

## UNDER MY SKIN

## Take Your Medicine

“Your acne seems worse than 6 months ago, Holly. Are you using the tretinoin every night?”

Silence.

“Has the clindamycin lotion in the morning helped with dryness?”

Silence.

“How often do you put the creams on?”

Silence.

It seems Holly has been applying tretinoin once or twice a week—maybe—and the clindamycin not at all.

“Holly, is that because you didn’t have the time, or was the medicine giving you side effects?”

Silence.

“Well, I guess if you haven’t really tried the treatment yet, we don’t have to change it!”

Noncompliance is an old story, of course. (The newer term, nonadherence, sounds less authoritarian.) A few recent articles address this issue, one with the charming title, “Adherence to Topical Therapy Increases Around the Time of Office Visits” (*J. Am. Acad. Dermatol.* 2007;57:81-3). The study authors draw suitable analogies to other behaviors, like flossing before dental visits and practicing before piano lessons. They also provide statistics that jibe with my own clinical impressions: For a cream to be applied 2

times a day for 8 weeks, the average daily application was in fact 1.1.

The same month an editorial, “Poor Adherence to Treatments: A Fundamental Principle of Dermatology,” took up nonadherence in a more comprehensive way (*Arch. Dermatol.* 2007;143:912-5). The authors commented on a study published the same month finding that almost half of PUVA patients who switched to biological agents for psoriasis treatment were in worse shape at the time of the switch than one would expect from PUVA’s known effectiveness (*Arch. Dermatol.* 2007;143:846-50). Maybe patients had become disenchanted with PUVA and



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stopped using it?

Perhaps, they suggest, treatments work better in trials than in real clinical life because in study situations patients actually use them. Tachyphylaxis might have more to do with human behavior than with corticosteroid receptor sensitivity.

These provocative speculations sound plausible. In any case, like any longtime physician, I factor nonadherence into my advice. Examples include the following:

- ▶ Never give an adolescent male more than two things to do.
- ▶ Ask for twice a day, hope for once.

▶ Emphasize the need to call about side effects that might make continued use difficult for conditions such as acne.

When I see a patient for follow-up and look at my notes to see what I prescribed, I usually start by asking, “What are you using?” Patients hardly ever challenge me to look at my own chart. Often, they’ve stopped the medicine weeks or months earlier because of a perceived side effect but didn’t call, because “I didn’t want to bother you.”

In darker moments, I toy with imagined proadherence tactics like blast e-mails (“IT’S 11 PM. HAVE YOU APPLIED YOUR ADAPALENE?”) or perhaps capsule containers with sensors like the ones they use in drug-compliance studies, only mine would come equipped with stun guns to remind patients, in a generally nonlethal manner, that they’ve missed too many doses.

Well, I can dream, can’t I?

Those who analyze nonadherence point out factors that contribute to it or might help counter it.

The authors of the previously mentioned editorial do this nicely by advising “establishing a strong, trusting physician-patient relationship; choosing vehicles that can fit patients’ lifestyles; using patient educational materials designed to motivate without overly stressing risks; and scheduling a follow-up visit shortly after initiating a new treatment.” At the same time,

they are quite right to assert, “We are on the verge of understanding that patient noncompliance is a nearly universal principle of dermatologic treatment.” I would disagree only by asking, “Why just dermatologic?” and by adding that we’re already over the verge.

Still, accepting this understanding should not exempt us from asking who benefits from proper compliance, and who is harmed by its absence? Before being quick to answer that it’s all about patient welfare, consider how nicely the world has been getting along in the face of demonstrated nonadherence on a massive scale. That might be a blow to our professional ego, but is a patient with psoriasis really worse off in the scheme of things if he decides that living with his plaques is less trouble than fighting with them?

I’m too old to expect big changes in human nature. It seems to me that our job as physician-advisers is to let people know their options and the stakes involved if they choose not to exercise them, and to nudge them in the right direction. Then they can do what they want. Which they’re going to do anyway, aren’t they?

