High Frequency Clinical Study:
Pore Size, Puffy Eyes and Fine Lines

Introduction
The portable high frequency unit is a condensed version of the high frequency skin care technology that is used by skin care professionals world wide to enhance the appearance of skin. This study is being undertaken to quantitatively establish that published results that are attributed to high frequency are demonstrably associated with the portable high frequency unit. Further, the study attempts to determine the effects of the portable high frequency unit when used with various skin cream regimes.

The benefits that are quantified in this study are:

1. Pore size improvements.
2. Improvements in the appearance of puffy eyes.
3. Improvements in the appearance of fine lines.

Procedure
The study involved 26 subjects, 25 female and 1 male.

1. On the first day the subjects were brought in and randomly assigned a subject number. Then each of the participants was evaluated by the esthetician and their dermal characteristics recorded on the participant data sheet. Any proposed participant, who showed signs of Cuperous or Rosacea, was eliminated from the study at this time.

The original protocol allowed for 28 participants. As only 26 were available, number 12 and 24 were not used.

The following table outlines the treatment received by each of the participants:

Subject #	Left Side	Right Side
1	Inexpensive Moisturizer	HF & Inexpensive Moisturizer
2	4 Step System	HF & 4 Step System
3	Inexpensive Moisturizer	HF & Inexpensive Moisturizer
4	4 Step System	HF & 4 Step System
5	Inexpensive Moisturizer	HF & Inexpensive Moisturizer
6	HF & Inexpensive Moisturizer	Inexpensive Moisturizer
7	HF & Expensive Moisturizer	HF & 4 Step System
8	Expensive Moisturizer	HF & Expensive Moisturizer

9	4 Step System	HF & Expensive Moisturizer
10	Expensive Moisturizer	HF & Expensive Moisturizer
11	HF & Expensive Moisturizer	HF & 4 Step System
13	HF & Inexpensive Moisturizer	Inexpensive Moisturizer
14	4 Step System	HF & 4 Step System
15	HF & 4 Step System	HF & Expensive Moisturizer
16	Expensive Moisturizer	HF & Expensive Moisturizer
17	HF & Expensive Moisturizer	HF & 4 Step System
18	HF & Expensive Moisturizer	Expensive Moisturizer
19	Inexpensive Moisturizer	HF & Inexpensive Moisturizer
20	HF & 4 Step System	4 Step System
21	HF & 4 Step System	4 Step System
22	HF & Expensive Moisturizer	Expensive Moisturizer
23	HF & Expensive Moisturizer	HF & 4 Step System
25	HF & 4 Step System	HF & Expensive Moisturizer
26	HF & Expensive Moisturizer	Expensive Moisturizer
27	HF & 4 Step System	4 Step System
28	Inexpensive Moisturizer	HF & Inexpensive Moisturizer

As can be seen, the participants were required to treat each side of their face separately.

2. The participants were each photographed using a Kodak DC 210 digital camera to provide a full face frontal shot. This picture was for identification purposes only.

3. Next, a +6 Tamaron lens was put in front of the digital camera lens and a close up picture of the left and right sides of the face were taken from a fixed distance of 8 inches.

4. The subject underwent a treatment and the photographs were repeated. For each day of the study, the subject received a treatment in the clinic each morning and was expected to undertake the treatment, on their own, at home each evening.

The treatment consisted of:

a. Cleanse with Cleanser.
b. Two minute general sweep with the portable high frequency unit over the

appropriate side of the face.

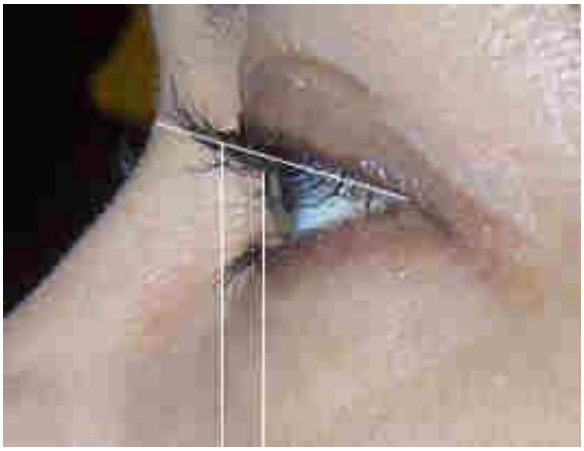
c. Moisturize with appropriate product.
d. Two-minute sweep with the portable high frequency unit on appropriate side of the face.
e. Apply appropriate treatment product.

