

Choosing the Best Option to Treat Acne Scars

An experienced plastic surgeon explains which methods produce the best improvements for different patient profiles.

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When it comes to treating acne scars, no single key opens all the locks. Treatment regimens vary according to the nature of the case at hand. First you need to determine whether you're dealing with ice-pick scars, depressions, or saucer-shaped scars. Each calls for a different approach. Take note of the patient's skin type and the amount of pigmentation in the skin in planning an appropriate treatment regimen. The status of the patient's acne also affects your approach in treating acne scars: you must determine whether the acne is active, intermittently active, or entirely quiescent. When you take patients' histories, assess their motivation and get a handle on just how much time and money they're prepared to spend in resolving their acne scars. Not all patients can take off from work several times in the course of the year. Nor can everyone afford to invest several thousand dollars for multiple laser resurfacing procedures.

Among the treatment measures I may use for acne scars are punch excision, CO₂ laser resurfacing, CoolTouch Nd:YAG laser treatment, collagen injections, and the Biomedic Micropeel regimen. The effectiveness, downtime, and cost of these measures vary according to the case at hand.

TYPES OF SCARS

Ice-pick scars, depressions, and saucer-shaped scars call for different treatment approaches. Many times, the presentation includes some combination of two or three of these types of scars. You have to be flexible and tailor your regimen according to the patient's needs.

- **Ice-pick scars.** The best approach for treating ice-pick scars is a two-stage regimen entailing punch excision followed by either laser or dermabrasion resurfacing. My preference is CO₂ laser resurfacing after the excision enclosure has healed and the scar has contracted. We used to wait six to nine months after the excision enclosure before performing the laser or dermabrasion resurfacing. Now, to accelerate recovery, we wait as little as three months to do the resurfacing. Some clinicians have described performing the resurfacing at the time of the excision enclosure, but I have not found that this adds anything to the overall appearance.

I generally prefer CO₂ laser resurfacing to dermabrasion. Although I own a dermabrader and have performed numerous dermabrasions over the years, dermabrasion's role is as an ancillary, rather than primary, treatment for acne scars. I wouldn't criticize any-

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one who chose to use a dermabrader, but I've found that with experience, you can achieve the same or better results with the CO₂ laser with more predictability and no blood loss. Bleeding makes the dermabrasion procedure and the post-operative management more difficult.

• **Depressions.** Depression scars, which generally develop secondary to nodular cystic acne, are more difficult to treat than ice-pick scars. They're too large to excise and close without extensive scarring. My treatment approach is to blunt the edges of the depression to minimize the irregularity with the normal skin. You can accomplish this by using TCA peels along the edges of the scar followed by CO₂ resurfacing. More recently, I've been using the CO₂ laser rather than a TCA peel on these patients to blunt the angle with the normal skin. It often requires two to three treatment sessions separated by three to six months.

Even with maximal resurfacing treatment, however, depressions often require some form of soft tissue augmentation. After adequate healing, I'll inject a soft tissue filler—my choice is collagen, although other substances such as autologous fat have been used—beneath the depressed area.

• **Saucer-shaped scars.** These scars are generally more superficial and often appear in conjunction with ice-pick scars. I find that saucer-shaped scars respond best to CO₂ laser resurfacing over the entire area. Other types of lasers have been used to treat saucer-shaped scars. I've not been impressed with erbium laser resurfacing with these types of scars. But I have seen good results with the new CoolTouch 1320nm Nd:YAG laser, which is especially useful for those patients with limited downtime to spare and also for darker-pigmented patients.

The CoolTouch delivers a pulse of laser energy that selectively heats the subsurface of the skin to stimulate collagen production within the dermis, but avoids the open wound created by ablative skin resurfacing. So, unlike the CO₂ laser, there's minimal downtime—just a few minutes. The patient can return to work the same day of



The pictures above, taken before (top) and three months after (bottom) three Cool Touch treatments, show marked improvement for this African-American male. Improvement is attributed to the growth of new collagen. The powerful pulse cooling of the Cool Touch system prevents epidermal injury and allows safe treatment of pigmented skin types.

