

LE Magazine June 2008

## REPORT

### How to Look Much Younger Than Your Real Age

By Trish Riley

Humans can greatly accelerate their rate of skin aging. For instance, a 35-year-old woman will look older if she smokes cigarettes, eats overcooked foods, avoids fresh fruits and vegetables, and/or exposes her skin to ultraviolet sunlight.

Just as there are proven ways to speed up skin degeneration, there now are documented methods to prevent and reverse it.

The population is revolting against unsightly skin deterioration by taking extraordinary steps to preserve the radiance of youth. The result is that aging people today do not have to look as old as previous generations.

This article uncovers novel approaches to looking younger that are available for the first time to the general public.

One reason that facial skin “shrivels” as we age is that our natural hormone production markedly declines. To make matters worse, blood microcirculation to our skin is reduced as we grow older, thereby depriving our skin of the small amount of natural hormones our body still makes.

A large number of published scientific studies reveal that estrogen exerts potent anti-aging effects on the skin.<sup>1-12</sup> The topical application of natural estrogen can produce dramatic improvements to the skin without systemic absorption concerns.

#### HOW ESTROGEN PROMOTES YOUTHFUL SKIN

As women enter menopause, their internal estrogen production sharply declines. The resulting estrogen deficit exacerbates the effects of both normal and environmental skin aging. According to the findings of a scientific study published last year, “estrogens prevent skin aging. They increase skin thickness and improve skin moisture.”<sup>12</sup> Another recent study came to the same conclusion, i.e. “skin aging can be significantly delayed by the administration of estrogen.”<sup>2</sup>

A critical mechanism by which estrogen maintains a youthful plump appearance is to increase the synthesis of collagen, which is the skin’s underlying support structure. Collagen atrophy is a major factor in skin aging. There is a strong correlation between skin collagen loss and estrogen deficiency at menopause.<sup>1</sup>

Skin aging, especially in the face, is associated with a progressive increase in sagging tissues and a reduction in elasticity. With advancing age, the skin becomes more fragile and susceptible to trauma, leading to more lacerations and bruising.<sup>1</sup> In menopausal and postmenopausal women, estrogen administration increases collagen content, dermal thickness and elasticity, while decreasing aging dry skin.<sup>1,4</sup> It is difficult to imagine aging women maintaining young looking skin in the absence of estrogen.

Estrogens exert significant effects on skin physiology by modulating the effects of key epidermal and dermal cells.<sup>2</sup> In fact, the skin is an important estrogen-responsive endocrine tissue.<sup>3</sup> Without the growth-promoting effects of estrogen, the skin literally withers away. The very thin skin observed in the elderly can be directly correlated to lack of estrogens needed to generate collagen and maintain skin thickness.<sup>3</sup>

#### USING ESTROGEN TO REJUVENATE YOUR SKIN

Topical estrogen application has been shown to be safe and effective in preventing skin aging. In a study published in February 2007, a group of women who were already taking oral estrogen drugs were given a topical 0.01% estrogen cream. After only four months, both dermal and epidermal thickness was enhanced, as well as dermal collagen levels. This study showed that topical



estrogen application provided rapid and definitive anti-aging effects even in women who had high systemic estrogen blood levels.<sup>4</sup> The significance of this study is that it shows how quickly a small amount of estrogen delivered directly into the skin induces profound anti-aging effects.

A number of studies have investigated the beneficial role that estrogens, especially estriol, play in maintaining skin firmness, elasticity, moisture content, and wound healing in postmenopausal women.

### TOPICALLY DELIVERED ESTRIOL

Estriol is a weak estrogen when systemically administered, but it can induce potent anti-aging effects as a topical treatment. A six-month study of peri- and postmenopausal women was conducted at the University of Vienna in Austria comparing the topical application of estriol and estradiol creams. The doctors found that skin symptoms of aging improved, and that those treated with estriol obtained superior results, with no systemic hormonal side effects noted.<sup>5</sup>

Scientists have developed topical creams to nourish the skin with estriol without subjecting users to the potential dangers of therapies containing more potent forms of estrogen.<sup>6,7</sup>

Derived from plants, estriol is a weak estrogen, so it does not need to be counterbalanced by progesterone and it does not have a systemic effect on the body. There is evidence that estriol, the so-called “good estrogen,” may inhibit some of the unwanted effects of estradiol by binding preferentially to estrogen receptor-beta.<sup>13</sup>

Edward Lichten, MD, author of the *Textbook of Bio-Identical Hormones* reports that no estriol was detected in blood measures of test subjects who used a topical estriol cream.<sup>14</sup>

Dr. John R. Lee, author of books like *What Your Doctor May Not Tell You about Menopause*,<sup>8,9</sup> concurred that estriol applied to the skin reverses wrinkling and should be an essential part of the anti-aging skin regimen. The Harvard-trained physician also wrote that estriol is the safest natural estrogen.

