




WHAT'S THE SKINNY ON FAT REMOVAL? DERMATOLOGISTS BELIEVE EMERGING NON-INVASIVE TECHNOLOGIES SHAPING UP TO BE THE NEXT BIG THING

NEW YORK (Nov. 10, 2009) – For many people, diet and exercise help keep them looking and feeling healthy. But even those who work hard on staying in shape might have a hard time shaking stubborn love handles or lower belly fat, which can bulge through clothing like a neon sign. While the market for getting rid of unwanted fat has grown over the years to include stomach stapling and behavioral techniques, there is still a demand for procedures that can reduce areas of localized fat safely and effectively.

Speaking today at the American Academy of Dermatology's  academy (Academy), Chestnut Hill, Mass., [dermatologist](#) Jeffrey S. Dover, MD, FAAD, associate clinical professor of dermatology at Yale University School of Medicine in New Haven, Conn., and adjunct professor of medicine (dermatology) at Dartmouth Medical School in Hanover, N.H., presented the latest non-invasive technologies being studied to target fat and how these new procedures soon could help people of average weight who struggle with localized areas of fat.

“There is a strong demand for non-invasive procedures that can address the concerns of people who are not considered overweight, but despite diet and exercise, have pockets of fat that bother them,” said Dr. Dover. “While traditional liposuction and laser liposuction are invasive surgical procedures that are designed for overall fat reduction, new procedures are emerging that are non-invasive and are showing promise in clinical studies for removing fat without the potential risks and downtime of invasive procedures.”

Best Candidates Are Near Their Ideal Body Weight

Dr. Dover stressed that the new procedures under development that target fat are not intended as a weight-reduction program for overweight individuals who would

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require therapies designed for overall fat reduction. Instead, the best candidates for one of the newer fat removal procedures are people near their ideal body weight who eat well and exercise regularly and have pockets of fat that have not responded to a healthy lifestyle. For example, these areas of fat include the lower belly (from pregnancy), love handles, back fat, saddle bags, and fat under the chin.

While there are several different approaches for non-surgical fat removal, Dr. Dover explained that this field is still in its infancy and many of these techniques are not approved by the U.S. Food and Drug Administration (FDA). However, studies are demonstrating that fat pockets can be removed without damaging the overlying skin – making these innovative procedures inherently safer by design.

Ultrasound Uses Sound Waves to Selectively Destroy Fat

Considered a promising new technique for fat removal, ultrasound technology uses focused, pulsed waves of non-thermal ultrasound energy (sound waves) to “shake” and selectively destroy fat beneath the skin without harming the skin or surrounding tissues. There are two different types of high-frequency ultrasound procedures undergoing FDA-monitored studies in the U.S. – focused ultrasound and high-intensity focused ultrasound. While focused ultrasound is a lower-energy device that is a comfortable procedure, high-intensity focused ultrasound delivers much higher energy levels and can be painful.

Data from collective clinical studies that used focused ultrasound for abdominal fat removal on more than 600 patients over the past five years concluded that 94 percent of patients experienced a measurable circumference reduction in the treatment area, with 90 percent of patients being satisfied with the treatment. Based on these studies, the average circumference reduction reported ranged from 3.5 to 6.3 centimeters with an overall average of 4.4 centimeters. These measurements are very difficult to make accurately and may overstate the actual reduction. Dr. Dover noted that for three years of these collective studies, patients received three treatments spaced two weeks apart. Prior to this time, only one treatment was administered.

With the high-intensity focused ultrasound system (which also is not approved for sale or use in the U.S. but has been used in Europe as a cosmetic device since 2008), high-intensity ultrasound energy is focused at precise depths within the fat tissue. This

energy thermally dissolves the fat, without harming the skin or underlying tissues and organs.

Dr. Dover stressed that with both ultrasound procedures, results are not immediate and it takes several weeks to see a noticeable improvement in fat reduction in the treated area.

“Although ultrasound technology is still being tested and its effectiveness is limited to early studies, it offers a unique approach to combating localized fat without invasive surgery,” said Dr. Dover. “In time, I think it will be a viable option for people who want to target specific areas of fat, such as belly fat.”

Cryolipolysis Freezes Fat Cells to Dissolve Them

Another promising new fat removal technology, cryolipolysis uses an innovative approach of freezing fat cells in order to dissolve them. Dr. Dover explained that since fat cells are more sensitive to cold temperatures than other skin cells, they can be altered more easily when targeted with cold rather than with heat. Currently approved by the FDA for chilling the skin, cryolipolysis is not yet approved for body contouring, body shaping or fat reduction.

Cryolipolysis works by freezing the fat beneath the skin, which causes selective crystallization of lipids in fat cells that slowly dissolve without injuring any surrounding tissues. Since fat cell death occurs gradually, there is no trauma or immediate “bursting” of fat cells that can be caused by methods that use heat to destroy fat cells. For this reason, results are not immediate and fat layer reduction becomes visible gradually over the course of two to six months.

In the first human study that used cryolipolysis to treat 32 subjects with love handles, Dr. Dover (the study’s lead investigator) treated love handles on one side of the body with cryolipolysis and used the love handles on the opposite side of the body as the control. Four months after the procedure, the majority of subjects experienced a noticeable change in fat reduction in the treated love handle. In addition, Dr. Dover explained that ultrasound measurements taken on 10 of the 32 subjects showed an average fat layer reduction of 22.4 percent in all of these subjects four months after the procedure.

“Based on our early findings, cryolipolysis is a very exciting new approach for the non-invasive removal of localized fat in the belly, love handles, back and saddle bags of the thighs,” said Dr. Dover. “Although this technology is still being developed, I think with further clinical testing cryolipolysis eventually could be expanded for use in other areas prone to excess fat, such as the neck, knees and arms.”

As mentioned, results in fat layer reduction with cryolipolysis are not immediate. Side effects are limited to slight discomfort, numbness and redness for an hour or two post-treatment, as well as some change in skin sensation in the treated area for up to two to three weeks.

Dr. Dover further explained that for all of the non-invasive technologies studied to date, the research has not shown that the body’s blood lipid profile changed after any of the treatments. “This finding is important, as it suggests that these procedures are safe,” said Dr. Dover. “While we’re not sure where the dissolved fat goes once it is dissolved, we think it gently goes into the bloodstream and that the body is able to absorb and process it in the liver.”

Given the recent expansion of clinical research designed to fine tune these non-invasive fat removal technologies and strong consumer interest in procedures that require little downtime, Dr. Dover estimates that this market will expand and consumer options will increase in the next five years.

Headquartered in Schaumburg, Ill., the American Academy of Dermatology (Academy), founded in 1938, is the largest, most influential, and most representative of all dermatologic associations. With a membership of more than 16,000 physicians worldwide, the Academy is committed to: advancing the diagnosis and medical, surgical and cosmetic treatment of the skin, hair and nails; advocating high standards in clinical practice, education, and research in dermatology; and supporting and enhancing patient care for a lifetime of healthier skin, hair and nails. For more information, contact the Academy at 1-888-462-DERM (3376) or www.aad.org.

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