

Face-lifts, one cell at a time

Latest treatments are getting under the skin to smooth wrinkles -- without a single cut or burn.

By Shari Roan, Times Staff Writer

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Traditional treatments to lift sagging skin and smooth wrinkles have relied on surgery, lasers and chemical peels — all of which require days or weeks of healing and, often, hiding.

But dermatologists and other doctors who specialize in cosmetic or laser surgery say they are rapidly developing methods to beautify the body without so much as a needle or a knife.

These procedures, loosely referred to as non-ablative therapies (meaning no cutting is involved), are already making their way into the marketplace in major cities.

Unlike more common treatments, which alter the top layers of skin by damaging them, the noninvasive methods focus on tissue beneath the skin. Using special frequencies of light or radio waves, the techniques trigger cellular changes that produce gradual benefits over a period of months. These "rejuvenation" procedures don't produce the dramatic effect that traditional therapies provide — no one would be a candidate for "Extreme Makeover." But they also don't require seclusion.

"In the past, we've been limited to things in which people have had to take time off work," says Dr. Tina Alster, director of the Washington Institute of Dermatologic Laser Surgery in Washington, D.C. "With non-ablative techniques, we're talking about not destroying the top layer of skin. This is the most cutting-edge we have in lasers and light sources."

The new treatments, which are typically less expensive than surgery, are best suited for people in their late 30s and 40s, when skin usually begins to show signs of aging.

"It is not replacing face-lifts and surgical lifts," says Dr. Ron Moy, a UCLA dermatologist and a leading researcher on new technologies. "It's for the younger age, [people who] just need a little bit of work."

Although some doctors say more data is needed, especially on the long-term effects, others expect the new light and radio-wave techniques to fill a large niche in cosmetic procedures.

Seeing the light

The light-based therapy may seem the more unusual, if not bizarre, of the rejuvenation techniques. Patients sit in front of an array of blinking lights for a few minutes — then go home.

Several devices based on the principle, known as photo modulation, are in development, but the one that has undergone the most scientific testing is called GentleWaves. It consists of a panel of

tiny light-emitting diodes, which use the same low-wattage technology as digital clocks and car dashboards.

The device was an outgrowth of NASA research designed to help plants grow in space. Researchers say the light energizes the cells, much in the same way that a plant absorbs and uses the sun's energy. The diodes, specially calibrated to a certain frequency, stimulate the cell's mitochondria, causing genes to turn on and cells to regenerate, they say. The result is the production of new collagen and elastin, the materials that give the skin plumpness and elasticity.

Honey Selinger, 50, underwent the therapy last year. After donning goggles, she sat in front of the panel of blinking lights for two minutes. She felt nothing.

"I said, 'Is this really going to work?' But I think I've seen an improvement," said Salinger, reporting that the fine lines around her mouth and eyes softened after the treatments. "It's incredible. And it's simple."

Some doctors are already offering the treatment, although it has not yet been approved by the Food and Drug Administration as a medical device. Data presented at a meeting of the American Society for Laser Medicine and Surgery last month suggests that GentleWaves causes cellular changes that improve wrinkles, skin tone and color, and pore size.

One study of 47 patients showed an average improvement of 44% in the appearance of wrinkles, skin tone and texture. Another study, of 90 women, showed that 62% experienced improvement in wrinkles and skin texture around the eyes.

"At first there was a lot of skepticism," says Dr. Robert Weiss, an assistant professor at Johns Hopkins School of Medicine. "But we've done so much science on this."

Dr. Peter Fodor, a Los Angeles plastic surgeon and president-elect of the American Society for Aesthetic Plastic Surgery, says most doctors are awaiting more data before recommending the light therapy.

"Anything that is not vetted first in peer-reviewed journals is usually a very quickly passing fad," he says.

GentleWaves treatments are typically done twice a week for four weeks. Although researchers say there are no side effects, they don't know how long improvements last. Exposure to the sun and progressive aging could undo the benefits over time.

The treatment, which costs about \$1,200 for the series of treatments, appears to be best suited for people in their late 30s to mid-50s, Weiss says.

Cell-altering waves

The other new, non-ablative technique uses radio waves to reach deep into the skin, altering cells in the dermis.

Already, the Food and Drug Administration has approved the first radio-frequency device for nonsurgical skin tightening. Called Thermage, the procedure was approved in November for the treatment of wrinkles in the eye area. Research presented at the American Society for Laser Medicine and Surgery indicates that Thermage also may be applied to many areas — including the jowls, neck, breast, upper arms, thighs and stomach.

Moy is currently conducting a study of 90 patients using Thermage on one side of the face to better determine its effect. "You can see the part that has been treated is much different," he says. "For the right patient, it's an alternative to surgery."

During Thermage, a cryogen spray cools the skin's surface while radio waves are applied to the deep layers of skin. The energy appears to cause the collagen to contract and tighten and prompts, over time, new collagen growth. That growth further tightens the skin.

"We know it causes submicroscopic wounds in the skin," says Dr. Richard Fitzpatrick, an associate clinical professor of dermatology at UC San Diego. "It's the healing of those wounds that results in the tightening of the skin. Some patients have immediate results, but most of them see the results gradually."

A study of 86 patients who received a single treatment found that 80% experienced significant improvements in wrinkle severity. The changes usually began to appear after four to six weeks and continued to improve for up to six months, according to research presented at last month's laser meeting. Studies also have shown that the treatment lifts the brow and reduces droopiness of the upper eye lid. The overall effect is of a wider-eyed appearance or, as doctors often put it, a "brighter" eye appearance.

Since the surface skin is protected, there are no visible side effects, although early studies resulted in some small burns on a few patients. Nancy Klinger, 53, who describes herself as "anti-cutting," says she did not want to have a surgical face-lift. But the Chatsworth woman agreed to enter Moy's Thermage study late last year after "moaning and groaning" to the doctor about her appearance.

Now, she says, "I have my 30-year-old eyes again."

"People come up to me and say, 'You look great.' No one knows you've done anything because the improvements are so gradual."

The procedure is painful, though tolerable, Klinger cautions. "When the heat gets to the maximum point there is this terrible little pinch, and then it goes away," she says.

The results can vary from person to person for reasons that doctors still don't understand. "We should be able to eventually figure out why some people are getting good results and extend that to everyone," Fitzpatrick says.

In the meantime, consumers should be cautious about radio-frequency therapy, advises Dr. Jeffrey M. Kenkel, a Dallas plastic surgeon who spoke at last week's meeting of the American Society for Aesthetic Plastic Surgery.

"It does have the potential to tighten the skin, but it may not work in some people," he says. "I think it's clear that this technology is not going to replace surgery. The patient who will benefit from this isn't the older patient with a lot of skin sagging and a lot of sun damage."

Many of the studies on radio-frequency therapy have been performed by doctors with a financial interest in the product, Kenkel says, adding that additional independent research should be performed.

"We need to step back a bit and let people get experience with the technology and get some results, and then we can accurately inform patients about what this can and can't do," he says.

Doctors also aren't really sure how many treatments are necessary. And no one knows how long the results will last although it appears to be at least one year.

Thermage costs about \$1,000 to \$1,500 depending on how large an area is treated.

New therapies

Both radio-frequency therapy and photo modulation are just beginning to be offered by dermatologists and other skin specialists in major cities, and whether they will lure more middle-age Americans onto the skin rejuvenation bandwagon remains to be seen. Doctors, however, say the new therapies represent the beginning of a trend in noninvasive methods to beautify skin.

Says Kenkel: "We have to give patients what they want. A lot of patients don't want surgery."