In a review of 45 scientific studies published in *Alternative Medicine Review*,<sup>10</sup> estriol was found to be an effective and safe treatment with fewer side effects than traditional hormone-replacement therapy.<sup>15</sup> Postmenopausal patients showed improved elasticity in the skin, while a study that included men and women with acne-damaged skin showed 100% improvement in repair of scarred tissue after three months of twice-weekly treatments.<sup>10</sup>



### NEW ESTRIOL-BASED FACE SOLUTION

Dr. Edward Lichten and his wife Carolynne, a biochemist, have created a new face solution that has been shown to help combat many of the visible effects of aging. It combines estriol with 15 other ingredients to help lock in moisture and improve skin radiance, tighten the texture of the skin, enhance collagen and elastin, while reducing wrinkles and fine lines.<sup>16</sup>

The objective was to develop an affordable face solution that included the latest anti-aging ingredients from around the globe. After the product had been developed, a scientific analysis was conducted to determine its effectiveness and confirm its safety. Twenty women with mild crow's feet, rough-textured skin, and moderate skin tone with some blotching and imperfections used the product on only one side of their faces over a six-week period. Skin quality was evaluated before and after the test period using three laboratory devices. The Cutometer® was used to measure skin elasticity, a Corneometer® was used to evaluate skin moisture, and a Chromameter® to evaluate skin pigmentation.<sup>16</sup>

Patients as well as their physicians and the scientists conducting the tests provided subjective evaluations to complement the scientific measurements collected. All of the subjects reported that their skin texture was smoother and that the quality of their skin had improved, while 90% and 80% said that the moisture content and elasticity of their skin had increased, respectively, giving them a healthier and younger-looking appearance. Clinical assessments showed a baseline improvement of 19% increase in elasticity and 9% increase in moisture in the skin after just one week.<sup>16</sup>



Test subjects reported very satisfying results. “I saw an extremely noticeable change in my skin and overall appearance,” reported one subject. Other comments included a decrease in skin imperfections and discoloration; lessening of fine lines, wrinkles and crow's feet; skin feeling more hydrated and firmer—better. Of the test subjects, 80% recommended the solution to their friends.<sup>16</sup>

## THE "OTHER" INGREDIENTS IN THIS NEW FACE SOLUTION

In addition to estriol, some of the other ingredients in this new face solution include those only found in the most expensive cosmetic products. One of these interesting new substances is an instant anti-wrinkle compound known as SYN®-AKE.

This synthetic tripeptide is based on the venom of the Temple Viper snake, and is making headlines for its ability to smooth small wrinkles for a short period of time.<sup>17</sup> SYN®-AKE contains collagen stimulators and is rich in antioxidants. SYN®-AKE is serving as the Botox® solution for the Hollywood crowd. That's because actors who may be called upon to exhibit their facial expressions in their line of work cannot run the risk of extended paralysis of facial muscles that Botox® causes. SYN®-AKE itself sells for \$185 an ounce, but is included in this new face solution that sells for only a fraction of this price.



### PROTEINS TO STIMULATE COLLAGEN PRODUCTION

While estriol instructs cells to produce collagen, specialized proteins provide the raw materials needed for collagen itself to be made. This new face solution contains a skin-contouring hydrolyzed vegetable protein called Peptireline-SC™, which has been proven to stimulate collagen type I and IV formation along with elastin. Peptireline® contains special proteins that diminish wrinkles by enhancing the cohesion of the outer cellular matrix layer of the skin and maintaining the packed state of epidermal lipids.

### REDUCE WRINKLES... PROTECT AGAINST NEW ONES FORMING

Argireline® is a revolutionary new hexapeptide that reduces the depth of wrinkles caused by repeated facial movements. It has also demonstrated effective protection against the formation of new wrinkles.<sup>18,19</sup> Silanetriol is a pure marine collagen serum that tightens skin with immediate results as well as providing long-term benefits in strengthening connective tissue. "These marine peptides are the same ingredients that can be found in some of the most expensive cosmetic products," says Dr. Lichten.

### RESTORING YOUTHFUL MOISTURE

This new face solution incorporates several substances known for their hydrating qualities. Restructured pure water is used, which is scientifically broken into micro-clusters for better hydration and absorption and which prevents the infiltration of toxic metals and trace substances. Hyaluronic acid forms a visco-elastic surface film that holds moisture against the skin.<sup>20</sup> By increasing water retention, it serves as an excellent skin lubricant and skin-swelling agent, filling in lines and wrinkles.