Sorry to run. I’m seeing my dentist tomorrow, and I haven’t flossed all week. ■

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## ADVISER’S VIEWPOINT

## Laser Lipolysis: The Future of Liposuction

The combination of laser lipolysis and tumescent liposuction appears to have so many advantages over liposuction alone that the procedure could become widely adopted by physicians in the not-so-distant future. Growing expertise with the technique has begun to indicate that it can expand the base of patients who are candidates for liposuction as well as those in need of a liposuction revision. Many companies are now developing lasers at fat-selective wavelengths.

Some physicians who perform only tumescent liposuction question the benefits of and need for laser lipolysis. I acknowledge that we are still gaining experience with laser-assisted liposuction, and that there are many technologies, such as ultrasound, that have come and gone with liposuction to try to facilitate the procedure. But the improved cosmetic results that can be obtained with laser-assisted liposuction and its safety record so far seem to point to an expansion of its use.

The crisscross pattern of cannula movement used in normal liposuction often leaves pockets of fat behind that cannot be removed, but a laser can liquify these areas.

In addition, the skin overlying the areas of fat removal contracts because the laser coagulates the tissue, inducing collagen retraction and tightening of tissue. This effect is an added benefit that is especially useful for liposuction candidates who would be able to reduce their fat volume with normal liposuction but would not have accompanying skin contraction.



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The laser can break up fibrous tissue for scar subcision and be used without suction for the reduction of small areas of fat. We may also see a reduction in bruising and postoperative pain.

Some studies have found that laser-assisted lipolysis and liposuction produced less bleeding than did liposuction alone. Histologic analysis of laser-assisted lipolysis using 1,064 nm have shown coagulated blood vessels and a reorganization of the reticular dermis and collagen without nerve damage. Scanning electron microscopy images have shown specific ruptured adipocytes.

Like others, when I first started performing laser-assisted lipolysis with liposuction it took longer than regular liposuction because I had to get a feel for how many rounds of alternating laser and suc-

tion are necessary to achieve the desired effect. But now I have become aware enough so that I can do laser-assisted liposuction about 25% faster than I can do a similar liposuction procedure alone.

The laser can burn through the skin, creating a small scar, if you apply too much energy in smaller areas or areas of thinner skin, such as the submental area. The laser fiber is stiff and can break, posing potential risk of penetrating the skin. My patients have not had much bruising or tenderness in treated areas, but it is a possibility.

Light at 920 nm has four times greater selectivity for subcutaneous fat than dermis and seven times greater selectivity for fat than water. Other light wavelengths at which fat is selectively absorbed over dermis at a peak level include 1,205 nm, 1,064 nm, 1,700 nm, and 2,300 nm.

The SmartLipo system (Cynosure Inc.) uses a 1,064-nm Nd:YAG laser fiber that is threaded through a thin cannula and handpiece. The CoolLipo system by CoolTouch Inc. combines a 1,320-nm Nd:YAG laser with simultaneous suction. The 1,320-nm wavelength tightens skin by preferentially heating the water around dermal collagen fibers.

Palomar Medical Technologies Inc. has a laser-assisted liposuction platform that is currently under review by the FDA for marketing approval, but it could poten-

tially work extremely well for rapid fat melting in large body areas because fat absorbs the 920-nm wavelength light of the laser in the system seven times better than water. (I am a consultant for all three of these companies. I have received honoraria for speaking for CoolTouch and Palomar and have received research grants from Palomar and Cynosure.)

I recommend practicing on ex vivo abdominoplasty fat to get a feel of how the technique works, how fibrous the fat is, and how long it takes to melt. At my practice, we try to use slightly less tumescent anesthesia than we ordinarily would for normal liposuction. I lyse the fat in a back-and-forth fanning motion and suck up the melted fat, repeating this cycle until tactile sensations or pinching of the skin yields significant fat reduction. The pinching technique is something that must be learned over time if you do not have experience with liposuction.

All in all I am very enthusiastic about the use of laser-assisted liposuction. There are still some kinks to be ironed out, but overall there are many potential benefits. ■

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