

CLINICAL roundtable

Cynosure's SmartLipo Offers Sophisticated Alternative to Liposuction

By Lara G. Owens and Kevin A. Wilson, Contributing Editors

For removing localized fat, the SmartLipo device offers patients a safer, more convenient alternative to traditional liposuction. This minimally invasive 1064 nm Nd:YAG pulsed laser device is marketed in the U.S. by Cynosure, Inc. (Westford, Massachusetts, U.S.). The SmartLipo also tightens skin and may help to improve the appearance of cellulite.

SmartLipo is the first commercially available laser guided device for liposculpture. The procedure is termed laser lipolysis and can be performed on any area of the body. In addition to laser lipolysis, the SmartLipo is FDA cleared for the incision, vaporization, ablation and coagulation of soft tissue. "SmartLipo represents a new tool and is worthwhile. There are technologies that come and go, but this will not be the case with SmartLipo. We see new clinical indications evolving each day," said Barry DiBernardo M.D., F.A.C.S., director of New Jersey Plastic Surgery in Montclair, New Jersey, U.S.



Barry DiBernardo, M.D., F.A.C.S.
Plastic Surgeon
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SmartLipo delivers laser energy in short pulses (at high peak power) through a 300 or 600 micron optical fiber housed in a micro-cannula. Treatment begins by inserting the micro-cannula into the skin through a small incision. A low-power red helium:neon laser source provides tissue illumination that allows the physician to view the tip of the optical fiber during treatment.

With the optical fiber extending 2 mm beyond the micro-cannula, the physician moves the micro-cannula slowly and evenly in a fan-like motion through various depths of fat tissue. The laser energy is converted to heat which is absorbed by adipocytes, forcing them to expand and rupture. Thermal energy also coagulates small blood vessels and tightens skin by stimulating the formation of new collagen. Damaged fat cells may be removed through suction or by the body itself.

Editor's Note:

In the following clinical roundtable, dermatologic and plastic surgeons share their knowledge and experience with SmartLipo — what it does, how it works and how it can be practically and profitably used in a clinical setting. Collectively, these physicians have performed thousands of treatments since the development of SmartLipo.

[Please explain the process of SmartLipo induced skin contraction and the results achieved.](#)

Alberto Goldman, M.D. – The laser causes collagen coagulation of the reticular dermis. We've published articles showing this effect.



Alberto Goldman, M.D.
Plastic Surgeon
President of the Brazilian Society
for Lasers in Medicine and
Surgery
Brazil

Darryl J. Blinski, M.D. – The energy being delivered by the Nd:YAG laser heats the dermis to cause shrinkage of the collagen fibers, but proper patient selection is of paramount importance.

Bruce Katz, M.D. – Histologically, you see thickening of the collagen layer in the lower dermis.

Mark Taylor, M.D. – We've seen good results. We deliver approximately 3000 J/cm² to a face sized area, insert the probe and then withdraw at approximately 1 centimeter per second.

David A. Caplin, M.D. – SmartLipo does a better job of tightening skin in areas where the skin is thinner, such as the neck as opposed to the back or flank.

Angelo Cuzalina, M.D. – The laser seems to give you a little better skin tightening than liposuction, probably because of the thermal effect. I saw skin tightening with ultrasonic liposuction, but the nice thing about SmartLipo is the smaller probe.

[What is the mechanism by which SmartLipo improves the appearance of cellulite?](#)

Dr. Katz – We think that the SmartLipo laser melts the superficial fatty layer that women develop during puberty, which often causes cellulite. Also, the laser stimulates new collagen formation in the dermis, probably making it firmer.

Barry DiBernardo, M.D. – The laser energy breaks up the bands of fibrous tissue or scar tissue that are holding the skin down, simultaneously diminishing irregularities. Also, if there are any high or low points in the adipose tissue itself, you can tone them down.

"SmartLipo does a better job of tightening skin."

“SmartLipo is ideal for laxity. You maneuver it just beneath the dermis appropriately to achieve the tightening component.”

Dr. Blinski – The laser’s heating effect causes uniform constriction of those underlying tissues, so you get an external tightening effect.

