

easy does it

In the past, laser resurfacing has been epically harsh or barely noticeable.

Catherine Piercy reports on the breakthrough that's finally getting it right.

It's a bright winter morning when I arrive at dermatologist Deborah Sarnoff, M.D.'s, Park Avenue laser center for a sneak peek at the Next Big Thing in dermatology. My mind is racing with visions of the latest high-tech wizardry: 3-D laser-light goggles, wrinkle-obliterating body-suits, skin-searing wands. *You know.*

So imagine my surprise when Sarnoff swings open the door to a pristine white treatment room and reveals . . . an eggplant, perched in a reclining chair atop its own paper surgical gown.

"I know, I know," she says with a laugh. "But you've got to see this."

And then, like the *Jetsons*-esque hostess of some far-out futuristic culinary show, she aims a nearby laser head at that dark, ripe flesh, and fires, searing a square grid of tiny, tightly packed pink dots onto its surface (and filling the air with the scent of cooked eggplant).

What Sarnoff has just demonstrated is fractional carbon dioxide resurfacing, and it may be the biggest breakthrough in laser skin care in nearly a decade. The spot-eradicating, line-smoothing results, swears Sarnoff, are good enough "to turn a prune-face" back into a taut, juicy plum, and they



have the most conservative dermatologists feeling giddy with excitement.

THE BACKSTORY

If the new class of fractional carbon dioxide lasers sounds vaguely familiar, that's because their name, like the technology behind them, merges the best of two well-established lasers—the mighty CO₂ and its gentler cousin, fractionalized therapy—into a single power tool.

Searing through the uppermost layers of the skin in a single uniform sheet—delivering, in effect, a second-degree burn to the face—the original CO₂ lasers, with their 10,600-nanometer beams, seemed a godsend when they debuted in the early nineties. Dermatologists hailed their ability to diminish severe sun damage and dramatically tighten skin in

just one treatment, but they now acknowledge that their reputation as "blowtorches" was no coincidence. "Do you have three weeks to hide from your friends, family, co-workers?" asks David Goldberg, M.D., a clinical professor of dermatology at New York's Mount Sinai School of Medicine, of the CO₂'s downtime, which included two weeks of raw, oozing, "weeping" skin and up to six months of lingering redness.

The kinder fractional procedures of recent years—lasers like Fraxel and Affirm—delivered their weaker 1,550 nm of erbium energy in a series of micro-pixels (rather than a single beam), projected on the skin as a checkerboard grid. By poking selective holes in the skin's surface, they left what Sarnoff calls "a tiny island of healthy skin behind" for every dot they vaporized. The result: pinkish skin that healed in up to two days and a noticeable improvement in fine lines and sun spots (after three to five \$1,500 treatments). "The concept of Fraxel was genius, in that it redefined the way we thought about delivering laser light," says Manhattan dermatologist Macrene Alexiades, M.D. But for women with deeper wrinkles, severe sun damage, and limited reserves of time and patience, "the results were mediocre at best."

Combine the principles of each—a friendlier, fractionalized delivery system with all the strength, depth, and reach of the original CO₂—and you've got the new fractional CO₂. While the chief function of any laser is to temporarily wound the skin, triggering the production of fresh new collagen fibers as it vaporizes old, damaged tissue, none of these new hired guns—which go by the brand names Fraxel Re:pair (from Reliant Technologies), UltraPulse ActiveFX (Lumenis), and SmartXide DOT beauty >154

POW WOW!
THE FRACTIONAL CO₂ LASERS GENTLY ZAP SKIN BY PROJECTING PIXELATED DOTS. ALSO A FAN OF DOTS: ROY LICHTENSTEIN. HERE, THE ARTIST'S THUNDERBOLT (1966).

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Therapy (Deka)—inflict anything close to the harrowing collateral damage of their prehistoric predecessors. “In most cases, we’re talking about four to seven days of what looks like a very bad sunburn,” says Goldberg. “And don’t forget, it’s usually a one-shot deal.”

THE NEW FRONTIER

The innovations don’t stop there. Like the keypad on your gym’s elliptical machine, the fractional CO₂ allows derms to tailor the intensity of its pitch pattern—the distance between each little dot as well as its depth—with the push of a button. Sarnoff might set the device “closer together for a more aggressive treatment around the mouth or crow’s-feet,” farther apart “on sensitive areas like the jawline.”

