0



## DISCUSSION AND CONCLUSION

#### DISCUSSION

The above results demonstrate that in the absence of any dietary or activity changes the aforementioned product i.e. The Diet Patch can potentially help weight loss and make positive changes in body dimensions through the delivery of the active ingredients previously listed.

### CONCLUSION

This product is a combination of a number of ingredients and as such cannot be judged on the efficacy, or otherwise, of any single active working alone. The rationale is that the ingredients have a collective rather than singular effect and thus are required in lower concentrations than would be necessary for a single ingredient oral dose. There is no reason therefore to suggest that the product would not be effective. The above findings are further substantiated by the results of the observational study which reveals that the 'active' group (group A) lost more weight and more inches than did the placebo group (group B).

It is suggested that in order to further improve the efficacy of the product a sensible, balanced eating programme and a progressive exercise programme designed to include daily aerobic (i.e. walking) and toning activities be incorporated.

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# **INDEPENDENT STUDIES TRIAL #2**

#### **METHOD:**

Six patches were selected randomly from the approximately 100 supplied.

#### **SKIN PREPARATION:**

Transdermal delivery was modeled using heat-separated epidermal membranes prepared from freshly excised skin in static Franz-type diffusion cells.

The skin was cut into 2x2 cm sections and the epidermis liberated using an established technique, involving the immersion of the full-thickness skin in the water at 60°C for ~1 minute (Christophers & Kligman, 1963).

The epidermis was then carefully lifted using forceps; each membrane was dried using tissue paper, examined to ensure no rips or holes were present and used immediately. The backing paper was lifted from each disc and the patch sample pressed firmly onto the center of a skin sample.

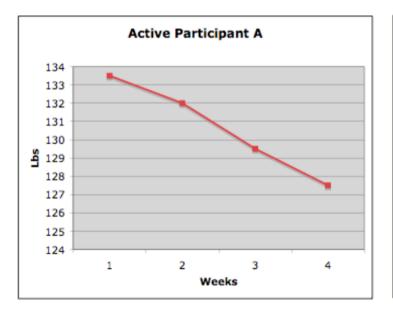


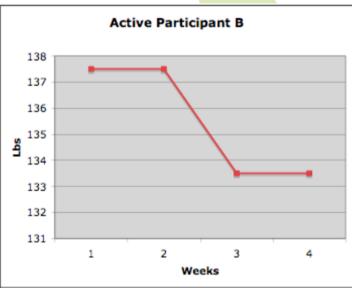
# INDEPENDENT STUDIES TRIAL #2

#### **ACTIVE PARTICIPANT WEIGHT LOSS:**

Results of the 4 week study – showing weight loss for each participant

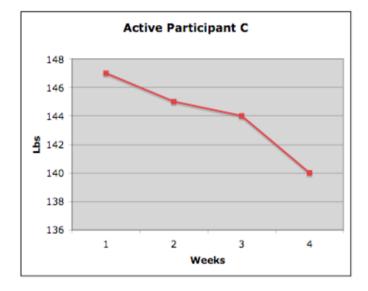
Week	1	2	3	4	Total
Α	133.5	132.0	129.5	127.5	6.0
В	137.5	137.5	133.5	133.5	4.0
С	147.0	145.0	144.0	140.0	7.0
D	149.0	149.0	148.0	145.0	4.0
E	165.0	164.0	161.0	159.0	6.0
F	176.0	172.0	170.0	166.0	10.0
Mean loss					6.1 lbs

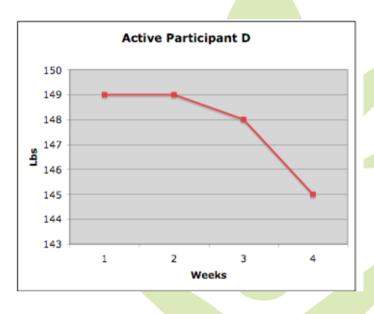


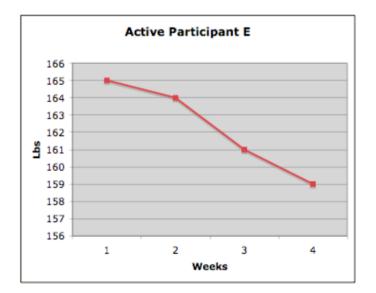


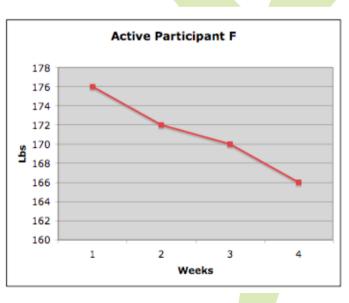


## INDEPENDENT STUDIES TRIAL #2









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