

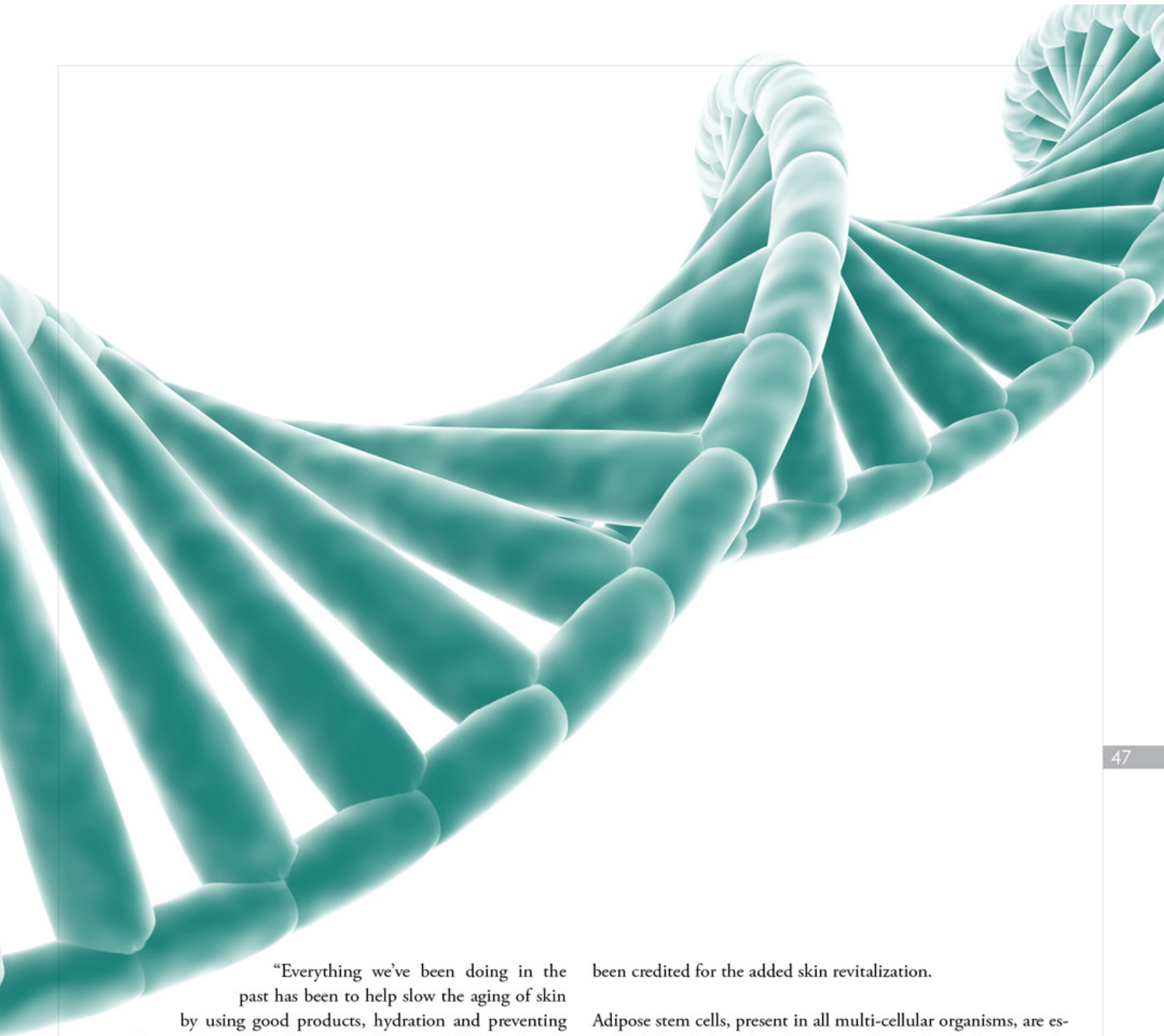
Stem Cells Redefine Rejuvenation

BY MEGHAN WALSH

COSMETIC SURGEONS HAVE BEEN PERFORMING FAT TRANSFERS FOR DECADES WITH A MASSIVE SUCCESS RATE. BUT IT'S THE EARLY FINDINGS ON THE STEM CELLS FOUND IN FAT THAT HAVE SOME IN THE ANTI-AGING INDUSTRY PREDICTING A REVOLUTION. THE MOVEMENT? REDEFINING (OR REPLACING) FACELIFTS, ERADICATING FILLERS AND PIONEERING A SUSTAINED APPROACH TO SKIN REJUVENATION.

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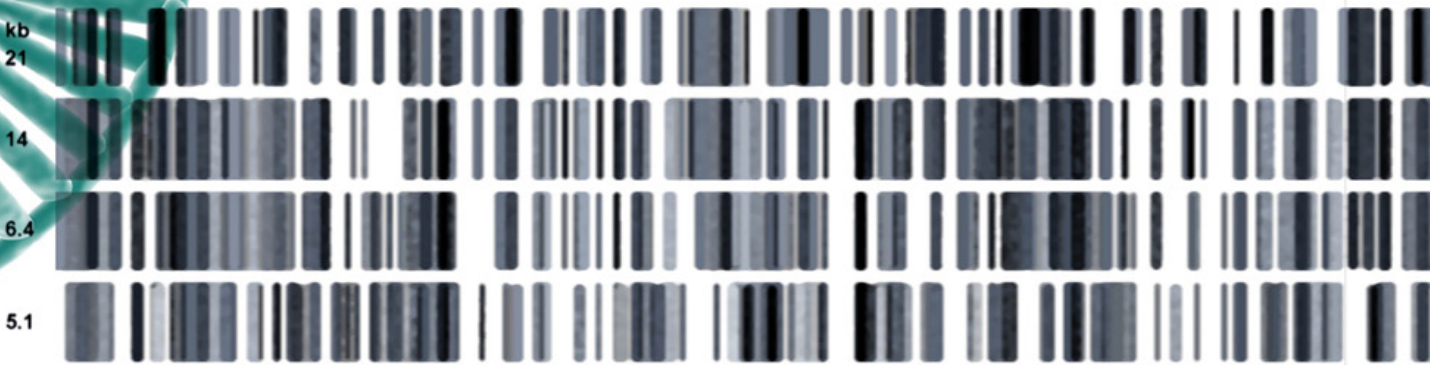
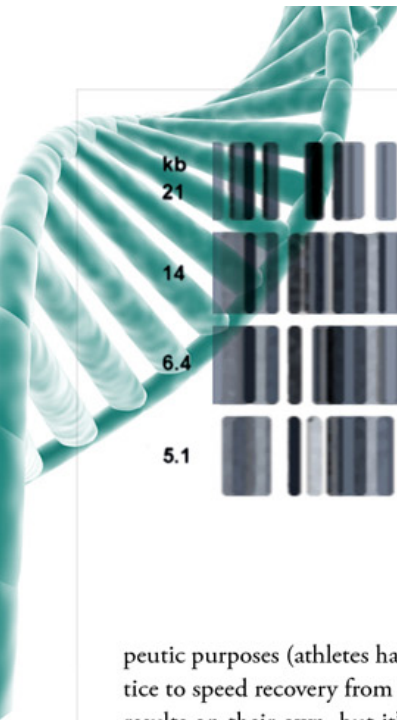
“Everything we’ve been doing in the past has been to help slow the aging of skin by using good products, hydration and preventing sun damage, but it has only delayed the inevitable,” says Scottsdale surgeon Dr. Todd Malan, who performed the first stem cell breast augmentations in the U.S. in 2009. “Then we had surgery, which would artificially try to compensate for aging by stretching and pulling it tight. Now what we have with stem cells is truly rejuvenation. We are truly repairing and restoring collagen and creating a younger appearance by making your skin actually younger.”

