

Hair Removal Therapy Procedures Using the Beamax Aesthetic System

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Introduction: The Anti-Aging market has expanded during the past decade, generating greater R&D efforts, in order to produce the most efficient and safest systems. As part of the Anti-Aging market, which includes; wrinkled skin, facial vessels, solar lentigoes, pigmented lesions – which are direct results of the aging process and environmental factors, such as sunlight, air pollution and the like. Hair removal has been perceived as an aesthetic procedure. Conversely, the purpose of the hair removal procedure is to reduce undesired hair and inevitably show more skin. Thus such procedures are particularly important in order to reach effective results.

The most common side effects of hair removal treatments are divided into two categories; Inner-treatment side effects, and post-treatment side effects. Inner treatment side effects by patients are commonly pain / sting sensation, and the duration of each treatment. The post treatment side effects are commonly, scarred skin, burnt skin, hair growth (dormant hair), hypopigmentation, hyperpigmentation and the number of treatments within the treatment series.

Abstract: The present study demonstrates the efficacy and treatment results of the Beamax system on 82 subjects, between the ages of 16 to 50. Dr. Edgardo Kaufmann from A.M.L. Institute, Ra'anana, Israel has categorized the results by; gender, treatment area, skin type (on a scale of I to IV in Fitzpatrick skin type, whereas "I" is light skin and "IV" is dark skin) and pain scale. Fitzpatrick skin types V and VI were not included in this clinical article. This study will demonstrate the relatively high share of satisfied subjects (males and females), clinical module results, by means of hair count, after the 1st treatment and the outcome of the whole treatment series in percentage. The evaluation of the module was based upon 1 cm² hair reduction of the treatment area. The subjects have been treated in various types of treatment areas and are differentiated by their various types of skin.

This document presents the treatment procedure in technical terms with regards to skin differentiation – light to dark skin (on a scale of I to IV, upon Fitzpatrick skin type).

The conclusion of this study is that the Beamax Aesthetic System is a safe, reliable system which can treat effectively on the four skin types and various widths of hair (thin, thick), as described in the present study. The treatments were described as comfortable.

Each patient was tested according to American Laser clinics and Sharplight Technologies clinical application guidance on the Beamax system.

Materials and Methods: The study took place in two treatment sites on eighty two subjects from ages 16 to 50, with skin types from I-IV were selected to the study. The treatments included hair removal procedures in various body parts, such as: arm pits, back, hands, legs, shoulders, abdominal area, bikini line and feet. Table 1, shows the distribution of male patients by age.

Table 1

Age group	Number of male patients
16-25	15
26-35	20
35<	4

Table 2 shows the distribution according to the parameters of the 1st treatment results and the whole treatment series. The chart is divided into treatment areas. The results were specified into percentages:

Table 2

Body Part Treated	1 st Treatment Results	Final Result in %	Male	Female
Arm pits	20%	95%	Similar Results	Similar Results
Bikini line	15%	90%	Similar Results	Similar Results
Legs	15%		75%	95%
Facial	15%	90%	Similar Results	Similar Results
Arms	10%	80%	Similar Results	Similar Results
Shoulders	5%		70%	No treatments
Upper chest	15%	80%	Similar Results	Similar Results
Abdominal area	15%	80%	Similar Results	Similar Results
Back	15%	80%	Similar Results	Similar Results

Table 3 shows the distribution of female patients by age:

Table 3.

Age group	Number of female patients
16-25	18
26-35	20
35<	3

Informed and signed consents of all participants were obtained and the treated body areas were identified and photographed. Each target area was shaved prior to the treatment, and no topical anesthetic cream or other anesthetic was applied. During the treatment procedure, only zimmer air cooling system was applied, in order to relax the epidermis treated area.

The Beamax system which employs a pulsed light (via a 6.4 cm² xenon flash lamp) was used for all the treatments in the study. The optical range used in this study varied from 8 Joules to 20 Joules per cm². All the treatments were conducted with the hair removal hand piece (MAXreduction) with a 650nm filter. Pulse lengths were divided into three; 30ms, 40ms and 50ms.

Specifications: Skin type "I" was treated within a range of 16 to 18 J/cm² and pulse length was 30ms / 40ms. Skin type "II" was treated within a range of 14 to 16 J/cm² and pulse length was 30ms / 40ms. Skin type "III" was treated within a range of 12 to 14 J/cm² and pulse length was 40ms / 50ms. Skin type "IV" was treated within a range of 8 to 12 J/cm² and pulse length was 50ms.

Fitzpatrick skin type V and VI were not included in this research.

Results:

In order to reach a satisfied amount of reduced hair, the subjects had to go through between six and nine treatments, depending on the treated area, hair density, width of hair, Fitzpatrick skin type, gender and age.

20% of the male subjects stated that the treatments with the Beamax had a sting (pain) sensation. 10% of the women subjects stated that the treatment with the Beamax had a sting (pain) sensation. In other terms, 80% of men and 90% of women did not feel pain at all, which means that in average, 85% of the total subjects did not feel a pain sensation. None of the subjects were given any topical anesthetic cream or other anesthetic, besides the use of the zimmer air cooling system.

Efficacy: The efficacy of the treatments was evaluated by patient satisfaction, hair counting (as shown in table 2), before - after photographs of the treated areas.

The results are presented in table 4 show the patients' personal (subjective) satisfaction rate.

Table 4

Number of male patients	41
Very satisfied	63%
Satisfied	22%
Not satisfied	15%
Number of female patients	41
Very satisfied	66%
Satisfied	20%
Not satisfied	14%

Before



After



Safety:

We did not observe any damage to treated areas that required hospitalization or medical treatment and we were not reported of any other after effects, besides a regular redness mark on the treated area, caused by the heat from the xenon lamp.

Conclusion: According to this research which was performed on 82 patients using the Beamax Hair Removal 650nm application (MAXreduction Handpiece) and treated all areas of the body (mentioned in this study); it is noted that the Beamax system is fairly effective, safe and painless. Its application on the various skin types, as described in this study (I-IV) is highly effective and the majority of the results were positive.

The study has shown that the patients are fairly satisfied with the system's hair removal application (MAXreduction). It is proved that the Beamax system can treat thick, thin black (stubborn) hair and skin types I - IV in an effective way. It can treat various types of skins and hair types and perceived as very effective by the majority of the patients in this clinical study.