5. The photographs were electronically transmitted to the technician for evaluation. The technician was not informed which data corresponded to which treatment.

6. Once the first day's data was received by the technician 3 areas for study were determined:

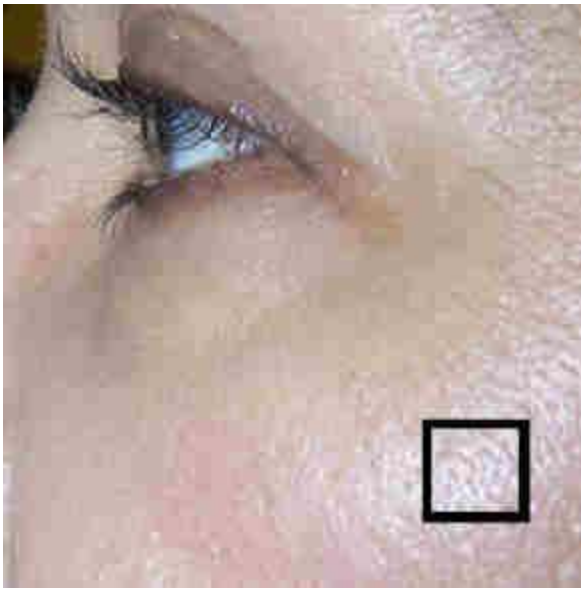
A. Eye Sagging.
The computer program automatically:

i. Draws a line from the corner of the eye to the point of inflection on the bridge of the nose.
ii. Measures the length of that line to adjust for irregularities in the rotation of the lead.
iii. Drops 2 vertical lines from the horizontal and adjusts for any tilt of the head.
iv. Measures the distance from the maximum point of sag to the point of minimum sag.



B. Pores during the initial evaluation the technician selects a location for analysis where pore dimensions are visibly evident. This selected area is then transformed into a black and white field. The photographs are run through a 3-step transform process:

i. the image is converted to monochromatic.
ii. a custom pixel filter is applied to increase the contrast substantially
iii. the image is reversed to allow for measurement of the High pixels.



The black area represents the pores. And the area of black is calculated to provide the pore score.

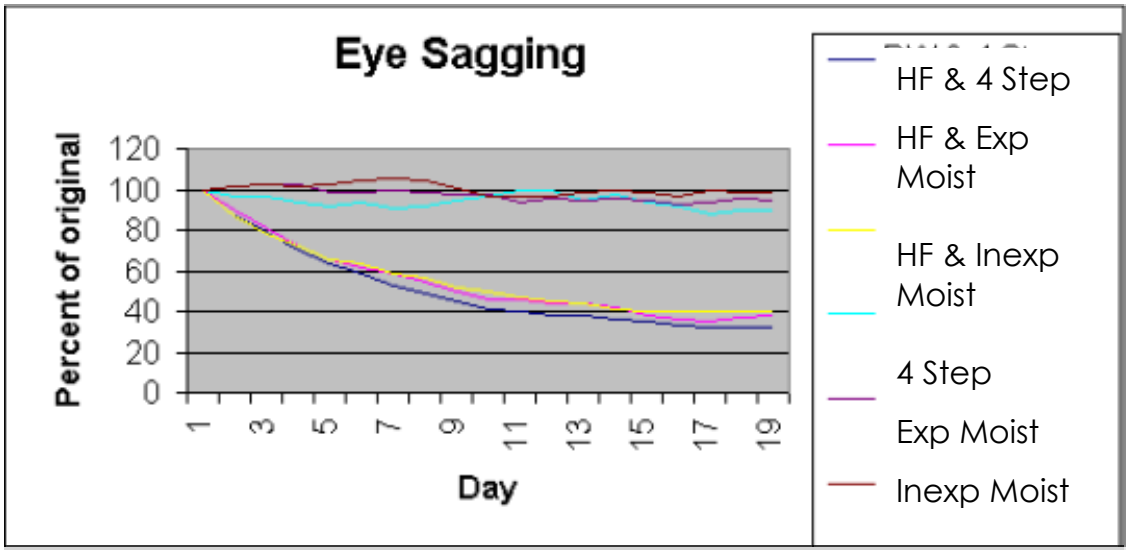
B. Dermal Crease: This evaluation is done exactly the same as the pores except that an area of pronounced dermal creases in the eye area is used.