Dr. Taylor – The Nd:YAG laser equalizes the collagen bands that pull in the skin. It melts the little pockets of fat that create the button effect on the skin.

Have you seen improvement in cellulite? What were your results?

Douglas Hendricks, M.D. – SmartLipo seems to reduce cellulite, but I need a bit more evidence.

Dr. Cuzalina – It’s too early to say. The cellulite definitely improves right after SmartLipo therapy.



Angelo Cuzalina, M.D., D.D.S
Cosmetic Surgeon
Tulsa Surgical Arts
Tulsa, OK, USA

Dr. Blinski – I’ve seen improvement of 20% to 40% across the board, but again, patient selection is critical.

Dr. Goldman – We are developing studies to highlight our experience in combining subdermal Nd:YAG laser and fat injection. The results so far have been positive.

Dr. Taylor – In all the people we’ve treated, I’ve seen varying degrees of improvement in cellulite.

Dr. DiBernardo – We have good pictures of irregularities in that superficial layer, and the irregularities have improved with SmartLipo. Results have been variable.

Do you use SmartLipo to improve skin laxity alone, without performing laser lipolysis?

Dr. DiBernardo – SmartLipo is ideal for laxity. You maneuver it just beneath the dermis appropriately to achieve the tightening component.

Dr. Caplin – I almost always treat some of the underlying fat, but I’ve had cases in which I felt the skin tightening component would be as valuable as the fat reduction component. This is especially true in patients who have had a prior face-lift, where we’re trying to tighten the skin in their necks without additional surgery.

Dr. Goldman – I have been using this tool in many patients with laxity but without lipodistrophy. It’s a very useful application.

Dr. Katz – We will insert the laser fiber right under the dermis, not melting the fat, but stimulating new collagen. Women with loose wrinkles under their chin or with stretched abdomens from multiple pregnancies are perfect candidates for skin tightening with SmartLipo.



Bruce Katz, M.D.
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Dr. Hendricks – Some women with loose post-pregnancy abdominal skin run at the mention of a tummy tuck. SmartLipo is an attractive alternative.

Dr. Taylor – Some people just have a crepey neck, without much fat. So in that area, we will use the SmartLipo alone.

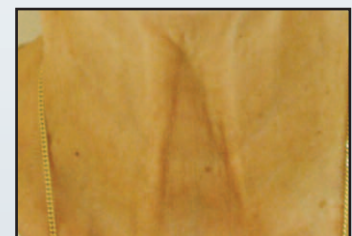
Dr. Cuzalina – For borderline cases I might try to tighten with SmartLipo if the patient is willing. I have to be realistic though.

What are the characteristics of the ideal SmartLipo patient?

Dr. Goldman – This technique is for patients with normal body weight and realistic expectations for treatment outcomes. Laser lipolysis is not indicated for the treatment of obesity.



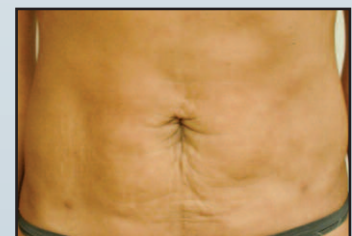
Neck before Tx



Neck after SmartLipo Tx



Abdomen before Tx



Abdomen after SmartLipo Tx

Photos courtesy of Bruce Katz, M.D.

“Recovery time is quick with SmartLipo, and side effects are minimal. After more than 500 patients I still haven’t seen any serious side effects.”



Abdomen before Tx



Abdomen after SmartLipo Tx

Photos courtesy of Bruce Katz, M.D.



SmartLipo procedure by Alberto Goldman, M.D.

Photos courtesy of Alberto Goldman, M.D.

Dr. Blinski – SmartLipo is great for someone who’s had a couple of babies and can’t get her hip fat to go away, or someone whose inner thighs or chin have a little excess fat and wrinkling.

Dr. Caplin – People with areas of fat that are resistant to diet and exercise and with a reasonable BMI (body mass index) and good overlying skin tone are ideal.

Dr. DiBernardo – An ideal patient is not overweight, has specific and limited areas to target and has some laxity. Younger people, though, have gorgeous results because they have more fibroblasts in the dermis.

