

Application in Developing Beauty Essence Exclusively for the Neck Shiseido Gains New Knowledge on Skin Physiology Specific to the Neck

As a result of research conducted on skin physiology of the neck, Shiseido has discovered the occurrence of neck lines^{*1} and sag^{*2} that are specifically unique to the neck, as well as the fact that neck skin looks dull and dark compared to the face due to a more yellowish skin tone. Accordingly, Shiseido will pursue further research to apply these new findings to its anti-aging brand *REVITAL* series in developing a beauty essence exclusively for the neck that leads to a more smooth and beautiful neck.

*1 Neck lines: formation of skin texture that looks like deep, horizontal lines on the neck

*2 Neck sag: appearance of thick, deep wrinkles on the neck

Anxieties Concerning the Neck

Neck wrinkles and sag become increasingly noticeable as we age. According to a survey conducted in 2001 among 53 women between the ages of 40 and 50 years old, Shiseido found that roughly 60% of the women judged the age of other persons by their necks, and that over 80% were distressed over neck wrinkles and sag themselves, indicating considerable worry and consciousness about one's neck. At the same time, in a separate attitude survey conducted in 2002 among 150 women between the ages of 20 and 60, approximately 70% of women responded that they were not taking regular care of their necks. Moreover, up until now, there has been scant informational knowledge related to the skin physiology of the neck, as well as only a few cosmetics exclusively used for this skin area, thus resulting in consumers using face cosmetics on their necks.

Following full-fledged research into skin physiology of the neck to develop cosmetics tailored to this particular use, Shiseido brought to light the knowledge that skin physiology of the neck and facial areas are remarkably different.

New Knowledge on Skin Physiology of the Neck

In 2001, Shiseido discovered the following items upon taking skin measurements from the faces and necks of 61 women between the ages of 18 and 69 for a comparison of cross-sections and the onset of aging.

1. Neck skin is more moist than face skin

Measured results indicated that neck skin is more capable of sustaining a moisture balance (moisture and oil balance) than facial skin. Compared with the face, the moisture content in the horny layer of the neck, which is the outermost layer, is higher; the level of moisture evaporation (transepidermal water loss: TEWL) is lower; and, the level of sebum is the same. While the level of sebum slowly decreases in the face with age, the neck shows no age-related changes of either lower moisture in the horny layer or decreased TEWL levels.

2. The neck exhibits a yellowish tint

Neck skin is generally darker and duller than that of the face. Upon measuring the pigment of the face and neck, the luminosity and saturation of the two areas are roughly equal, but the greater scarcity of blood capillaries near to the surface layer of the neck as opposed to the face reduces the level of reddish tint that is provided by the pigment in the hemoglobin of blood, to result in a more yellowish tint.

3. Neck skin is thinner and sags more easily with age (occurrence of sag)

Research revealed that while neck skin stretches more readily due to its thinness, it will also return to its former state more easily, exhibiting greater elasticity than facial skin. However, the elasticity and firmness of neck skin decreases with age. It was also discovered that once firmness is lost in neck skin, it is more likely to sag than facial skin in that neck skin is not connected to the cells and muscles under the skin. Consequently, larger, more prevalent sagging appears on the neck with age.

4. Strenuous movements of the neck along with aging give rise to skin texture^{*3} with the appearance of neck lines that radiate outward horizontally

To analyze the skin physiology of the neck, Shiseido developed new replicating 3D software that accurately maps the texture of the skin's surface, enabling textural dimensions and depth to be measured.

Use of this software revealed that the neck's skin texture is three times deeper than that of the face and has more clearly defined dimensions. However, strenuous movements of the neck along with aging decreases the vertical radiation in skin texture and increases the horizontal radiation in skin texture, thus producing deep textural lines that look like wrinkles. In other words, the combination of deep sagging with neck lines are what gives the appearance of aging in the neck area.

*3 Skin texture: fine furrows on the skin's surface as well as the raised portions encircled by these furrows

Differences Compared with Face Wrinkles

Small facial wrinkles (eye area, etc.) arise from natural aging, decreased skin elasticity from drying and changes in collagen and elastin in the subcutaneous layer of the skin due to exposure to UV rays.

While drying and natural aging (unlike the face) has little effect on the appearance of neck lines, exposure to UV rays, strenuous movements in the neck and a deepening of skin texture from aging do contribute to the occurrence of neck lines.