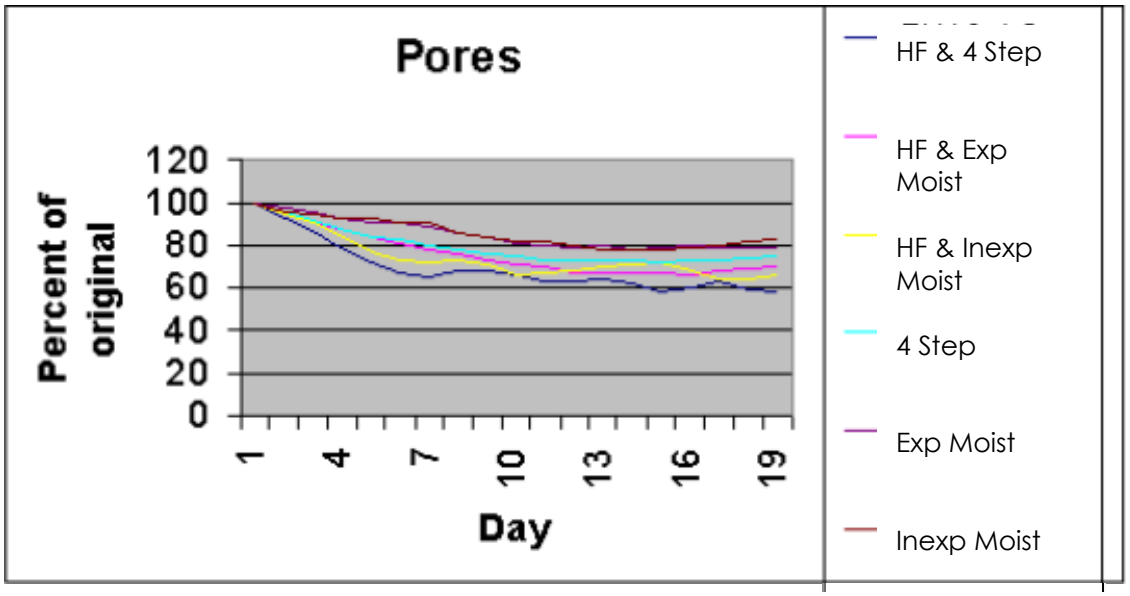
Analysis

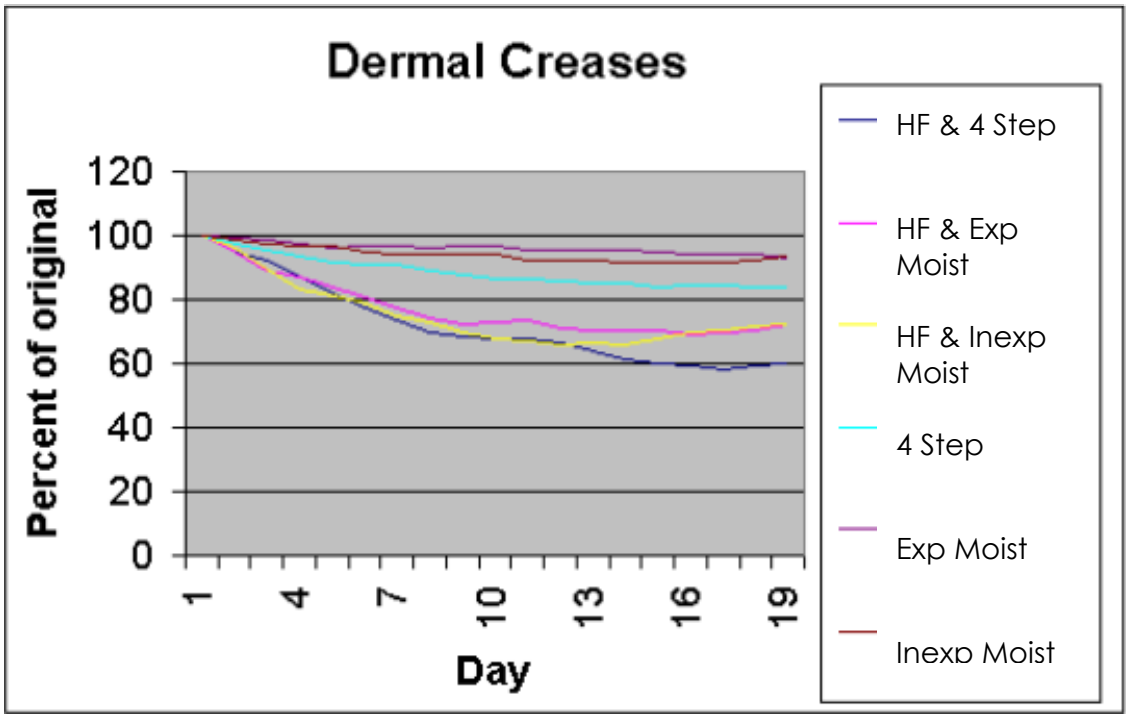
The data was then passed over to the analyst where it was reassembled with the clinical treatment schedule and then plotted. Each of the daily scores for like treatments, no matter which side of the face, was normalized by dividing the score by the day 1 score and plotted. Those curves are included in the appendix.

