

TO THE EDITOR:

A recent article published regarding laser skin resurfacing for actinic keratoses (AKs) considers the therapeutic and prophylactic results from a single application of a fractional CO₂ laser to be “excellent.”¹ The undersigned does not agree. The very nature of the spaced fractional technique leaves very substantial areas of therapeutically untouched premalignant skin and most assuredly early AKs. Neither a full-strength phenol chemical peel nor a mid-to-heavy Hetter peel² will allow “skipped” areas. Nor will full-face dermabrasion treatment. This writer has used all of these for many years, especially phenol chemical peels and full-face dermabrasion. Facial nerve blocks and surgical tumescent anesthesia allow virtually bloodless intervention, which appear substantially superior to the result seen in Figure 11 taken 3 months after the procedure.¹ Not to be derogatory, but I have never personally endured such a visibly poor result from either phenol chemical peel or full-face dermabrasion.

Too often we read of glowing reports from laserologists, but the reports and photographic documentation do not stand up to the scrutiny of experience and history. Equal depth injury allows equal result, as had been long accepted as truth. Laser treatments of any type involve an additional thermal burn. Avoidance of the complications of this latter injury substantially limits lasers. Multiple treatments with fractional lasers are expensive and time consuming, and always

leave the possibility of untreated skin. The laser plume is as “dangerous” as blood spatter, but the latter is almost (but not totally) absent in the face that has undergone surgical tumescent anesthesia with epinephrine.

Seeking counsel of the elders in our specialty will quickly confirm these truths. Epstein³ wrote of this more than half a century ago, and the undersigned 4 decades ago.⁴ Coleman et al⁵ reaffirmed it, as have countless others.⁶⁻⁸ I personally continue to perform dermabrasion in a number of countries around the world and the results we obtain continue to be superior. An International Society for Dermatologic Surgery presentation⁹ and poster exhibit clearly revealed superiority of dermabrasion over CO₂ laser treatment a decade ago. Manually-controlled siliconized carbide paper (drywall sanding screen)—the “dermasanding” technique—is remarkable in its applicability, efficacy, inexpensiveness, and minimal blood spatter, and enjoys a miniscule learning curve to excellence.¹⁰ In appropriate Fitzpatrick skin types, any of these may well be therapeutically and prophylactically superior and certainly less expensive than a single session of fractional CO₂ laser skin resurfacing for the treatment of actinic damage and AKs.

Sincerely,
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Dr. Field reports no conflict of interest in relation to this article.

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AUTHOR'S RESPONSE:

The critic has completely missed the point of the article. Different procedures for the treatment of actinic keratoses (AKs) are not being compared here, nor is there a suggestion that this technique can replace other therapies in the treatment of AKs. The article points out another alternative treatment that may be beneficial in some patients. On the contrary, cryosurgery (for unique lesions), chemical peels, dermabrasion, photodynamic therapy, and topical chemotherapeutic agents are standards.^{1,2} As the critic points out, many modalities have been used for many years and no one disputes their validity or value.

Actually, the use of lasers for the treatment of AKs is not a new concept and laser technology is cited as a treatment alternative in the American Academy of Dermatology pamphlet on AKs, by ourselves, and by others.¹⁻³ This case does suggest, however, that technology is advancing and is a reminder that as newer modalities improve and change they may be used and have a place in the dermatologist's armamentarium for the treatment of patients with AKs.

One of the aspects that makes this type of laser, the *fractional laser*, so valuable is the fact that this fractional CO₂ laser procedure does not require facial nerve blocks and surgical tumescent anesthesia. This is seen as an advantage by many patients and practitioners. There always are increased risks with anesthesia and the use of topical anesthesia here is simple, which makes this a relatively painless, bloodless, dry procedure. There also is minimal risk of infection and less downtime that gives this type of laser an advantage over the traditional CO₂ laser or yttrium-aluminum-garnet laser. Again, each

physician has his or her own preferences for techniques, medications, and procedures and they feel, in his or her hands, there are excellent results. The case report was intended to inform dermatologists about the use of this technique, which they may want to try and not to compare procedures per se.¹

As to the technical aspect of fractional laser use, greater depths may be achieved with phenol chemical peels and dermabrasion, but these may be uneven and the possibility of scarring and hypopigmentation exists. Such depth is surely not necessary for the average patient with AKs who will also respond to photodynamic therapy, topical chemotherapy, or even local cryosurgery; extreme depths are not even desired, especially if these procedures are being used for prophylaxis. Please note, should a practitioner desire a greater depth with a procedure, this laser has a varying level of depth penetrance and one can achieve it. We feel a desirable result has been achieved with the "lighter touch"; this is the beauty of this procedure.

The mechanism of this technique requires understanding. The tiny spaces created by the fractional laser are quite minute. This laser has a varying pulse width, which allows for full coagulation of the dermis and the entire epidermis is removed and treated. The outcome is the destruction of the sun-damaged skin. This is the advantage of the newer fractional lasers. The use of an evacuator is employed to remove the laser plume. It is efficient and simple. Again, the operation of the fractional laser was not the focus of this report, but rather, it was to inform the reader of the many implications regarding the potential use of the modality.

Lasers have been used and accepted as a form of therapy for AKs for

years. The fractional CO₂ laser has advantages because it decreases pain, healing time, and the necessity for anesthesia as compared to earlier lasers and other modalities. This makes it beneficial for the treatment of some patients with AKs.

It is felt the results achieved in the patient reported are excellent (that continue after one year) without recurrence and with a happy patient. Retreatment of some patients with either the fractional CO₂ laser or another of the many modalities used to treat AKs at some point may be necessary and, as with the aforementioned modalities, is the norm when dealing with AKs. This is not a surprise.

Lastly, we are well aware of the expense of a laser procedure and readily admit that using this modality simply to treat AKs may not be feasible. However, the point of the report is that it can be an alternative that should be considered for specific patients and not be overlooked. As with the patient reported, a perfect candidate would be a person with many AKs, actinic damage, and wrinkles, or extensive sun damage and pigmentation. This modality expeditiously addresses all these problems and many things can be accomplished with one procedure.

Everything has a place in dermatology and lasers are another implement which a dermatologist may choose to treat a patient. As always, when choosing a treatment option, the dermatologist must take many things into consideration, such as the specific patient, age, cosmesis, other medical and skin problems the patient may have, downtime, need and type of anesthesia desired, cost, and goals (treatment, prophylaxis, other problems). Especially when treating AKs, there are many options and many considerations. The critic has taken an extremely narrow point

of view when reading this report. Everyone must keep an open mind for there to be progress.

Sincerely,
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Dr. Marcus reports no conflict of interest in relation to this article.

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