Dr. Cuzalina – Everyone wants the patient who is in good overall shape, has healthy dietary and exercise habits, and has a small-to-moderate amount of excess fat with overall good skin tone.

Do patients request SmartLipo? Why do they seek treatment?

Dr. Katz – Patients will say they’ve always wanted to do liposuction but never wanted to go under general anesthesia. Also, recovery time is quick with SmartLipo, and side effects are minimal. After more than 500 patients I still haven’t seen any serious side effects.

Dr. Goldman – SmartLipo is known as a less invasive procedure. The positive characteristics of the procedure such as local anesthesia, small cannula, outpatient procedure and downtime are also related to the current boom of this medical option.

Dr. Hendricks – Most of the patients come in requesting it. People seem to want to be the first to have it. Some people might have been put off by the thought of regular liposuction, and think SmartLipo is the ticket.

Dr. Taylor – We have people flying in from other areas specifically requesting the SmartLipo. They’re looking to remove fat and get better skin quality after liposuction.

Dr. Cuzalina – Patients are savvy. They’ve read up on it in magazines and the internet. Maybe half of the patients that come in requesting SmartLipo are actually candidates, though.

How does downtime with SmartLipo compare to that of traditional liposuction? Why?

Dr. Hendricks – I see patients who have had several areas treated with SmartLipo and they return for follow-up, bouncing in like it’s nothing. It’s amazing. With traditional liposuction, some people may be out for two days, others for ten days or more.



Douglas Hendricks, M.D., F.A.C.S.
Plastic Surgeon
Pacifica Cosmetic Surgery Center
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Dr. Caplin – It’s not nearly as much surgical trauma as traditional liposuction so there’s hardly any downtime. It is a surgical procedure, though, so there is some bruising and swelling.

Dr. Katz – The average downtime for SmartLipo is one to two days versus one to two weeks with traditional liposuction. The SmartLipo cannula is 1 mm compared to 3 or 4 mm for liposuction, so it’s less traumatic to the tissues. And a local anesthetic requires less recovery than general.

Dr. DiBernardo – Typically we’ll do these cases on a Friday and most patients are back to work on Monday. Incisions are small, treatment areas are small and because the laser energy is coagulating blood vessels as it goes through, you’ll see less bleeding and bruising.

“SmartLipo definitely does add revenue. It’s a low complication procedure and people are happy with it. They send their friends.”

How do you price SmartLipo treatment?

Ronald L. Moy, M.D. – We price it 10% to 20% more than regular liposuction. We do it by number of areas, but SmartLipo also takes a little bit more time, which is why we’re pricing it a little bit higher.

Dr. DiBernardo – I charge by the area, about the size of both my hands. So two hips is one area, a lower abdomen is one area. But I won’t do more than two areas at a time.

Dr. Caplin – Mostly, I price SmartLipo by time spent because I combine it with other procedures. If I’m doing a revision on a previous liposuction patient I don’t charge.

Dr. Blinski – I charge \$1,800 for the first area and then I add \$1,000 per area. If someone wants many areas treated, I’ll give ranges or a flat rate. Technically you’re getting two different technologies to perform your procedure, laser lipolysis and classic liposuction.

Dr. Taylor – I’d say 90% of our usage of SmartLipo is in combination with liposuction, with a surcharge over and above regular liposuction if we do SmartLipo. In most cases it’s a two stage procedure: suctioning and lasering.

Dr. Hendricks – Because of the technology and the equipment, it’s slightly more expensive than regular liposuction and takes a bit more time. I price by the time it’s going to take, which keeps it simple.

Dr. Cuzalina – Our prices are basically about 15% more than standard liposuction because it takes longer.

What effect has SmartLipo had on your practice? Have you seen an increase in revenue and/or number of patients?

Dr. Katz – Absolutely. We’ve seen a dramatic increase in revenue and patients.

Dr. Hendricks – My practice has been moving steadily along and SmartLipo is making that possible. I decided to jump into SmartLipo when it first came out, and it’s really helped business.

Dr. Taylor – SmartLipo definitely does add revenue. It’s a low complication procedure and people are happy with it. They send their friends.



Mark B. Taylor, M.D., F.A.A.D.