When I drop by dermatologist Fredric Brandt, M.D.’s, Manhattan office, he shows me the Lumenis ActiveFX’s newly customized handpiece. As I peer at its lens, he flips through an assortment of tiny dancing geometric CO₂ light patterns—circles, parallelograms, hexagons, and triangles—that, when projected onto the skin, access “the hard-to-reach angles around the nose or mouth.” Putting an end to “a 40-year-old face floating above

a 50-year-old chest,” the new CO₂s also treat “the neck, forearms, and tops of the hands”—fragile areas that were prone to scarring and discoloration under the reign of the old CO₂.

To combat the first signs of aging, dermatologists like Manhattan’s Patricia Wexler, M.D., are sticking with gentler resurfacers, like the original Fraxel (now called Fraxel Re:store). However, there are instances where Wexler feels the potency of fractional carbon dioxide is appropriate for younger skin—for example, to treat acne scars in patients as young as their 20s.

Roy Geronemus, M.D., a dermatologist in New York, is using his Fraxel Re:pair to diminish telltale plastic-surgery scars around the face and breasts, and is even using it around some patients’ eyes as

a substitute for surgery. One look at the before and after pictures he recently presented at the American Society for Dermatologic Surgery conference in Orlando, and I can see why: Droopy corners, hooded eyelids, and stubborn crow’s-feet virtually disappear after a single blast. At approximately \$2,000 a session, “it’s a fraction of what you’d pay for an eye-lift,” he says. (A full face may cost upwards of \$4,000.)

New York plastic surgeon Sam S. Rizk, M.D., sends patients for fractional CO₂ as a skin-tightening “complement” to the muscle-lifting effects of his endoscopic face- and neck-lifts.

In some cases—lip and forehead lines, cracks at the corner of the mouth—Wexler is using fractional CO₂ in place of fillers like Cosmoderm. As she points out, “you don’t have to come back every eight weeks to have it touched up.” The new CO₂’s effects last, by most estimates, between five and eight years.

WHAT’S NEXT

Like any emerging technology, the first generation of fractional CO₂s are works in progress. Lasers, says Goldberg, “are like laptops—your new model is constantly being updated.” If the old CO₂ was the truck-size monitor on your first Macintosh, the fractional CO₂ is your new MacBook Air: fabulous but soon to be tweaked in exciting new ways.

Though they remain unsuitable for darker skins, which may be prone to heat-related scarring, the new CO₂s have slightly more range than their predecessors, extending from fair to light-olive and, in some cases, light Hispanic and Asian skin tones. As for hypopigmentation (small, permanently colorless patches of skin that appeared in patients up to a year after the old CO₂ procedures were performed), “fractional technology seems to have virtually eliminated the risk,” says Alexiades, who is currently conducting the FDA trials for Deka’s DOT Therapy device. “But it’s still early, and there may be limits to how close

together each little dot can be placed without causing a similar effect.”

Not unlike the feeling one might experience while looking at *Sunday Afternoon on the Island of La Grande Jatte*, Georges Seurat’s pointillist painting from 1884, with its tiny pixelated dots and early Neo-Impressionist overtones, the significance of the new CO₂ seems greater than the sum of its parts. “Ten years ago, I couldn’t have guessed that we’d be delivering carbon-dioxide laser light without the downtime or the risks,” says Goldberg. “Just imagine what’s next.” □

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heavy-metal manicure

Goodbye black, hello . . . silver. The manicure of this moment is futuristic, coolly robotic. It looks as though you’ve dipped your fingertips in mercury. The nails are by Minx, and they are metallic, mirror-finish, foil-like “coverings” descended from NASCAR-decal technology. Zoë Kravitz (page 202) is a fan. Lauren Santo Domingo—RIGHT, armored in silver—first learned about them from legendary New York manicurist Honey. She then had Lisa Logan—the pro behind Beyoncé’s *gold* Minx mani—over for a last-minute house call before kicking off New York Fashion Week. They won’t chip because they’re made of film, not polish, pressed onto the nail bed with heat (no drying time: brilliant), and they won’t damage nails since they’re chemical-free. For salons, minxnails.com.—SARAH BROWN



**NO JEWELRY
NECESSARY**
LAUREN SANTO
DOMINGO'S SILVER
MINX NAILS, BY
LISA LOGAN.