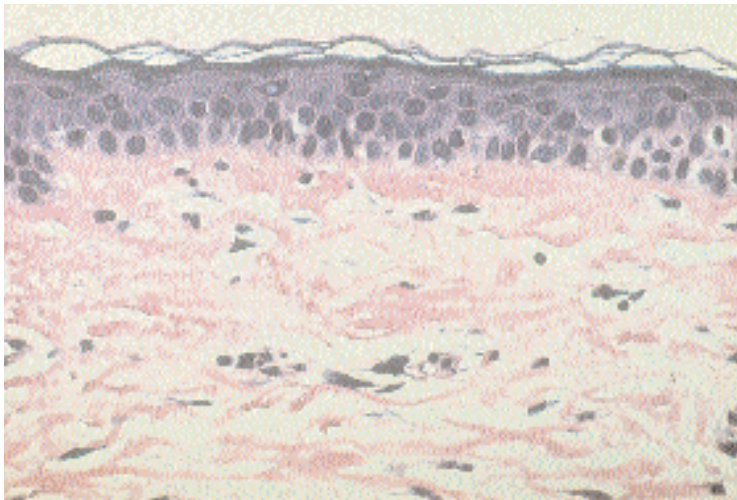
treatment, and there's no pre- or post-operative care. The advantage here is there's no interruption of the patient's normal activity. Another advantage is it's safe for a wide range of skin types. Since there's no injury

to the epidermis, you can treat Hispanics and African-Americans, who are difficult to treat with the CO₂ or erbium lasers. The long-term results of the CoolTouch have yet to be defined, but so far the results are impressive.

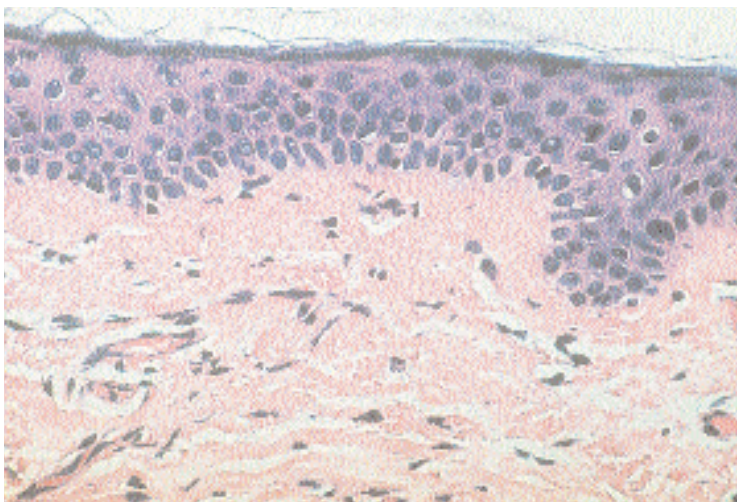
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The CoolTouch regimen requires multiple treatments spaced about four to six weeks initially and then eight to 12 weeks thereafter. Patients typically start to see results by about the third treatment, but we recommend five sessions. Sometimes it takes

from six to nine months to fully appreciate the changes. The CoolTouch laser treatment is most effective for saucer-shaped scars and, to a lesser extent, for depressions. I haven't seen marked improvement with ice-pick scars without first performing punch excision



The histology taken before CoolTouch treatments shows loose, haphazard collagen bundles in the upper papillary dermis, typical of photodamaged skin (above). Six months after four Cool Touch treatments, we see new and thicker collagenous bundles that are more horizontal in orientation (below).



Photos courtesy of David J. Goldberg, MD, JD

"This is not cookie-cutter surgery.

Doctors who approach acne scar patients as if they were all alike will get suboptimal results."

and closure.

I don't like to perform any exfoliative procedure on a patient with active acne. In these cases, we prefer to first treat the patient using salicylic acid, which tends to be keratolytic. It penetrates the epidermis and works its way toward

the outer layers, treating the papules and pustules from within. That's why we use salicylic acid rather than alpha-hydroxy acids such as glycolic acid, which primarily works as an exfoliant.