American doctors first began using fat transfers to augment the face and breasts in the 1980s. They quickly began to notice such grafts also had a stimulating effect on skin – improving elasticity, tone and volume. But it wasn’t until several years ago scientists discovered that fat is teeming with stem cells, which have since

been credited for the added skin revitalization.

Adipose stem cells, present in all multi-cellular organisms, are essentially blank slates that differentiate themselves to form specific tissue types responsible for repairing injury and replacing dying cells. These chameleon cells take their cue from adjacent cells and have a remarkable capacity for self-renewal (a process you may remember from science class called mitosis). Therefore, when injected into various areas of the body, say the face, they have dramatic regenerating potential. “The holy grail of stem cell therapy may be the ability to take your own tissue and grow an organ or replace diseased tissue,” proclaims Dr. Sam Rizk, Director of Manhattan Facial Plastic Surgery. “It is very exciting.”

Once fat is removed from a patient, it goes through about a 20 minute process to harvest and separate the stem cells. The concentrated batch of stem cells is then injected for cosmetic or thera-



peutic purposes (athletes have made headlines for using this practice to speed recovery from injury). Fat transfers produce striking results on their own, but it's this additional element that has the medical aesthetics world in a frenzy.

With a traditional graft, up to 50 percent of the fat can be reabsorbed by the body, which is thus wasted. But because stem cells grow into new blood vessels, which feed fat, the tissue can now thrive longer while continuing to plump over time. And because everything comes from your own body, there is no risk of infection. Currently, stem cells are most commonly used in natural breast augmentation as that is the area where the most research has been done. "Fat can now survive much more readily because

person's own tissue is being moved to another part of the body. "The F.D.A. doesn't have any jurisdiction to look at stem cell transfers when it's your own stem cells," Dr. Malan says.

Some surgeons are taking advantage of the hype – since stem cells are naturally found in fat they simply perform a fat graft without using the Cytori device and claim it's a stem cell transfer. More alarming are the doctors using knock-off machines not approved or well researched. The separation chemical used in harvesting actually dissolves fat. If the proper machine isn't used and the extrication agent isn't washed out completely and is re-injected into body, it's going to eat away the body's fat. "Beware of marketing claims touting stem cell therapies that are unproven, and topical formulations that claim

Don't fall for topical skin care products that are touting stem cell ingredients. Most are using plant-derived stem cells or even animal genetics, which can cause a variety of allergic reactions that have no proven benefits. "It's marketing hype," Dr. Malan warns. "There is zero science behind it."

of stem cells," Dr. Malan says. "We are seeing amazing results even when we don't use fat."

Facelifts can make you look smoother, and injectables can fill in wrinkles. With stem cells, however, Dr. Malan and other surgeons are suggesting skin will actually take on its younger form. There are even predictions that stem-cell injections and enriched fat transfers will ultimately replace all other fillers. "The problem with the aging face is not loose skin," Dr. Malan asserts. "It's loss of fat or shifting of fat. Just stretching skin tighter is not solving the problem."

Research in this area of medicine is still in its infancy, so consumers should be cautious. The Cytori PureGraft is the only device currently approved by the Food and Drug Administration for harvesting stem cells. The treatment itself doesn't have approval because the federal agency doesn't regulate procedures in which a

to contain stem cells without any clinical data," Dr. Rizk warns.

Because of the Cytori's steep price tag, which runs about \$200,000, one of the drawbacks of stem cell procedures is cost. While a traditional fat transfer to the breasts would cost between \$10,000 and \$12,000, with the use of stem cells that would soar to anywhere from \$15,000 to \$18,000. As medical professionals continue to explore these revolutionary advancements and the technology becomes more widespread, however, those numbers will likely go down, making way for stem cells in the mainstream medical aesthetics market.

"What is most exciting about stem cells and regenerative medicine is the unknown," Dr. Rizk says. "We really do not know what the future will hold and new research is being conducted all over the world." ■