Director
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Dr. Moy – I think there has been a little bit of an increase.

Dr. Cuzalina – SmartLipo has added a certain percentage of patients I probably would not have seen otherwise, ones who have heard about it and came to us specifically because we have the technology. I really like to use it for minor touch-ups or small areas on the face. You can do it under local anesthesia and be very precise in removing localized fat.

Dr. Goldman – There is no doubt that this device greatly improved my practice in terms of number of treated patients and quality of results.

How do you market SmartLipo?

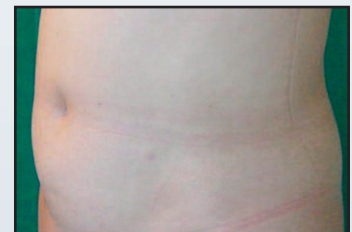
Dr. Hendricks – By word-of-mouth, but I have made a SmartLipo website to help inform patients.

Dr. Katz – We don’t market SmartLipo. It’s all word-of-mouth.

Dr. Blinski – I’ve done no marketing, no advertising.



Abdomen before Tx



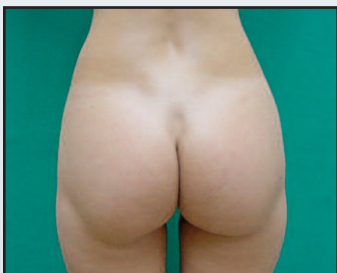
Abdomen after SmartLipo Tx

Photos courtesy of Alberto Goldman, M.D.

"SmartLipo is somewhat safer than traditional liposuction, and the laser decreases the chance of irregularities and indentations."



Before Tx



After SmartLipo Tx

Photos courtesy of Alberto Goldman, M.D.

Dr. Taylor – We have billboards, newsletters and we send flyers to our patients. We've been on TV and interviewed about it. We've created quite a stir.

Dr. Moy – At this point, we're using word-of-mouth. We haven't marketed it.

Dr. DiBernardo – While I'm working out how to better market it, patients are coming in asking for it. I don't know how they learned that I have it.

Dr. Cuzalina – Others in my town have marketed it heavily and are busy using it. I have been fortunate to be able to offer it to patients who could benefit, but we do not advertise or market it in any way other than what's on our routine website.

How do you view the return on investment with SmartLipo?

Dr. Moy – We've had SmartLipo for four or five months and we're getting close. Within a year we will pass our break-even point and enter the positive.



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Dermatologic Surgeon
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Dr. Katz – It depends on how many liposuction patients you have. If you're doing one or two a day, the SmartLipo will pay for itself in a few weeks.

Dr. Blinski – I probably had SmartLipo paid off in six weeks, although it might take longer for someone just starting out.

Dr. Hendricks – There's no question I've seen the return. The device pays for itself within two or three months.

Dr. Cuzalina – I do an average of three surgeries a day, so having done that every Monday through Friday for almost a year, we've certainly seen the return.

Dr. DiBernardo – When I purchase a new technology that produces good results, it should pay for itself in the first six months, and I've found that to be true with SmartLipo. Marketing is also important.

What are some reasons a physician should add SmartLipo to his or her practice?

Dr. Caplin – It seems useful for minor revisions on patients who have had reconstructive procedures and who want small areas smoothed out or tightened. Also, no one knows just how much you can do with it. I've been treating patients with axillary hyperhidrosis and it absolutely works.

Dr. Hendricks – In 99% of cases I use SmartLipo with liposuction, so I can remove more fat without the fear of skin laxity, treat more aggressively, and extend the indications for regular liposuction.

Dr. Taylor – We think there are true benefits and that patients believe they're seeing those benefits. Any physician considering SmartLipo should already know how to do liposuction.

Dr. Blinski – SmartLipo is a potential revenue source that's been in Europe and South America for almost a decade.

Dr. Cuzalina – SmartLipo is somewhat safer than traditional liposuction, and the laser decreases the chance of irregularities and indentations.

Dr. Moy – I think the main reason is the skin tightening, and as an advance in liposuction.

“With SmartLipo, we haven’t had any repeat surgeries. There is greater satisfaction and it helps with touch-ups.”