### INCREASING SKIN CELL ENERGY METABOLISM

An algae extract called PEPHA®-CTIVE is another marine peptide that acts as a skin energy generator to restore stressed skin, enhancing radiance with a healthy glow. Studies demonstrated that 80% of treated subjects have improved luminosity and transparency after four weeks and 70% of subjects describe their complexion as more fresh and radiant.<sup>21</sup>

### IMPROVING MICRO-CAPILLARY CIRCULATION

Regu®-Age is a hydrolyzed rice bran protein that reduced dark circles by 35% in an eight-week test and puffiness around the eyes by 31%. Skin texture was improved by 42% with Regu®-Age, which also improves microcirculation and strengthens natural collagen and elastin while protecting skin from free radicals.<sup>22</sup>

### FATTY ACIDS INCREASE HYALURONIC ACID AND COLLAGEN TYPE IV

Matrixyl™ 3000 (palmitoyl tetrapeptide-3) is a lipo-peptide, a fatty acid mixed with amino acids, shown to increase overall collagen synthesis by up to 117% and collagen IV synthesis by up to 327%.<sup>23</sup> It stimulates the lower layers of the skin to heal and diminish the appearance of wrinkles. It also increases hyaluronic acid synthesis by up to 267%, restoring the skin layer by layer.<sup>23</sup> Matrixyl™ 3000 cuts deep wrinkles in half in treated subjects, who showed noticeably younger looking skin within two weeks.<sup>23</sup>

Another algae extract called PEPHA®-TIGHT is a skin-tightening agent that provides an instant effect as well as long-term firming and strengthening of skin tissue. PEPHA®-TIGHT stimulates collagen formation and protects skin from oxidative stress. Test subjects reported immediate effectiveness and continued satisfaction with results after just two weeks.<sup>24</sup>

### STIMULATING SKIN CELL RENEWAL

The new face solution also contains an amino acid-rich glucosamine complex, which increases cell regeneration, helping to control wrinkles and to stimulate collagen production. A four-week test found a 56% reduction of lines and wrinkles and an 84% increase in exfoliated cells.

## CLASSIC ANTI-AGING SKIN NUTRIENTS

In addition to estriol and other novel anti-aging compounds, this new face solution contains nutrients that were long ago shown to have definitive skin-rejuvenating properties. These include vitamins A, C, and E liposome micronized with powerful antioxidants and white tea extract, another free radical-zapping antioxidant with protective polyphenols.

In addition, micronized dehydroepiandrosterone (DHEA) is also included, which is readily absorbed into the skin and helps protect the integrity of skin blood vessels so they do not break and cause unsightly patterns near the skin's surface.

DHEA is known to maintain the health of skin tone and moisture and to protect from the effects of sunlight. It also inhibits collagen degradation and increases procollagen synthesis, thus counteracting the characteristic saggy, wrinkled appearance associated with hormone-related skin aging.<sup>25</sup>



Sun-protection ingredients like titanium dioxide are also included in the solution.

## NO NEED TO APPEAR AS OLD AS YOU MAY BE

Normal aging inflicts a devastating toll on the skin. While past generations had little choice than to accept relentless deterioration of their outer appearance, new scientific findings reveal proven methods of circumventing and reversing signs of age-related skin degeneration.

By replenishing the skin's estrogen alone, remarkable age-reversal effects have been demonstrated in independent scientific studies. Aging humans today have access to far greater technologies to combat sagging, wrinkling, dryness, thinning, uneven pigmentation, and enlarged pores than ever before.

We are fortunate to live in a time when we don't have to just sit by and accept these inevitable consequences of aging.

If you have any questions on the scientific content of this article, please call a Life Extension Health Advisor at 1-800-226-2370.

## WHAT YOU NEED TO KNOW: PREVENTING SKIN AGING

- Skin aging is greatly accelerated by internal and external factors, such as a decline in natural hormones, inadequate nourishment, tobacco smoke, and ultraviolet sunlight.
- Aging skin needs broad-spectrum protection against internal and external damage as well as to help repair and renew aging skin cells.
- This is where novel skin-rejuvenating nutrients can come to the rescue by helping to preserve the radiance of youth.
- Estriol, the so-called "good estrogen" is a weak form of estrogen that has been found to be a safe and effective anti-aging treatment with no systemic hormonal side effects.
- Specialized proteins such as Peptireline-SC™, Argirelin®, Regu®-Age, and Matrixyl™ 3000 stimulate the formation of collagen and elastin, healing sagging skin while increasing skin elasticity and reducing the appearance of wrinkles.
- Clinical studies have also shown that marine peptides such as PEPHA®-CTIVE helps restore skin luminosity and Silanetriol provides skin-firming effects, thus giving the complexion a more fresh and radiant glow.
- A breakthrough anti-wrinkle compound called SYN®-AKE is making headlines for its ability to smooth small wrinkles for a short period of time, and works like Botox®, but without the need for injections.
- Aging skin needs plenty of moisture, which can be derived from several ingredients known for their hydrating qualities, such as hyaluronic acid.

- Novel ingredients like SYN®-AKE can be supported by nutrients that were long ago shown to have definitive skin-rejuvenating properties, such as vitamins A, C, and E and white tea extract.

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