

Baby boomers' boon? LED light and green tea cream to smooth facial wrinkles

September 9 2009



A combination of LED light exposure and green tea extract significantly reduces skin wrinkles (right image) when compared to treatment with LED light alone, scientists are reporting. Credit: Crystal Growth & Design

Scientists in Germany are reporting a major improvement in their potential new treatment for facial wrinkles that could emerge as an alternative to Botox and cosmetic surgery. The non-invasive technique combines high-intensity light from light-emitting diodes (LEDs) and a lotion made of green tea extract. It works ten times faster than a similar anti-wrinkle treatment that uses LEDs alone, the researchers say. Their study is scheduled for the Oct. 7 issue of ACS' *Crystal Growth & Design*.

Andrei P. Sommer and Dan Zhu point out that researchers have used light-therapy, or phototherapy, for more than 40 years to help heal wounds. Recently the scientists showed that use of high-intensity LEDs, similar to those used in automotive tail lights and computers, could help reduce skin wrinkles when applied daily for several months. But exposure to intense LED light is also involved in generating high levels

of reactive oxygen species as byproducts that can potentially damage cells. To combat that effect, the researchers combined the LED with a potent antioxidant in [green tea](#) extract called epigallocatechin gallate.

They applied a daily combination of LED light and green tea extract to the facial wrinkles of a human volunteer one month. The combination treatment resulted in smoother skin, including "less pronounced wrinkle levels, shorter wrinkle valleys, and juvenile complexion," the scientists say. The treatment showed promising results in only one-tenth of the time it took for LED therapy alone to reduce wrinkles. The study could form the basis of "an effective facial rejuvenation program," and lead to a new understanding of the effect reactive oxygen species on cellular aging, they note.

More information: "Facial Rejuvenation in the Triangle of ROS", *Crystal Growth & Design*.

Source: American Chemical Society ([news](#) : [web](#))

Citation: Baby boomers' boon? LED light and green tea cream to smooth facial wrinkles (2009, September 9) retrieved 24 April 2024 from <https://medicalxpress.com/news/2009-09-baby-boomers-boon-green-tea.html>

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