How has the availability of SmartLipo affected your volume of repeat surgeries?

Dr. Moy – With SmartLipo, we haven’t had any repeat surgeries. There is greater satisfaction and it helps with touch-ups. It dissolves the fat to make results more even.

Dr. Caplin – I inherited about a dozen patients now who had liposuction done somewhere else and wanted me to revise it. Instead of doing more liposuction I did SmartLipo in the office. It’s wonderful for touch-ups. Some surgeons should buy it just for that, if nothing else.

Dr. Hendricks – Some people want more SmartLipo in different areas because they’re so happy with the results. It is also nice for touch-ups. We don’t do many repeat procedures. Reasonable patient expectation is important.

Dr. DiBernardo – Current patients are repeating or having additional procedures done because we offer SmartLipo. Whether they’re having body contouring or facial surgery, they see the SmartLipo brochure and ask about it.

What kind of effect does SmartLipo have on clinical outcomes?

Dr. Katz – Because it’s so precise, we get enhanced smoothness and contouring. A lot of women particularly can’t get rid of their bulges with diet and exercise alone. They’re thrilled with SmartLipo. Their proportions are better and they feel good about themselves.

Dr. Blinski – I’ve seen a significant improvement in results. A good 90% of my patients have SmartLipo first, then fat removal with traditional liposuction, which is what Cynosure recommends.

Dr. Caplin – SmartLipo helps soften the fat. Results are best when you remove the fat afterwards. It isn’t designed for treating large volumes.

Dr. Taylor – It is my impression that SmartLipo makes for smoother, more contoured clinical outcomes. People are very happy with it. It has to be done artfully, though. It’s very important to be good at traditional liposuction first.

Dr. Hendricks – I haven’t done comparison studies, but there’s no question that SmartLipo creates a smoother, more contoured cosmetic result.

Dr. Moy – I would agree with my colleagues that it leads to smoother results. It also decreases the chance of indentations and complications.

Dr. Cuzalina – Most of the time, my clientele end up getting a combination of SmartLipo and liposuction. It’s a little too early to say for sure, but I can see why someone would say it gives a smoother appearance to the skin. I’m not sure if it’s the treatment approach or if it is something about the laser.

Are there other technologies or procedures you combine with SmartLipo?

Dr. Cuzalina – We combine SmartLipo with just about every procedure. We’ve done face-lifts at the same time, forehead and brow lifts, tummy tucks. Basically you can combine laser liposuction with any surgery you can combine with standard liposuction.

Dr. DiBernardo – SmartLipo easily lends itself to combinations and a host of procedures. We’re starting to have the SmartLipo patients follow up with a TriActive (Cynosure) procedure.

Dr. Katz – I see more and more people who have improvement in cellulite with SmartLipo but you certainly can use the TriActive in combination afterwards to smooth out any remaining cellulite.



Abdomen before Tx



Abdomen after SmartLipo Tx

Photos courtesy of
Douglas Hendricks, M.D.

"SmartLipo easily lends itself to combinations and a host of procedures."



Neck before Tx



Neck after SmartLipo Tx

Photos courtesy of
Douglas Hendricks, M.D.

Dr. Hendricks – I've used TriActive on a couple patients but I'm not sure how it affected final outcomes.

Dr. Caplin – Using SmartLipo in combination with lasers is a very reasonable thing to do. We've combined it with a number of the radiofrequency devices. It's still early to tell, but I think these combinations will be very successful.

Dr. Goldman – I've combined diode laser, low level laser, external Nd:YAG laser, endermologie, ultrasound, radiofrequency and intense pulsed light procedures with SmartLipo.

Dr. Taylor – For some patients, I've used the MedSculpt from General Project (Florence, Italy) post-operatively. If I had TriActive, I would use that. There is some benefit to using massage and heat, especially post-operatively, to even things out as they heal. You could do it pre-operatively as well.

[Please comment on the use of SmartLipo in any other aesthetic procedures.](#)

Dr. Blinski – I've combined it with all my surgeries in one form or another. I might do some SmartLipo on the chin and jowls with a facelift, or hips and back with a tummy tuck. Sometimes I do a little on the abdomen in conjunction with breast implants.

