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**Increased Serological Levels of IGF-1 Found After Sublingual  
Delivery of IGF-1 Found In Velvet Deer Antler Extract**

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**Abstract**

**Objective:** This small open label study is being done to determine if IGF-1 (Insulin-like Growth Factor-1) which is found in a specific brand of *Velvet Deer Antler Extract* is absorbed into the circulatory system when delivered via the sublingual route. The commercial product used in this study is called “**IGF-1 Plus**” and is being provided by Nutronics Labs who claim that sublingual delivery is possible due to their standardized extract which provides a verifiable level of IGF-1 and a unique high quality liposomal delivery system.

**Product Detail:** Nutronics Labs sells this commercial product in several different strengths. The strength provided for this study is 100,000ng or 100mcg per bottle. The bottle contains 29.6 ml providing 60 dosages per bottle.

**Background History:** Many experts believe that it is not possible to deliver IGF-1 to the human body by either the oral or sublingual routes for a number of reasons for which they believe there is scientific evidence to support their position. It should be noted, however, that none of their supporting research studies used a cold processed standardized extract which had proven levels of IGF-1 per ng of solution. Nor did any study use **any form** of a liposomal delivery system.

Two of the more commonly quoted reasons that are cited in their opinion to this inability are: 1) it is thought by some that the IGF-1 molecule is too large to be absorbed through the mucus membrane of the mouth and 2) other scientists believe if taken by mouth that the stomach acids will destroy the IGF-1.

There are numerous studies that show benefits in many areas of health when people take various forms of velvet deer antler by the oral and or sublingual route. For example, the Russians published many studies of the effect of velvet deer antler on athletic performance. However, to date, there is little research to quantify and demonstrate that there is an actual rise in IGF-1 in the blood after taking velvet deer antler by either oral or sublingual routes.

**Previous Research:** In a small unpublished study, Dr. Jeffry Anderson showed a 12.7% increase in IGF-1 serum levels in 28 days in a group of men and women who had their IGF-1 serum levels documented at baseline. This study also used “**IGF-1 Plus**” provided by Nutronics Labs. In this study the serological increase in IGF-1 was verified by lab measurements of blood samples taken from the study subjects. If Dr. Anderson’s data is proven to be accurate it would verify that IGF-1 can be delivered to the body sublingually if a liposomal delivery system is used.

**Location of Study:** This study is being conducted at the Sierra Integrative Medical Center in Reno, Nevada.

**Testing Procedure:** The serological levels of circulating IGF-1 are to be determined by a blood draw on a predetermined schedule which is then frozen and sent to the lab at the University Nevada Reno Medical School.

**Patients:** The current cohort of ten patients was selected from patients and staff at the clinic.

**Data:**

Subject 1 Male, Age 49	Baseline 07-31-14 =101ng/ml	Final 08-25-14 =103ng/ml
	Percent change = 1.02%	
Subject 2 Female, Age 24	Baseline 05-30-14 =104ng/ml	Final 07-11-14 =134ng/ml
	Percent change = 28.8%	
Subject 3 Female, Age 48	Baseline 06-11-14 =152ng/ml	Final 08-25-14 =163ng/ml
	Percent change = 7.23%	
Subject 4 Male, Age 55	Baseline 05-29-14 =71.0ng/ml	Final 06-05-14 =93ng/ml
	Percent change = 30.9%	
Subject 5 Male, Age 27	Baseline 05-28-14 =125ng/ml	Final 08-27-14 =143ng/ml
	Percent change = 14.4%	
Subject 6 Male, Age 43	Baseline 07-23-14 =131ng/ml	Final 08-27-14 =152ng/ml
	Percent change = 16.0%	
Subject 7 Female, Age 75	Baseline 08-07-14 =101ng/ml	Final 08-14-14 =116ng/ml
	Percent change = 14.9%	
Subject 8 Female, Age 74	Baseline 05-28-14 =127ng/ml	Final 06-12-14 =141ng/ml
	Percent change = 11.0%	
Subject 9 Male, Age 74	Baseline 08-07-14 =82.4ng/ml	Final 08-14-14 =107ng/ml
	Percent change = 30.5%	
Subject 10 Female, Age 56	Baseline 05-28-14 =67ng/ml	Final 09-04-14 =84.3ng/ml
	Percent change = 25.8%	

Average Percent Change of subjects 2 through 10 =19.94%

**Note:** Subject No. 1 was drop from the data due to non compliance with the dosing schedule

**Discussion:** There are numerous studies showing the effects of human growth hormone (HGH) supplementation and its related effect on serological IGF-1. However, there are few studies that show the effect of injected or sublingual IGF-1 and the related serological changes to the IGF-1 levels. To complicate matters, studies on the composition of velvet deer antler have shown minerals, lipids, growth factors, luteinizing hormone, prostaglandins and free amino acids to be present. Some of these components have the potential to interact with the human feedback systems of the body when taking velvet deer antler IGF-1 extract. All of the possible interactions are not fully understood at this time and are beyond the scope of this study.

**Conclusions:** The purpose of this study however, was simple and direct by asking the question “*when this specific brand of commercial velvet deer antler extract is taken sublingually is there a rise in serological levels of IGF-1 in the test subject’s blood*”? This study absolutely answered that question by showing there was a **definite overall increase in the serological levels of circulating IGF-1.** The data from this study to date shows an average **19.94%** increase in serological IGF-1 when the nine compliant subjects are considered.

Most important is the fact when this data is considered in conjunction with Dr. Anderson’s data, that the combined data again shows a substantial and measurable increase in serological IGF-1. **This combined data clearly shows that the sublingual delivery of velvet deer antler IGF-1 is possible** and can be accomplished if one is specifically using a liposomal delivery system as provided for in the Nutronics Lab’s commercial product. It should be noted that in the

Anderson study there was an average increase in serological IGF-1 of 12.7% while in this study there was an increase of 19.94%. In the Anderson study the product was the same brand but only provided 10,000ng or 10mcg per bottle whereas in this study the product used contained 100,000ng or 100mcg per bottle. Therefore, it appears that there may be a dose related increase in serological IGF-1 due to the higher content of IGF-1 in the second product as used in this study.