Development of Cosmetics Exclusively for the Neck and Confirmation of Usability

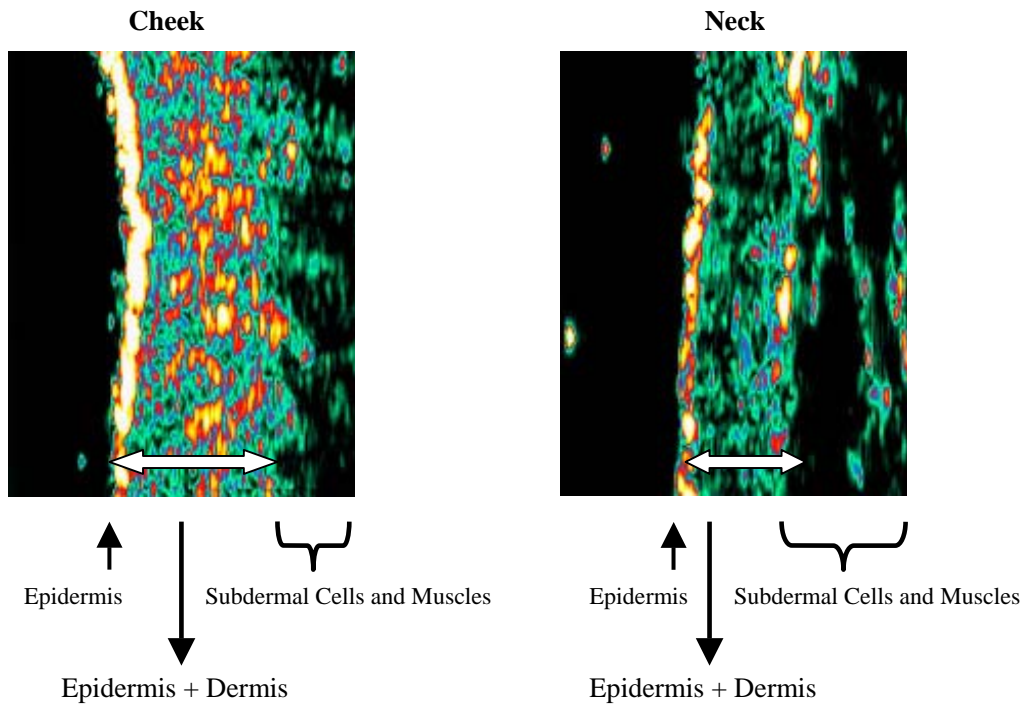
Applying this newly acquired knowledge, Shiseido has produced a trial beauty essence for the neck that combats the effects of problems specific to the neck, such as neck lines, sag and a yellowish tint on both the surface and inner layers of the skin (promotion of circulation through massage). The trial product includes nutrients that promote firmness on the skin's surface and a blend of Vitamin E derivatives and other ingredients that promote blood circulation, to produce a skincare treatment that aids in massaging the skin without stickiness.

In an extended one-month trial of the product among 30 women between the ages of 30 and 50, effects could be seen on neck lines and sag, and measurements revealed that neck skin displayed increased resistance to stretching along with an increase in elasticity. Moreover, the disparity in face and neck color partially abated, with signs of increased luminosity as well. Feedback on the value of usability and level of satisfaction of participants was also exceptionally positive.

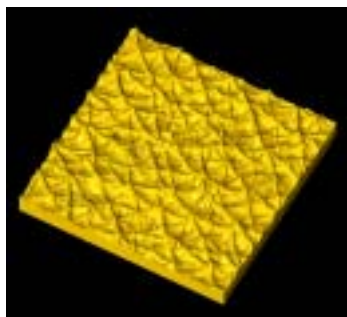
Shiseido will announce the results of its research on skin physiology of the neck at the 54th Annual Meeting of the Western Japan Division of the Japan Dermatological Association to be held from November 9 to 10 at Kunibiki Messe in Matsue City, Shimane Prefecture.

[REFERENCE]

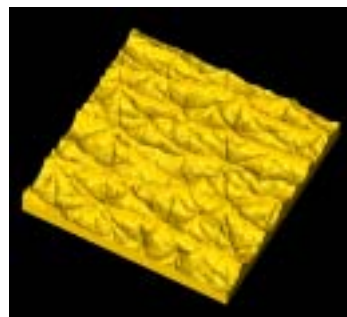
Tomographic Image of Skin



3D Replica of Neck Skin Texture



20s



50s

[紙焼き用 1]

Changes in the Surface of Neck Skin with Aging

Teens

20s

30s

40s

50s

60s

Tight, wrinkle-free skin

Aging-related changes

Increased sag and neck lines

[紙焼き用 2]

Loss of Skin Firmness and Emergence of Horizontal Lines in Skin Texture ...

Enlarged view of neck lines 61-year-old woman

Neck lines and sagging appears

Neck lines Lines run horizontally and appear as wrinkles

Sag Deep, thick [pronounced] wrinkles that appear from sagging of skin around the bendable joints of the body