

Copper—an Antiaging Element

Aging baby boomers may want to continue looking more like the “baby” than the “boomer,” but although no one can stop the march of time, there are ways to hide its effects. New research has shown that adding trace amounts of copper to creams and lotions may help delay and even reverse the effects of the aging process.

The use of copper compounds for healing and beautification has ancient precedents. Queen Nefertiti, who ruled Egypt around 1350 B.C., started a fashion trend by painting her eyes with bold colors, including green from malachite, a copper oxide. This use might have been prompted by teachings at the time about copper’s role in skin care and wound healing, which was cited in the *Ebers Papyrus*, the world’s oldest known book, written in approximately 1550 B.C. Later physicians noted the use of copper compounds to treat skin diseases and infections in the *Hippocratic Collection* (460 to 380 B.C.), *De Medicina* (14-37 A.D) and *Pliny’s Historia Naturalis* (23-79 A.D.).

SKIN REMODELING

Today, scientists are learning that the introduction of copper peptides (proteins containing copper ions) into the skin through creams and lotions dramatically improves skin tone and elasticity, according to Loren Pickart, Ph.D. He has been researching anti-aging processes since the 1970s and is credited with his work on the healing aspects of a peptide complex called GHK-Cu (glycyl-l-histidyl-l-lysine: copper (II)), which is naturally found in the body.

“Copper peptides trigger a response that actually removes skin damage and replaces it with newer skin,” he explains. Scientists refer to this improvement as “activating the remodeling process.”

Pickart, who owns and distributes a skin cream product line, “Skin Biology,” isn’t the only one extolling the virtues of using copper peptides in creams to improve skin. Neutrogena[®], a Johnson & Johnson product, introduced the “Visibly Firm” line of cosmetics containing copper peptides after studying its efficacy.

James J. Leyden, a professor of Dermatology at the University of Pennsylvania and founder of the school’s Skin Study Center, conducted the study for Johnson & Johnson. He found that, “Products containing GHK-Cu, including a facial cream, eye cream and foundation, result in rapid improvement in skin condition, including reduction in the appearance of fine lines, wrinkles, roughness, sallowness (a sickly yellowish skin color), laxity and hyperpigmentation (brown spots).”

Skin elasticity, thickness and firmness were also improved. “GHK-Cu incorporated into skin care and cosmetic products is useful for improving the appearance of aging skin,” adds Leyden.

“Copper is known to play a critical role in the integrity of connective tissue; it has been shown to stimulate collagen synthesis, critical to maintaining skin tone and firmness, and many publications have reported that copper positively affects wound healing.”

WHAT’S AT WORK:

According to Pickart, at age five, 90 percent of our skin is comprised of collagen 3, which has strong elasticity and flexibility characteristics. This is what makes children’s skin look so fresh and removes scars quickly. By age 60, only 10 percent of the skin is collagen 3, so its ability to naturally rejuvenate decreases with age. “GHK-Cu induces production of collagen 3, which allows the skin to be more soft and firm. It repairs the skin barrier, preventing allergens and bacteria from entering, and increases production of molecules that hold water in the skin, improving suppleness.”

TIMING IS EVERYTHING

Boomers will be happy to hear that the Neutrogena study says improvements in skin firmness and overall appearance were visible within one week after using creams containing copper peptides. Fine lines were “significantly improved after two weeks” and coarse wrinkles looked better after eight to twelve weeks. Skin thickness increased an average of 17.8 percent after three months of twice-daily cream use.

Because cosmetics stay on the skin for many hours, they're a good way to deliver ingredients that can improve skin condition, says Yohini Appa, executive director of scientific affairs for Neutrogena. Improvements result from "the ability of the copper peptide complex to promote positive changes in skin microstructure, including increases in skin thickness."

ADDITIONAL USES

Cosmetics have always been a blend of artifice and science, and this latest revelation is little different. "Copper has something magical in it," Pickart observes. This "magic" extends beyond exterior beauty, however. Copper peptides have been found to be helpful in:

- Aiding skin healing after surgery, as well as after laser resurfacing, dermabrasion treatments and chemical peels
- Stimulating hair growth and hair transplants
- Improving skin conditions due to acne, diabetes and psoriasis
- Increasing the safety and efficiency of sun-tanning lotions, and reducing post-tanning skin peeling
- Reducing inflammation after men's shaving and encouraging new skin growth. *Cu*