

Scientists unravel secrets of skin rejuvenation

Unmistakable signs of ageing like fine wrinkles, creases and saggy areas around the mouth and neck are not inevitable.

They are caused by a breakdown inside the skin that some treatments overcome by stimulating growth of new, youthful collagen, according to University of Michigan scientists.

The research based on studies since early 1990s, explain why three types of available skin treatments are effective: topical retinoic acid, carbon dioxide laser resurfacing and injections of cross-linked hyaluronic acid.

These treatments improve the skin's appearance - and its ability to resist bruises and tears - by stimulating new collagen. Collagen is a key supporting substance, plentiful in young skin, that's produced in the sub-surface layer of skin known as the dermis.

The U-M findings show that the breakdown of the dermis' firm, youthful structure is a very important factor in skin ageing - a much more straightforward thing to fix than genetic factors that others theorize may be involved.

"Fibroblasts are not genetically shot," said John J. Voorhees at the U-M Medical School and the article's co-author. Fibroblast cells in the skin are the key producers of collagen.

"We have shown that if you make more collagen go in, it provides an environment in which fibroblasts recover and make more collagen."

Voorhees and co-authors Gary J. Fisher and James Varani of U-M hope the findings will help people make intelligent decisions amid the hype of the multi-billion-dollar anti-ageing products industry.

"We want to educate clinicians about what's been found, and what it means in terms of how we may improve the appearance of people," said Voorhees.

These findings have been published in the May issue of Archives of Dermatology.

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