In the month prior to any laser resurfacing treatment, our patients undergo two Biomedic Micropeel treatments, a three-step process including dermaplaning, glycolic acid, and cryotherapy. (An alternative regimen called Micropeel-plus involves salicylic acid instead of glycolic or lactic acid.) During that month, patients also use a peel-and-bleach regimen of hydroquinone 4%, hydrocortisone 1%, and Retin-A 0.5%. Some clinicians question if the Micropeel treatment is necessary prior to laser resurfacing. I find that patients using this approach recover more quickly, with less hyperpigmentation and erythema.

Some patients with minimal to moderate scarring and intermittent acne may find that the Biomedic Micropeel regimen provides adequate improvement of their scars without any need for laser treatment. Those who can't afford the time or cost of an aggressive dermal remodeling regimen such as laser resurfacing can improve dramatically with this treatment. The amount of improvement is impressive, especially since there's little or no downtime and minimal cost compared to laser resurfacing.

I often recommend to working patients that they try the Biomedic Micropeel treatment first. If they get 50 percent improvement with no downtime and limited cost, they're often content to proceed this way. Fact is, most patients cannot afford to take time off from work several times a year, and they'd rather not use their vacation time to work on their acne scars. I think we're going to see more patients embracing this approach for a few months, perhaps followed by the CoolTouch regimen for three to five sessions spaced four to six weeks apart.

A FLEXIBLE APPROACH

Rarely do patients present with just one type of acne scar. Generally, the presentation involves a combination of two or three types, whether ice picks, depressions, or saucer-shaped scars. As a result, you need to tailor a treatment regimen specifically suited to the presentation at hand. This is not cookie-cutter surgery. Doctors who approach acne scar patients as if they were all alike will get suboptimal results.

In tailoring the best treatment approach, be sure to take into account the physical presentation, medical history, and the patient's occupational and lifestyle needs. Also consider non-medical issues such as procedure cost, which can range from just a few hundred dollars for a course of Micropeel treatments to



Long-standing acne scarring of the cheek before (above) and after (below) CO₂ laser resurfacing.



many thousands of dollars for multiple punch excisions and numerous resurfacing procedures over the course of a year.

In many cases, patients are willing to invest \$4,000 to \$5,000 or even more to eradicate their acne scars. But not all will be willing to make such a substantial commitment. In any event, lay out all the options for the patient right up front, explaining the costs in terms of both time and money, and indicate what kind of results he or she realistically can expect to achieve with each alternative. ●

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Tips on Laser Treatment of Acne Scarring

- At the initial patient consultation, explain that deep acne scars cannot be safely treated with just one procedure alone; most patients will require two or even three treatments spread out over three to six months. Adjusting the patient's expectations preoperatively will help to improve their overall success with your care.

- In cases of hypertrophic or keloidal scars, begin with one or two intralesional steroid injections to flatten the scars prior to surgery. This is particularly useful in patients with keloidal scars, since the laser procedure alone is minimally effective in improving these presentations.

- Patients taking Accutane must discontinue the medication for at least six months prior to laser treatment. Accutane interferes with re-epithelialization and wound healing.

- When performing CO₂ laser resurfacing, treat the entire face rather than spot-treating isolated areas. Doing so ensures homogeneity of skin texture and tone. It also guarantees that you've treated all the affected sites, even those barely discernible areas which even the patient may have overlooked. After the initial session, however, treating isolated cosmetic units will help

to "fine-tune" your results.

- Patients should avoid Retin-A, which is highly irritating on this freshly epithelialized skin, but can continue with other acne medications such as benzoyl peroxide and oral antibiotics. Patients should also avoid a course of Accutane, since the second laser treatment typically comes within four to six months following the initial session.

- Proceed with caution when lasering thin-skinned areas such as the neck, temple, and oral commissures. In these locations, it's best to use just a single laser pass at low fluence, or avoid laser treatment altogether.

- Post-operative wound dressing in male patients can become problematic, as facial hair regrowth after surgery tends to displace occlusive dressings. In these instances, it's best to either replace the dressing more often than with female patients, or to use an open dressing.

- As some degree of itching inevitably follows any laser resurfacing procedure, we typically have patients take an oral antihistamine. This not only relieves the itching, but its sedative effect also enhances patient comfort.