Results

The attached curves present the results of the tests for each of the 6 groups in each of the 3 areas of study. The following curves summarize the results for the 3 areas of study for the average of each of the 6 groups:


Eye Sagging
Percent of original
120
100
80
60
40
20
0
1
3
5
7
9
11
13
15
17
19
Day
HF & 4 Step
HF & Exp Moist
HF & Inexp Moist
4 Step
Exp Moist
Inexp Moist

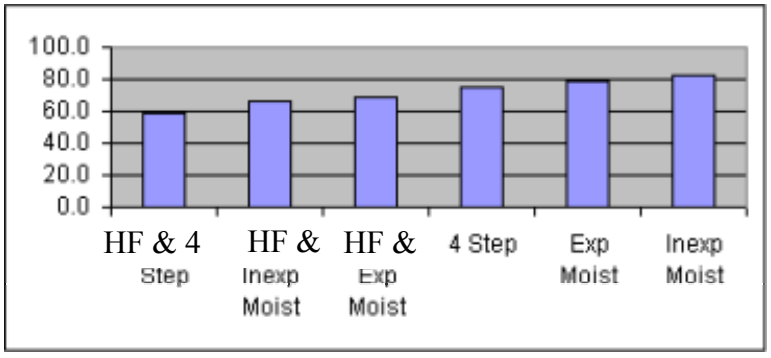

Pores
Percent of original
120
100
80
60
40
20
0
1
4
7
10
13
16
19
Day
HF & 4 Step
HF & Exp Moist
HF & Inexp Moist
4 Step
Exp Moist
Inexp Moist



Conclusions

Eye Sagging:
The results for eye sagging are the most dramatic of all of the tests undertaken. In these tests the use of the Portable high frequency unit produced a reduction of over 60% in each of the average samples. While there was a slight reduction in sagging through the use of the lotions alone, it was almost negligible compared to the Portable high frequency unit results.

Pores:
The average reduction in pore size for each of the 6 groups was:

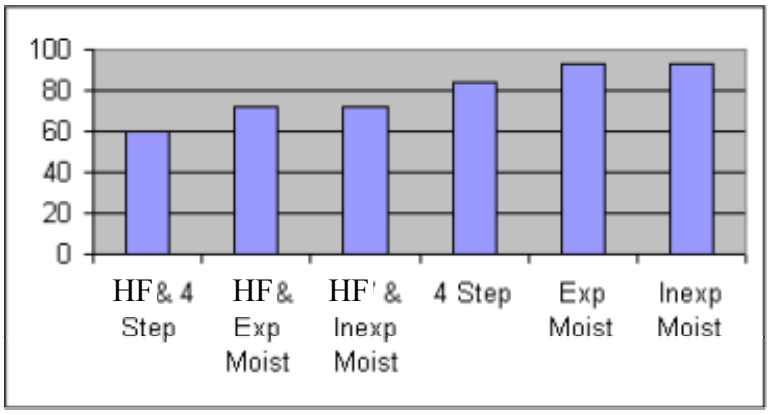


HF & 4 Step System	58.5
HF & Inexpensive Moisturizer	65.6

HF & Expensive Moisturizer	69.3
4 Step System	75.2
Expensive Moisturizer	79.0
Inexpensive Moisturizer	83.0

While the results for each of the groups was not as dramatic as the eye sagging experiments, there is a clear improvement, 13 to 17 percentage points, in the use of the portable high frequency unit over the lack of use of the portable high frequency unit. As well, the portable high frequency unit, when used with the 4 step program, provided results that were 7 % better than either of the other creams.

Dermal Creases:
The average reduction in Dermal Crease size for each of the 6 groups was:



HF & 4 Step System	60.2
HF & Inexpensive Moisturizer	72.1
HF & Expensive Moisturizer	72.3
4 Step System	83.9
Expensive Moisturizer	92.9
Inexpensive Moisturizer	93.3

Again, there is a 24 percentage point reduction in the size of the dermal crease when the portable high frequency unit is used. Also, the 4 step program is 10% more effective than either of the other creams.

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