Dr. Caplin – I think there is potential for male breast reduction, which I've traditionally treated with ultrasonic liposuction.

Dr. Cuzalina – We've used SmartLipo for male breast reduction, and it's better than standard cannula liposuction for that. We've also tried it on small areas of fat accumulation just above the nasolabial fold or in the malar fat pads, where you can't use regular liposuction.

Dr. Hendricks – I'm looking at the lower third of the face and the upper neck to see if I can't get some tightening in the neck. It's been handy for ironing out dog-ears after abdominoplasty, and I know someone using it to lift the brow.

Dr. Taylor – You might be able to use SmartLipo internally to coagulate hemangiomas. That's been done with Nd:YAG lasers in the past. This probe can probably handle anything you want to treat internally with a laser.

[Please comment on the use of SmartLipo for procedures other than laser lipolysis.](#)

Dr. Caplin – We haven't even begun to think about all the areas we could use it in. I've been mulling over applications such as axillary sweating. When we get more devices in the hands of skilled surgeons, we'll learn a lot.

Dr. Katz – We are now using it successfully for axillary hyperhidrosis by scraping under the dermis to destroy the sweat glands. SmartLipo is the first tool for minimally invasive laser surgery, and I think this field will continue to evolve.

Dr. DiBernardo – Because this is fiber-optic delivery of energy below the dermis, I think it's opening up a whole new world to us. Five or ten years ago our only access to the skin with lasers was from the outside. Now we're figuring out ways to attack the problem from the inside.

[How will laser lipolysis evolve in aesthetic medicine?](#)

Dr. Hendricks – Right now, SmartLipo is in its infancy, but I think it'll prove fantastic and replace standard vacuum extraction.

Dr. Moy – Laser lipolysis will just get better and better as time goes on. This is just the first wave.

“SmartLipo is in its infancy, but I think it’ll prove fantastic and replace standard vacuum extraction.”

Dr. DiBernardo – I think laser lipolysis will expand the number of liposuction and skin tightening procedures performed.

Dr. Blinski – Here we have a surgical treatment that works, is hard to hurt somebody with, and will last. Within a year, 10% of plastic surgeons will have a unit. I hope it’s higher than that, though.

Dr. Caplin – I think the technology will become even more versatile in the future but no matter how it evolves it’s always going to be technique dependent. Safety and outcomes depend greatly on experience.

Dr. Katz – I think it will continue to grow, no question about it, especially when new applications are discovered.

Dr. Goldman – As current president of the *Brazilian Society of Lasers, South Region*, it is my opinion that laser lipolysis represents an important evolution in terms of results with less trauma. But it’s not a miracle; good sense and experience are necessary.

Dr. Cuzalina – When ultrasonic liposuction came out, everyone thought that would be the new great thing, and it certainly has its place and is still used today. The same will probably be true of laser liposuction. However, there may be undiscovered applications such as axillary hyperhidrosis.

What do you see as the future of the body sculpting market?

Dr. Caplin – If you look from the standpoint of the patients, they want less invasive, less downtime, less risk. How much more is possible, I can’t say, but that is definitely the way things are trending.

Dr. Hendricks – Right now, we’re treating a symptom. When they find a solution to the obesity problem, body contouring will go the way of the dinosaur. There will still be patients with laxity due to age or pregnancy, but that’s not the core of the market.

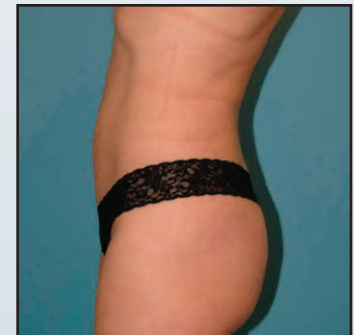
Dr. Katz – The body sculpting market is still largely untapped in this overweight population.

Dr. Cuzalina – Liposuction has been the most common cosmetic surgery done for many years now. I don’t see that changing soon.

Dr. Taylor – Either way, many people are unhappy with their body, so there will continue to be a tremendous interest in body shaping and contouring.



Abdomen before Tx



Abdomen after SmartLipo Tx

Photos courtesy of
Douglas Hendricks, M.D.

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