NECKPERFECT™ COMPLEX CLINICAL STUDY

Dr. Charlene DeHaven, MD
Clinical Director, INNOVATIVE SKINCARE®

Study performed by BioScreen Testing Services, Inc.

STUDY OBJECTIVE
The progressive decline in appearance of the neck area seen with aging is especially difficult to correct without invasive procedures. Many individuals wish to achieve improvements in this area but are reluctant to undergo surgical correction. A product that non-invasively improved the configuration of the neck would be very desirable for those wishing to improve their appearance overall and avoid or delay invasive treatments of the aging neck. This study examined the ability of IS CLINICAL® NECKPERFECT COMPLEX to improve the appearance of the neck area in subjects with an aged neck configuration.

STUDY DESIGN
The effectiveness of NECKPERFECT COMPLEX to improve the appearance of the aging neck was evaluated both objectively and subjectively throughout a three month time period. Female subjects in overall good health between the ages of 35 and 65 from different ethnic groups participated in the study. NECKPERFECT COMPLEX was applied twice daily.

Parameters were evaluated with scientific instruments, by clinical grading, and by subject evaluations. Participants were examined at the beginning of the study, at week 2, week 4, and week 12. Categories of assessment included:

- Skin hydration by Corneometer
- Skin firmness by Cutometer
- Skin elasticity by Cutometer
- Skin texture/smoothness by VisioScan
- Digital photographs

Subjects were instructed to apply NECKPERFECT COMPLEX to the neck area twice daily for the entire three month study period. For standardization, a neutral cleanser and broad spectrum sunscreen were also supplied.

SIGNIFICANCE OF STUDY
The neck is a particularly problematic area as changes of aging develop. The deteriorating configuration of this area that accompanies aging usually causes emotional distress yet is difficult to improve without invasive modalities. Changes in the neck that accompany aging include sagging, longitudinal banding, crepiness, loss of chin definition, deterioration of skin texture, and superficial and deep wrinkling. Although individuals would like to lessen these changes, many are reluctant to engage in surgical procedures for a variety of reasons including; perceived risks, discomfort, expense, and/or personal preference.

Cosmeceuticals successfully providing changes in the neck area are much sought after by consumers and yet are very difficult to find since this area of the body is difficult to improve. This leads to frustration with both the cost of purchasing such products as well as the time involved with carefully selecting them. NECKPERFECT COMPLEX dramatically improves the appearance of the aging neck as shown in these objective study results.

RESULTS AND CONCLUSIONS
Results indicated statistically significant improvements in measurement parameters that included objective instrument measurements, clinical grading, and subject assessments. Subjects own assessments of the effectiveness of NECKPERFECT COMPLEX in improving their neck areas were very high and indicated a desire to continue using the product.

Results of the evaluations obtained by medical instrument, clinical grading, and subject evaluations demonstrated –
• Increased skin hydration
• Improved skin firmness
• Improved skin elasticity
• Improved skin texture and smoothness
• Improved appearance of fine lines and wrinkles
• Improved overall appearance of neck profile and configuration

At study conclusion, all of the above parameters were significantly improved. Mathematical representations of several of these improvements are provided below.

**SKIN FIRMNESS AND ELASTICITY BY CUTOMETER** – The cutometer measures elastic and firmness properties of skin that are biomechanically related to complex interactions in the content of elastin fibers, collagen fibers, and glycosaminoglycan ground substances. The Cutometer MPA 580 manufactured by Courage Khazaka in Germany was used to measure the resistance against suction deformation of intact skin in living subjects.

**SKIN HYDRATION BY CORNEOMETER** – The corneometer measures hydration of human skin based on actual water content of intact living skin. The Corneometer CM 825 manufactured by Courage Khazaka in Germany was used to measure hydration with capacitance changes indicating tissue moisture content.

<table>
<thead>
<tr>
<th>SKIN FIRMNESS % OF SUBJECTS IMPROVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 weeks</td>
</tr>
<tr>
<td>77%</td>
</tr>
</tbody>
</table>

*Firmness improved immediately and strongly and improvements were maintained*

<table>
<thead>
<tr>
<th>SKIN ELASTICITY % OF SUBJECTS IMPROVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 weeks</td>
</tr>
<tr>
<td>63%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ELASTICITY MEASUREMENT VALUES</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 weeks</td>
</tr>
<tr>
<td>7.96</td>
</tr>
</tbody>
</table>

*Elasticity improved 76% from week 2 to week 12*

One of the most distressing events of neck aging is loss of neck firmness and elasticity. These qualities are also the most difficult to correct by non-invasive means. An extremely high percentage of subjects improved immediately with use of NECKPERFECT™ COMPLEX. Furthermore, because these objectively measured improvements were maintained and even increased throughout the study period, they are expected to be maintained even farther into the future.

