



Fat-Blasting Device

By April Long

A non-invasive procedure designed to freeze-out cellulite

Faddish cryotherapy spas—reverse saunas in which below-zero temperatures allegedly tighten skin—may not have arrived stateside yet (they're already hot in Europe), but the FDA is on the verge of approving an innovative fat-blasting device that could give new meaning to the phrase "freezing your ass off." Cryolipolysis is a noninvasive procedure in which a doctor places a coffee-saucer-size suction-cup-like apparatus on the skin to gradually extract body heat until the subcutaneous levels of fat are frozen. Because the epidermis remains within a normal temperature range (and is also fundamentally more resistant to cold), skin remains undamaged. "Think of it as being essentially like an air-conditioning compressor," says New York dermatologist David J. Goldberg, MD, who is involved in clinical trials of Cryolipolysis for the FDA. "The heat that gets sucked out of the fat layer is deposited in the outer layer on its way out, so the skin is protected."

Pioneered by researchers at Harvard Medical School and Massachusetts General Hospital, Cryolipolysis derives from their discovery that fat cells are uniquely sensitive to cold. A study published in *Lasers in Surgery and Medicine* found that intense, localized freezing caused a loss of adipocytes

(the cells involved in making and storing fat) in Yucatán pigs. Cold triggers the breakdown of fat by damaging the cells enough that they wither and, over time, will be naturally metabolized by the lymphatic system. For years, we've been heating and pummeling cellulite to melt it away, but now it appears that the opposite approach is more viable. "This is a complete reversal of everything we've been doing with lasers for the past 20 years, which has involved cooling the outer layer of skin so that it doesn't blister while heating the layer below," Goldberg says. Although quantifiable comparisons can't be made until FDA approval is granted, Cryolipolysis promises to be more effective than other noninvasive procedures (such as those that employ radio frequencies and acoustic waves) and safer than lipo. Also, the results are uniform. "All of the cells respond the same way when frozen, so you get a smooth reduction in the area that has been treated," says Goldberg, who projects that the device will be approved and in use within the next few months.



Cryolipolysis has shown no side effects in the 200 subjects tested so far; the process is painless ("barring a little numbness," Goldberg says); and the results are impressive.

"You can have about a 25 percent reduction in fat deposits from a single session," says New York dermatologist Neil Sadick, MD. One treatment is likely to be sufficient, but follow-up sessions may be required for some patients, depending on the amount of fat they wish to lose. Currently, the patent-holding manufacturer, Zeltiq, has designed suction cups only large enough to target love handles and saddlebags (the technique is most effective where fat is densest), but broader areas such as stomachs or thighs may be treatable down the road. The only drawback might be that it takes a few months to see the full results, as the fat breaks down gradually. And the procedure itself might not be as quick as some would like: "Because the fat has to be cooled incrementally, it takes about an hour," Goldberg says. "But then, it's not like it's laborious: Once the doctor positions the machine and switches it on, all you need to do is grab a magazine and sit there."



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