**SKIN TEXTURE BY VISIOSCAN** – Skin was optically monitored with the VisioScan VC98 consisting of a high resolution chip, an objective, and a UVA light source. Illumination over an area of 6mm x 8mm was provided by halogenide lighting. The stratum corneum absent reflections from deeper skin layers is monitored and computer analysis performed to obtain a smoothness measure.
Digital photographs assessment included: Participants were examined at the beginning of the study by clinical grading, and by subject evaluations. Parameters were evaluated with scientific instruments, a three month time period. Female subjects in overall and improvements were maintained even farther into the future.

Although individuals would like to lessen these changes accompanying aging include sagging, longitudinal banding, crepiness, loss of chin definition, deterioration of skin that are biomechanically related to complex architecture that are very difficult to improve with topical products. Their evaluations are quantified in the following data tables.

Subjects were asked to assess NECKPERFECT COMPLEX in terms of a number of parameters related to skin improvements they experienced while using this product. Their evaluations are quantified in the following data tables.

Subjects own assessments of the aging neck as shown in these images were also supplied.

A volumized epidermis is critical not only to the neck area twice daily for the entire study period, they are expected to be maintained even farther into the future. Furthermore, because these objectively measured improvements held and even increased further by computer analysis performed to obtain a smoothness measure.

When products fail to meet expectations. Aesthetic outcomes during the course of the study. NECKPERFECT COMPLEX was tolerated very well by all subjects.

Digital photos were taken during the progress of the study. The photos illustrated improvements for a wide variety of subjects of differing ages, severity of aging changes, beginning neck configuration, and body weight.

### SUBJECT EVALUATIONS OF NECKPERFECT™ COMPLEX

Subjects were asked to assess NECKPERFECT COMPLEX in terms of a number of parameters related to skin improvements they experienced while using this product. Their evaluations are quantified in the following data tables.

### SKIN TEXTURE % OF SUBJECTS IMPROVED

<table>
<thead>
<tr>
<th></th>
<th>2 weeks</th>
<th>4 weeks</th>
<th>12 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>17%</td>
<td>47%</td>
<td>73%</td>
<td></td>
</tr>
</tbody>
</table>

*Skin smoothness improved 74% from week 2 to week 12*

### SKIN SMOOTHNESS MEASUREMENT VALUES

<table>
<thead>
<tr>
<th></th>
<th>2 weeks</th>
<th>12 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.35</td>
<td>25.02</td>
<td></td>
</tr>
</tbody>
</table>

### EVALUATION PARAMETER

<table>
<thead>
<tr>
<th>Evaluation Parameter</th>
<th>2 Weeks</th>
<th>12 Weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved neck sagging</td>
<td>72%</td>
<td>80%</td>
</tr>
<tr>
<td>Skin looks or feels firmer</td>
<td>85%</td>
<td>85%</td>
</tr>
<tr>
<td>Improved skin tone and texture</td>
<td>80%</td>
<td>87%</td>
</tr>
<tr>
<td>Satisfied with overall results from product</td>
<td>82%</td>
<td>85%</td>
</tr>
</tbody>
</table>

### ADVERSE EVENTS

There were no product-related adverse events during the course of the study. NECKPERFECT COMPLEX was tolerated very well by all subjects.

### BEFORE AND AFTER PHOTOS

Digital photos were taken during the progress of the study. The photos illustrated improvements for a wide variety of subjects of differing ages, severity of aging changes, beginning neck configuration, and body weight.

### CONCLUSIONS

Aging brings changes in neck architecture that are very difficult to improve with topical products and that are also emotionally distressing for the individual experiencing them. Frustration increases when products fail to meet expectations.

### REFERENCES


Changes seen with aging in the neck include sagging, longitudinal banding, crepiness, loss of chin definition, deterioration of skin texture, and superficial and deep wrinkling. This study shows that use of NECK PERFECT™ COMPLEX can help correct the appearance of the aging neck area.

This study of actual subjects using NECK PERFECT COMPLEX for three months proved that carefully designed product with superior ingredients can lessen the visual changes seen with aging of the neck. This study was particularly significant because the positive results were so noticeable. Considering the objectively measured dramatic improvements, it is not surprising that the subjects were impressed with their personal results and responded with extremely positive opinions about NECK PERFECT COMPLEX.

REFERENCES


